2019 Annual Report
Closed Leichner Landfill
Vancouver, Washington
Consent Decree 96-2-03081-7
Facility ID No. 1017

Clark County Public Health
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SCS ENGINEERS

04220030.14 | February 26, 2020

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1.0 INTRODUCTION

This report presents and evaluates the results of groundwater and landfill gas (LFG) compliance monitoring performed during 2019 at the closed Leichner Landfill located in Vancouver, Washington (Figure 1-1). The report also summarizes notable landfill maintenance, repair, and construction activities performed during 2019. SCS Engineers (SCS) performed the monitoring, maintenance, and repair activities and prepared this report on behalf of Clark County Public Health (County) and the Leichner Landfill Oversight Committee (LLOC), whose members include the County and City of Vancouver.

Compliance monitoring of groundwater and LFG is performed at Leichner Landfill to fulfill certain requirements of the 1996 Consent Decree and associated Cleanup Action Plan (CAP), as well as to concurrently fulfill the requirements of Leichner Landfill's post-closure monitoring under Minimum Functional Standards (MFS), Chapter 173-304, of the Washington Administrative Code (WAC).

Compliance monitoring is performed in accordance with the methods and procedures described in the site's Compliance Monitoring Plan (CMP) submitted to the Washington State Department of Ecology (Ecology) and Clark County Public Health (CCPH) in July 2013 (SCS, 2013). The July 2013 CMP includes modifications to Leichner Landfill's monitoring programs approved by Ecology, as described in the 2013 annual report (SCS, 2014).

Although not directly related to environmental monitoring, it should be mentioned that the County formally notified Ecology and CCPH in November 2019 that they were finalizing a purchase-and-sale agreement (PSA) with the City of Vancouver (City) for the Koski property. The Koski property is part of the overall closed Leichner Landfill property (see Figure 1-1). The City intends to develop the Koski property as the operations center for its Public Works Department. The City submitted to Ecology and CCPH a letter of intent dated January 15, 2020 (City, 2020) to join as a responsible party to the Consent Decree.

1.1 SITE DESCRIPTION

The Leichner Landfill is a closed, 70-acre municipal solid waste landfill located in Clark County, Washington, about 5 miles northeast of downtown Vancouver (see Figure 1-1). The landfill operated from the late 1930s until 1991. Landfill closure occurred in phases during the summer seasons of 1989, 1990, 1991, and 1992; closure activities included constructing an engineered composite cap, a landfill gas collection and control system (GCCS), and a stormwater collection and control system.

1.2 SITE HYDROGEOLOGY

The geology beneath the landfill site consists of about 70 to 100 feet of alluvium, underlain by the upper member of the Troutdale Formation. The site hydrogeology consists of an approximately 10- to 40-foot thick unsaturated (vadose) zone, and an unconfined alluvial water-bearing zone (WBZ) which ranges in thickness from 35 to 45 feet. The alluvium generally consists of sand, and gravelly to silty sand. Underlying the alluvial WBZ is the upper member of the Troutdale Formation aquifer. The Troutdale Formation aquifer generally consists of sandy to cobbly gravel with minor amounts of silt and clay. The alluvial WBZ and Troutdale Formation aquifer are separated by a silt aquitard (sandy silt and clayey silt) east and south of the landfill. Southwest of the landfill, the silt aquitard is absent and the two aquifers are locally in hydraulic communication.

2.0 GROUNDWATER MONITORING

2.1 GROUNDWATER MONITORING NETWORK AND SCHEDULE

The groundwater monitoring network at the Leichner Landfill is comprised of monitoring wells screened in different depth-discrete zones in the alluvial WBZ and in the Troutdale Formation aquifer. The monitoring well locations are shown in Figure 2-1. The following describes the nomenclature used for the site monitoring wells:

- Wells used for monitoring groundwater elevation and quality in the upper portion of the alluvial WBZ are denoted with an "S" in the well number (e.g., well LB-1S).
- Wells used for monitoring groundwater elevation and quality in the middle (or intermediate) portion of the alluvial WBZ are denoted with an "I" in the well number (e.g., LB-27I).
- Wells used for monitoring groundwater elevation and quality in the deeper Troutdale Formation aquifer are denoted with a "D" in the well number (e.g., well LB-1D).

The compliance groundwater monitoring well network consists of 18 monitoring wells[1] that were sampled during the annual monitoring event performed in January 2019: LB-1S, LB-1D, LB-3S, LB-3D, LB-5S, LB-5D, LB-6S, LB-10SR, LB-10DR, LB-13I, LB-13D, LB-17I, LB-17D, LB-20S, LB-26I, LB-26D, LB-27I, and LB-27D. Groundwater samples were collected from the following monitoring these during the semiannual monitoring event performed in July 2019: LB-1S, LB-5S, LB-6S, LB-10SR, LB-13I, LB-26I, and LB-27I.

Field water-quality parameters (temperature, pH, specific conductance, dissolved oxygen) were monitored during sampling, and recorded on field sampling data sheets (FSDSs) provided in Appendix A. The 2019 field parameter monitoring results are provided in Appendix B (see Table B-1).

Groundwater samples collected from the site monitoring wells were submitted for laboratory analyses to Eurofins TestAmerica (Eurofins; formerly TestAmerica Laboratories, Inc.) in Tacoma, Washington. The samples were analyzed for nitrate as nitrogen (nitrate), total dissolved solids (TDS), chloride (Cl), dissolved iron (Fe), dissolved manganese (Mn), and volatile organic compounds (VOCs), consistent with testing methods specified in the CMP (SCS, 2013). Laboratory analytical data reports are provided in Appendix C (included on the attached compact disk [CD]).

2.2 GROUNDWATER ELEVATIONS AND FLOW DIRECTION

Static depth-to-groundwater levels were measured on January 28 and July 22, 2019, and converted to groundwater elevations for interpreting groundwater potentiometric surface contours and groundwater flow in the alluvial WBZ and the Troutdale Formation aquifer (see Figures 2-2 through 2-5). The 2019 and historical groundwater elevation data are summarized in Appendix D.

[1] The compliance monitoring network described in the 2013 CMP (SCS, 2013) includes monitoring wells LB-4SR and LB-4D formerly located east of the Leichner Landfill property. These two wells, along with well LB-4I, were decommissioned in August 2014 as approved by Ecology (Ecology, 2014).

Groundwater flow in the alluvial WBZ was generally towards the west to southwest (see Figures 2-2 and 2-4). Groundwater flow in the Troutdale Formation aquifer was generally towards the south, with minor southeast to southwest variations (see Figures 2-3 and 2-5). The 2019 groundwater flow directions were consistent with historical interpretations of groundwater flow at Leichner Landfill.

Groundwater elevation hydrographs are provided in Appendix D. The 2019 groundwater elevation data are within the range of elevations measured historically and continued to show minor seasonal variations in some site wells.

Differences in groundwater elevations in adjacent well pairs screened in the alluvial WBZ and Troutdale Formation aquifer (see groundwater elevation data and hydrographs in Appendix D) appear to be influenced by the presence of the silty (sandy silt and clayey silt) aquitard. Where the silt aquitard is present east and south of the landfill (e.g., at existing well pair LB-5S/LB-5D south of the landfill), groundwater elevations are about 18 to 25 feet higher in the alluvial WBZ indicating hydraulic separation exists between the two groundwater zones. Monitoring well pairs located southwest of the landfill (i.e., at wells LB-1S/LB-1D, LB-13I/LB-13D, and LB-26I/LB-26D), where the silt aquitard is thin or absent, exhibited much smaller differences in groundwater elevations indicating that the two groundwater zones exhibit some degree of hydraulic connection.

2.3 DATA QUALITY REVIEW

Groundwater monitoring field quality assurance/quality control (QA/QC) procedures included collecting field groundwater duplicate samples, field blanks, equipment blanks, and carrying trip blanks into the field. Laboratory QA/QC procedures included analyzing surrogate spikes, method blanks, matrix spikes, and matrix spike duplicates. The laboratory QA/QC results are included with the laboratory reports. Eurofins incorporated its laboratory data quality review comments in the Case Narrative of each laboratory report (see Appendix C).

SCS reviewed field and laboratory data and QA/QC procedures to evaluate whether the data met U.S. Environmental Protection Agency (EPA) quality control requirements. The QA/QC reviews (Appendix E) indicated that the groundwater analytical data were acceptable for their intended use.

2.4 GROUNDWATER ANALYTICAL RESULTS

Laboratory analytical results of groundwater samples collected from site monitoring wells in 2019 continue to indicate that there are little or no adverse effects on groundwater quality from the closed Leichner Landfill. Groundwater monitoring results supporting this conclusion are discussed below.

2.4.1 Volatile Organic Compounds

VOCs were not detected above the laboratory method reporting limits (MRLs) in groundwater samples collected in January and July 2019, including VOCs for which compliance levels were established in the 1996 Consent Decree and that are still part of the analytical testing program (i.e., 1,4-dichlorobenzene, tetrachloroethene, and trichloroethene) (see Appendix B, Table B-2).[2]

[2] Laboratory analysis of two additional VOCs with established compliance levels (i.e., vinyl chloride and 1,1-dichloroethene) was discontinued in 2013 as approved by Ecology (Ecology, 2013) because these compounds were not detected after two years of testing using a low-level EPA Method 8260B.

The 2019 VOC analytical results continued to demonstrate that the post-closure measures implemented at the closed Leichner Landfill (i.e., maintenance of the engineered landfill cap, operation of the GCCS, and stormwater controls) have been effective at decreasing and maintaining VOC concentrations to levels below MRLs.

2.4.2 Inorganic Parameters and Dissolved Metals

The 2019 analytical data for inorganic parameters (nitrate, Cl, TDS) and dissolved metals (Mn and Fe) are summarized in Appendix B (see Table B-3), and time-concentration graphs of historical data for these parameters are provided in Appendix F.

Overall, 2019 groundwater analytical results for inorganic parameters and dissolved metals were generally consistent with historical data. Table 2-1 summarizes 2019 groundwater concentrations above compliance levels. Concentrations of Mn and/or Fe above the compliance levels were detected in a few wells located downgradient and near the landfill areas (i.e., LB-17I, LB-17D, and LB-20S), and at well LB-27I along the southwest corner of the site (see Figure 2-1).[3] However, Fe and/or Mn concentrations detected above the compliance levels in groundwater collected from these wells may be attributed, in part, to localized variations in natural groundwater chemistry, as previously reported to Ecology, based on the following:

- The concentrations of other leachate indicator parameters, including TDS and Cl, have not shown increasing or elevated concentrations in groundwater collected from these wells and are significantly below compliance levels (see time-concentration graphs in Appendix F).
- Fe and Mn have occasionally been detected at concentrations above the compliance levels in groundwater samples collected from cross-gradient well LB-10SR (see Figures 2-2 and 2-4) screened in the shallow alluvium WBZ (see time-concentration diagrams in Appendix F).
- Mn concentrations in groundwater samples collected from well LB-20S since 2006 have been variable but were typically below the compliance level (see time-concentration diagrams in Appendix F).
- Fe and/or Mn concentrations in monitoring wells located hydraulically downgradient of LB-17I/17D (i.e., LB-6S, LB-13I/13D, and LB-26I/26) and well LB-20S (i.e., LB-1S/1D) were either below laboratory MRLs or significantly lower than concentrations detected in groundwater samples collected from LB-17I/17D and LB-20S. Additionally, Fe and Mn concentrations in these downgradient compliance wells have remained stable throughout most of their extensive monitoring history (see time-concentration diagrams in Appendix F).

Nitrate was detected in the July 2019 sample collected from alluvial WBZ well LB-10SR at a concentration of 10.4 milligrams per liter (mg/L), slight above the compliance level of 10 mg/L. Historical nitrate concentrations in groundwater at this well have been variable and ranged from 0.35 to 9.8 mg/L. The nitrate concentration in the July 2019 groundwater sample was only slightly above the historical range and is therefore not considered to be an elevated concentration. The well LB-10SR nitrate concentrations are reflective of natural background concentrations (i.e., not affected by the landfill) concentrations based on similar concentrations detected in former upgradient, alluvial WBZ well LB-4SR (decommissioned in August 2014) that ranged from 0.5 to 16.6 mg/L.

[3] It should be noted that Fe concentrations in samples collected from well LB-27I have been historically above the compliance level but stable since monitoring began at this well in 1996, ranging from approximately 0.1 to 0.5 mg/L.

2.4.2.1 Statistical Analysis of Groundwater Analytical Data

Leichner Landfill groundwater quality data from 2015 to 2019 for inorganic parameters (nitrate, Cl, and TDS) and dissolved metals (Mn and Fe) were statistically evaluated using the MTCA Stat97 program.[4] The program identifies if the data show a normal, lognormal, or non-parametric distribution. For normally and lognormally distributed data, the 95th percent upper confidence limit (UCL-95) of the mean was calculated. For distributions that were non-parametric (i.e., data not distributed normally or lognormally), data values were ranked and an estimate of the UCL-95 was determined using the Van der Parren method, as described in Statistical Guidance for Ecology Site Managers (Ecology, 1992). For non-parametric data, the Van der Parren method defaults to the highest reported value. Table 2-1 provides a summary of calculated UCL-95 of the mean values, along with groundwater compliance levels established in the Consent Decree and CAP.

The MTCA Stat97 program utilizes the Land Method for calculating the UCL-95 of the mean for lognormally distributed data. The Land Method is sensitive to data distributions that deviate from lognormal. If variance or skewness is large (U.S. Environmental Protection Agency [EPA], 2002), the method may commonly yield estimated UCL-95 values that are greater than predicted for data distributions that are not truly lognormal (i.e., non-parametric data). When sample sizes are small and the variance is large, the method can be impractical. This resulted in a UCL-95 value for chloride in LB-20S groundwater that exceeded the range of concentrations. In these cases, the highest reported value from the last 5 monitoring years (2015 to 2019) was selected (see Table 2-1).

The following summarizes the results of the statistical evaluation:

- The calculated UCL-95 values, or default highest report values, for nitrate, Cl, and TDS were below their respective compliance levels, except for nitrate in well LB-10SR groundwater. Nitrate concentrations in well LB-10SR groundwater exhibited variability by an order of magnitude (0.35 to 10.4 mg/L) between 2015 and 2019, which resulted in a UCL-95 value of 13.6 that was greater than range in concentrations. As noted in the previous section, well LB-10SR nitrate concentrations are reflective of natural background concentrations.
- The calculated UCL-95 values, or default highest reported values, for dissolved Fe were below the compliance of 0.3 mg/L, except for well LB-17I (9.6 mg/L) and LB-20S (0.43 mg/L).
- The calculated UCL-95 values, or default highest reported values, for dissolved Mn were below the compliance level of 0.05 mg/L, except for wells LB-17I (1.5 mg/L), LB-17D (4.3 mg/L), LB-20S (2.3 mg/L), and LB-27I (0.34 mg/L).

Except for the nitrate UCL-95 value for well LB-10SR groundwater, the results are similar to those reported in 2018 annual report.

2.4.2.2 Trend Analysis of Groundwater Analytical Data

Time-series concentration plots were generated for each of the inorganic parameters tested (see Appendix F). The time-concentration plots were evaluated visually to assess whether groundwater parameter concentrations exhibit increasing, decreasing or stable trends.

Inorganic parameter concentrations in groundwater samples collected from alluvial WBZ wells and Troutdale Formation wells show either generally stable or decreasing trends (particularly since about

[4] MTCA Stat97 was obtained from Ecology's website: http://www.ecy.wa.gov/programs/tcp/tools/Mtca.exe.

2001), except for nitrate concentrations in samples collected from wells LB-10DR and LB-27D. Changes in nitrate concentrations detected in these wells are believed to be reflective of natural (i.e., non-landfill-impacted) groundwater conditions. It should be noted that the maximum detected nitrate concentrations in groundwater collected from these well are well below the regulatory compliance level of 10 mg/L. Some parameters show notable fluctuations (e.g., Cl in well MW-20 groundwater) but do not exhibit increasing trends.

It is also noteworthy that Cl, TDS, Fe, and Mn concentrations in groundwater collected from wells LB-17I, LB-17D, and LB-20S, located downgradient and in close proximity to the former landfilling areas, exhibited pronounced decreasing concentration trends generally from about 1991-1993 to 2001 (see time-concentration plots in Appendix F). These decreasing concentration trends were likely in response to the implementation of Leichner Landfill's post-closure systems, including the landfill cover system and the stormwater control and collection system. Concentrations of these inorganic parameters in groundwater samples collected from these wells have remained relatively stable since about 2001 (except for Cl in well LB-20S as noted above). As previously discussed, the concentrations of these inorganic parameters in groundwater collected from monitoring wells downgradient of LB-17I/17D and LB-20S are substantially lower, and have remained stable throughout their extensive monitoring history (see time-concentration diagrams in Appendix F).

3.0 STORMWATER MONITORING

The County received formal approval from Ecology to terminate Leichner Landfill's General Stormwater Permit (No. WAR005572B) as memorialized in a letter dated March 30, 2018 (Ecology, 2018). As a result, monthly stormwater inspection, quarterly monitoring, and annual reporting are no longer required, and these activities were suspended in the first quarter of 2018.

Consistent with Ecology's requirements noted in its March 30, 2018 letter (Ecology, 2018), the County will retain and make available upon request to Ecology or any other local government agency the facility's Stormwater Pollution Prevention Plan (SWPPP), along with all notices of intent, reports on inspections, and all other reports required by the General Stormwater Permit for at least three years from the date of termination.

The County is coordinating with Clark County Public Works (CCPW) in support of the engineering design and proposed stormwater control system for the planned extension of 99th Street through the northern portion of the Leichner Landfill. The road project will require decommissioning and filling of the North Detention Pond, redesign of the stormwater control system, and repair of landfill liner system along the southern edge of the North Detention Pond potentially impacted by the road construction. The County will keep Ecology apprised of these developments if impacts to the landfill require modification to the landfill liner system.

4.0 LANDFILL GAS MONITORING

A GCCS was initially installed at the Leichner Landfill in 1978 in response to offsite migration of LFG. The system has been modified several times over the years, including installation of a single, smaller enclosed flare station in 2007 in response to decreasing methane production. The current GCCS includes a LFG extraction well field with 102 gas extraction wells, a condensate collection system, a LFG blower and flare station (BFS), and an integrated remote monitoring and control (RMC) system. The RMC system monitors the operation and performance of the BFS and other components of the GCCS and stormwater collection system. The GCCS components are shown in Figure 4-1.

Compliance LFG monitoring at Leichner Landfill is performed to (1) fulfill compliance monitoring requirements for LFG monitoring probes along the perimeter of the landfill, (2) evaluate and adjust (i.e., balance) the LFG extraction well network, and (3) assess the performance and efficiency of the GCCS, including the BFS.

4.1 COMPLIANCE LFG MONITORING RESULTS

The LFG compliance monitoring network is comprised of 51 probes located along the perimeter of the landfill property boundary to monitor subsurface LFG migration, and in areas within the property, to more closely monitor the performance of the GCCS (see Figure 4-1). Compliance LFG monitoring probes constructed as dual-completion probes (i.e., a shallow and deep probe constructed within the same borehole) are designated with an "A" for the shallow probe and "B" for the deep probe. Compliance LFG monitoring probes with the same probe number but constructed in different boreholes are designated with an "S" for the shallow probe and "D" for the deep probe.

Compliance LFG monitoring was performed quarterly in 2019 (March, June, September, and December); however, probes GP-14, GP-15, GP-16D/GP-16S, and GP-17D/GP-17S were inadvertently not monitored in September. Quarterly monitoring data collected in 2019 are summarized in Table 4-1. Monitoring results indicate methane was predominantly (1) not detected in the LFG monitoring probes, or (2) was detected in few probes at concentrations below the compliance limit of 5 percent methane by volume.

It should be noted that methane was monitored at probes GP-07 and GP-39 in January 2019 because these probes are located adjacent to the landfill property boundary (adjacent to in-place waste) and have shown intermittent methane concentrations above the compliance limit. The initial concentrations were above the 5 percent (by volume) compliance limit in probes GP-07 and GP-39, at 5.9 percent and 13 percent, respectively. Adjustments (i.e., balancing) to nearby LFG extraction wells performed shortly after the initial monitoring successfully lowered methane concentrations in both probes to below the compliance level within 1 to 2 weeks (see Table 4-1).

4.2 LFG EXTRACTION WELLS

The LFG extraction wells (see Figure 4-1) were monitored and adjusted (balanced) semi-monthly (twice a month) during 2019 to maintain balanced and efficient LFG extraction rates. There were no significant problems or concerns noted during monitoring and adjustment of the LFG extraction wells.

4.3 LFG FLARE MONITORING

The LFG flare system is operated pursuant to Air Discharge Permit (ADP) 07-2714 issued by the Southwest Clean Air Agency (SWCAA) on February 15, 2007. The LFG flare system was monitored

regularly (typically on a weekly basis) in 2019 and continuously by the facility's RMC. The monitored parameters include LFG composition, static pressure, flow rate, and temperature measured at the flare inlet. In addition, the flare operating temperature was also measured and recorded. The flare system is equipped with a continuous monitoring system, which measures and records the flare operating temperature, inlet LFG flow rate, and inlet LFG oxygen concentration. The data are stored and periodically downloaded for permanent recordkeeping.

The following summarizes additional activities performed related to LFG flare monitoring in 2019:

- To meet the annual reporting requirements of the ADP, the 2018 Annual Flare Emissions Estimate report, dated March 6, 2019 (SCS, 2019b), was submitted to the SWCAA. The report presents and evaluates flare monitoring data and performance objectives. The 2019 annual report will be submitted to the SWCAA on or before March 15, 2020.
- As reported to Ecology and CCPH by the County in an email communication dated January 4, 2019 (County, 2019), the LFG flare stopped operating on December 21, 2018 due to electrical issues resulting from a major power surge. After extensive diagnostic evaluation of the flare control panel and associated electronics, it was determined that a series of breakers and the programmable logic control (PLC) were damaged by the power surge. The breakers and PLC were replaced and the flare began operating again on January 4, 2019. The replacement of the PLC is described further in Section 5.2.

  Additionally, the perimeter gas probes were monitored on January 5, 2019 to assess whether the loss of flare operation for approximately two weeks resulted in lateral migration of LFG along the perimeter of the landfill. Only two probes, GP-07 and newly-installed probe GP-39 (see Figure 4-1), showed methane concentrations above the compliance level of 5 percent methane (by volume). No structures are nearby, and as previously mentioned, these probes are located adjacent to in-place waste and intermittently show slightly elevated methane levels. Re-monitoring of these probes on January 7, 2019 after the flare and GCCS were operating for about three days showed methane concentrations had dropped to below the compliance level.

4.4 GREENHOUSE GAS MONITORING

SCS completed an evaluation in November 2013 to determine if the Leichner Landfill is required to report greenhouse gas (GHG) monitoring results (and perform future weekly GHG monitoring) pursuant to the state of Washington GHG rule based on emissions data collected in 2013. The evaluation showed that the Leichner Landfill is exempt from GHG reporting and weekly monitoring. Consequently, weekly GHG monitoring was suspended beginning January 2014.

4.5 EVALUATION OF GCCS PERFORMANCE AND CONCEPTUAL REDESIGN OF GCCS

The GCCS at the Leichner Landfill will continue to require future upgrades to operate efficiently. To that end, a project was initiated in 2015 and is on-going (conducted by SCS) that focuses on:

- Collecting LFG extraction well and BFS performance data to support developing options for redesigning and upgrading the GCCS.
- Assessing whether additional monitoring and performance data needs to be collected to facilitate future redesign of the GCCS.

The 2015 Annual Report (SCS, 2016) first described significant activities performed to evaluate the existing GCCS well field system and BFS. The scope of this effort involved collecting LFG flow data from 50 of the site's 102 LFG extraction wells. Deeper LFG wells located in the interior of the landfill were targeted for flow monitoring because they are expected to collect more LFG and have higher flow rates. The perimeter LFG wells, in general, are shallower and will not collect as much LFG (i.e., lower flow rates) due to their proximity to native soil and potential to facilitate air intrusion. Evaluation of the GCCS using the LFG extraction well monitoring data was on-going during the first half of 2019.

In 2017, SCS prepared and submitted to the County a report dated October 26, 2017 (SCS, 2017a) presenting three design options for upgrading the GCCS; the report included preliminary engineering design drawings and construction cost estimates. To date, the LLOC is considering the advantages and disadvantages of three key design options as follows:

- Replacing the existing 25-year-old, polyvinyl chloride (PVC) conveyance piping with new, more robust, thermoplastic, high-density polyethylene (HDPE) conveyance pipe and either burying the new piping or keeping it aboveground.
- Using the existing condensate pump stations or replacing them with new sumps.
- Modifying the LFG collection well network, including decommissioning some LFG extraction wells and installing new ones, and upgrading targeted LFG well heads to improve LFG flow and monitoring. Several new LFG well heads have been installed in phases (to spread out the costs) during 2018 and 2019.

The LLOC in 2019 approved installation of a new, smaller, enclosed LFG microflare, and allocated funds to procure and install the microflare in 2019. A meeting was held on February 5, 2019, with SCS, the County, and the SWCAA regarding microflare permitting requirements and process. SCS also prepared a bid specific/procurement package on behalf of the County to be included as part of a Request for Proposal (RFP) public solicitation. A draft of the bid specification/procurement package was submitted to the SWCAA for review and comment, and was finalized (SCS, 2019b) with SWCAA comments incorporated into the final document. An RFP announcement was subsequently issued by the County on June 12, 2019, but was rescinded and closed out due to procurement and timing issues with the responses. A new RFP was issued February 12, 2020, with a proposal submittal deadline of March 11, 2020.

5.0 MAINTENANCE AND REPAIR OF LANDFILL POST-CLOSURE SYSTEMS

5.1 ROUTINE ACTIVITIES

Routine operations, maintenance, and repair of the GCCS and stormwater collection and control system performed in 2019 included the following:

- Performing checks and making adjustments to the operational settings of the LFG flare system as necessary.
- Performing maintenance and repairs (as needed) of the LFG flare system, condensate collection system, including the condensate sumps, airlines, discharge lines, and compressors.
- Performing minor maintenance and repairs (as needed) of the LFG extraction wells and conveyance piping (e.g., repair of hoses, fittings, and valves).
- Conducting semi-monthly adjustments (i.e., balancing) to the north and south LFG extraction wells field.
- Performing general maintenance of the (1) North and South Detention Pond pumps, (2) air compressor for the condensate collection and Module 2 stormwater pumping systems, and (3) Module 2 stormwater recovery system.
- Coordinating periodic pumping and disposal of condensate collected from the condensate sumps and temporarily stored in the onsite condensate holding tank.
- Performing vegetation control.
- Reviewing and uploading the LFG extraction well monitoring data and compliance probe monitoring data into SCS's site-specific DataServices™ database for the Leichner Landfill project.

5.2 NON-ROUTINE ACTIVITIES

Notable non-routine maintenance, repair, and replacement activities related to the Leichner Landfill's post-closure systems and equipment performed in 2019 are described in this section.

5.2.1 First Quarter 2019

- Continued evaluating and troubleshooting problems with the diaphragm pump installed in the Module 2 stormwater collection vault in December 2018. Replaced the diaphragm pump with two new AP-4 pneumatic pumps and modified the discharge pipe plumbing system.
- Installed new QED wellhead assemblages on three LFG extraction wells (NE-10, NE-15, and NW-29).
- Inspected the battery at the Module 2 stormwater vault.
- Perform a general evaluation of erosion conditions on the landfill and spread out hay in certain areas.

- Performed minor rewiring on the LFG flare panel as noted in section 4.3.
- Repaired the RMC system transmitter and battery to the North Pond located at the flare station
- Performed servicing and repair of the compressor used to pump condensate from the sumps to the onsite condensate holding tank.

5.2.2 Second Quarter 2019

- Coordinated with contractors to obtain bids to remove the North Detention Pond pumps for maintenance due to excessive noise. It was subsequently determined that only the motors needed to be removed for maintenance and bids were received for this less expensive approach. Repair of the pump motors was performed in May 2019
- Installed new QED wellhead assemblages on three LFG extraction wells (NW-25, SE-4, and SE-5).
- Surveyed the Module 2 stormwater vault discharge drain line.
- Replaced the pump in one of the LFG condensate collection sumps (N-6).
- Reinforced silt fences along the southern perimeter of Module 2.
- Installed new motor covers for pumps at the North Detention Pond pumping station.
- Upgraded the electrical panel for the South Detection Pond pumping station.

5.2.3 Third Quarter 2019

- Rewired and installed a new junction box at the South Detention Pond pumping station.
- Weatherized (sealed) condensate trap control box.
- Installed new wellhead assemblies for LFG extraction wells SE6, NE-3, and NE-11.
- Performed minor maintenance/repair of the new junction box and RMC system at the South Detention Pond pumping station.
- Installed new wellhead assemblies for LFG extraction wells SW-4, SW-5 and SW-6.
- Replaced the pumps in three of the LFG condensate collection sumps (N-2, S-5, and S-6).
- Performed troubleshooting and repair of the South Detention Pond radio and transmitter.

5.2.4 Fourth Quarter 2019

- Replaced the variable frequency drive (VFD) controller for the LFG blowers.
- Replaced and ensured proper operation of the South Detention Pond water-level transducer.
- Transferred auto-drain liquid to storage drums located in the BFS area.
- Installed new wellheads at gas extraction wells NW-13, NW-16, and SW-4.
- Performed troubleshooting and repair of North Detention Pond flow meter and associated data transmission system and associated with the RMC system.

- Installed silt cloth and netting at the inlet to the North Detention Pond pumping system.
- Performed oversight of EC Electric to troubleshoot the North Detention Pond electrical components.
- Installed a new pump at condensate sump CS-N1.

6.0 REFERENCES

City of Vancouver, 2020, Letter (re: Consent Decree 96-2-03081-7 Leichner Brothers Landfill), from B. Carlson, City of Vancouver, to M. Kourehdar, Ecology, Olympia, Washington, January 15.

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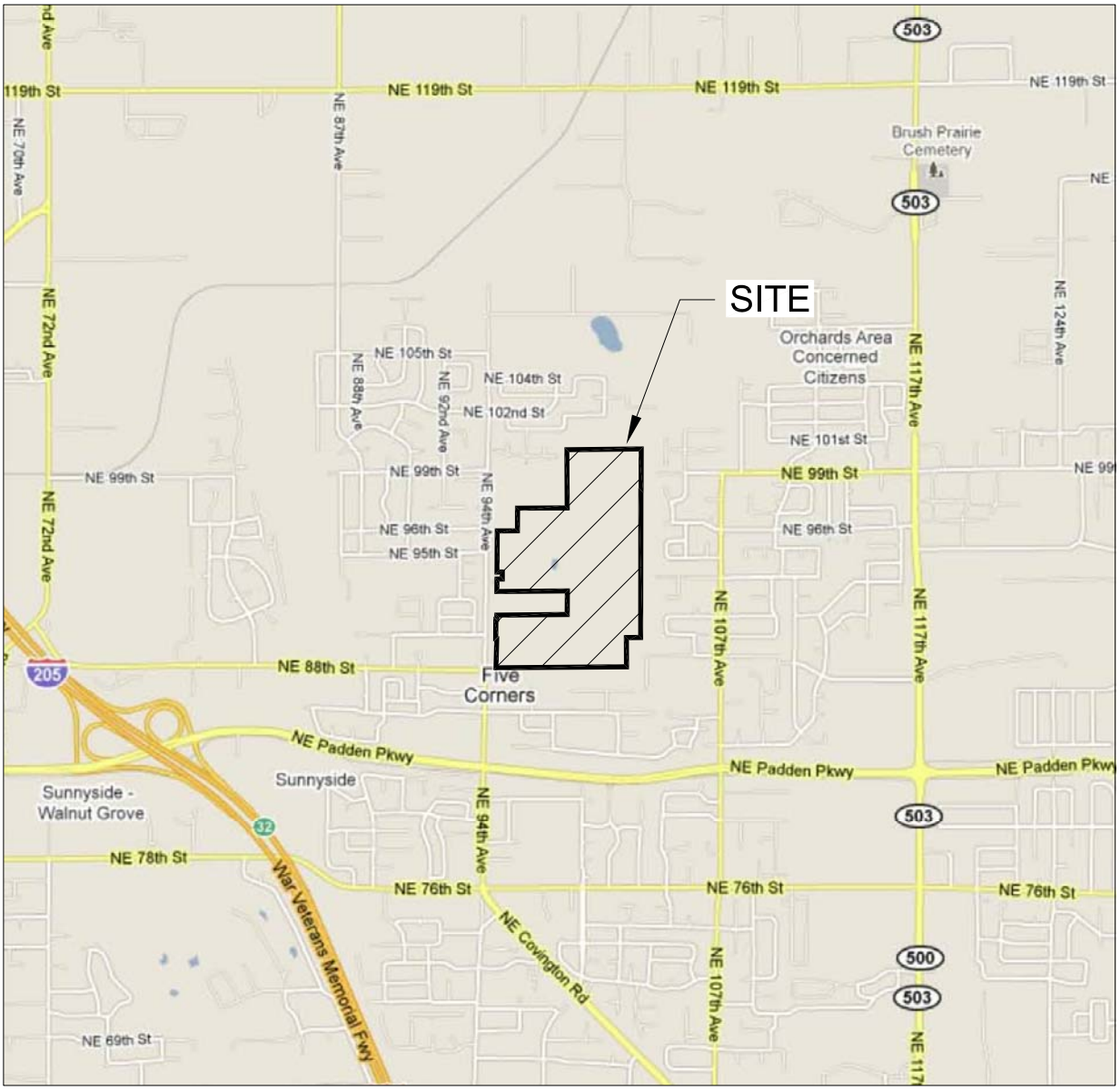
FIGURES



NOT TO SCALE

WASHINGTON

SOURCE: GOOGLE MAPS

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(503) 639-9201 FAX: (503) 684-6948

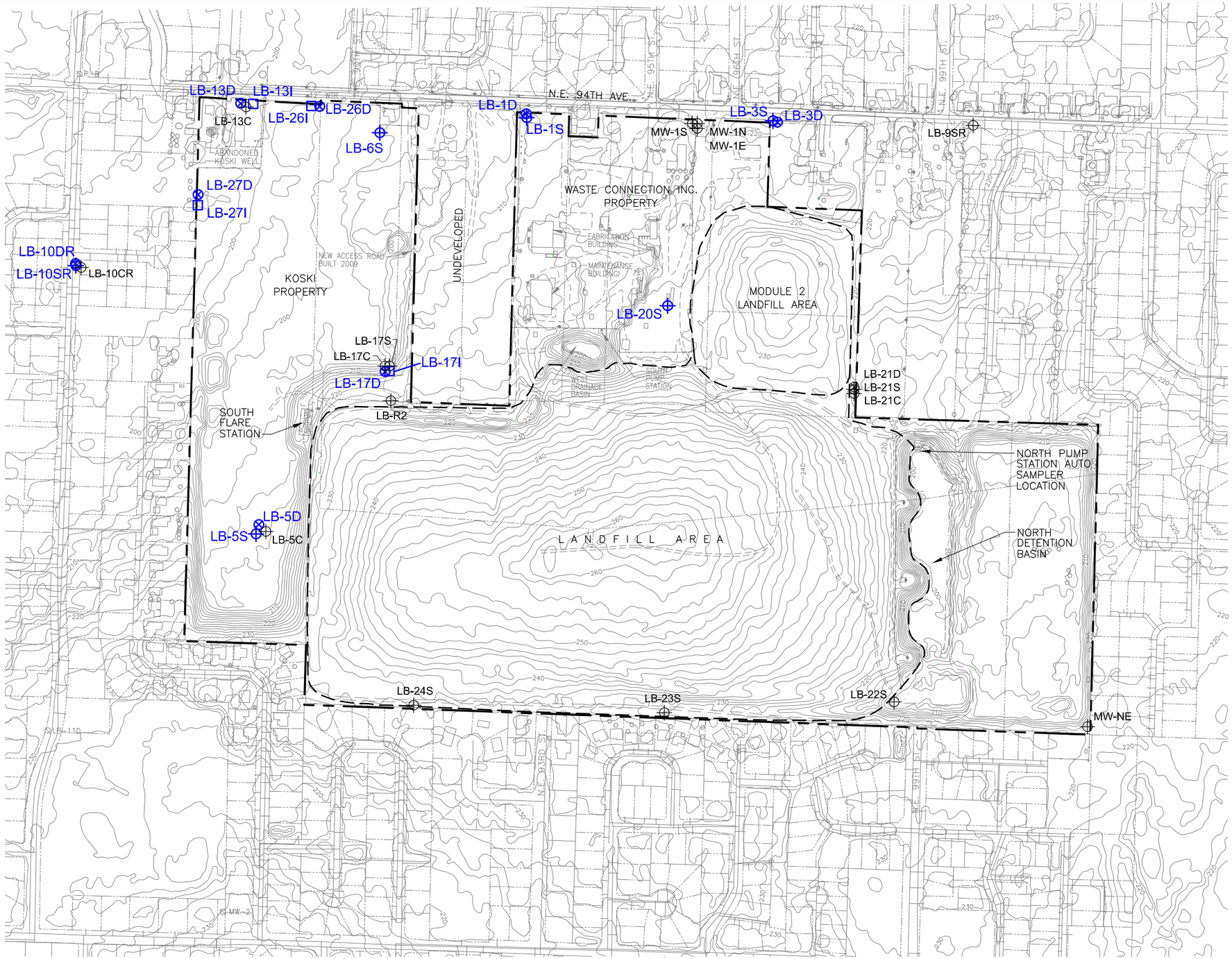
PROJECT NO.	DES BY
04220030.14	S.N.
SCALE	CHK BY
AS SHOWN	D.L.
CAD FILE	APP BY
FIGURE 1-1	C.A.

SITE LOCATION MAP

LEICHNER LANDFILL
CLARK COUNTY, WASHINGTON

DATE
MARCH 2020

FIGURE
1-1



LEGEND:

LB-5S ⊕	Monitoring Well Location, Alluvial Water–Bearing Zone
LB-5D ⊗	Monitoring Well Location, Troutdale Aquifer
LB-17I □	Monitoring Well Location, Middle of Alluvial Water–Bearing Zone
———	Property Boundary
– – – – –	Limit of Landfill Cover and Approximate Edge of Waste

NOTES:

1. Monitoring wells designated by blue color are compliance monitoring wells.
2. Topography taken from Clark County GIS, December 2008.

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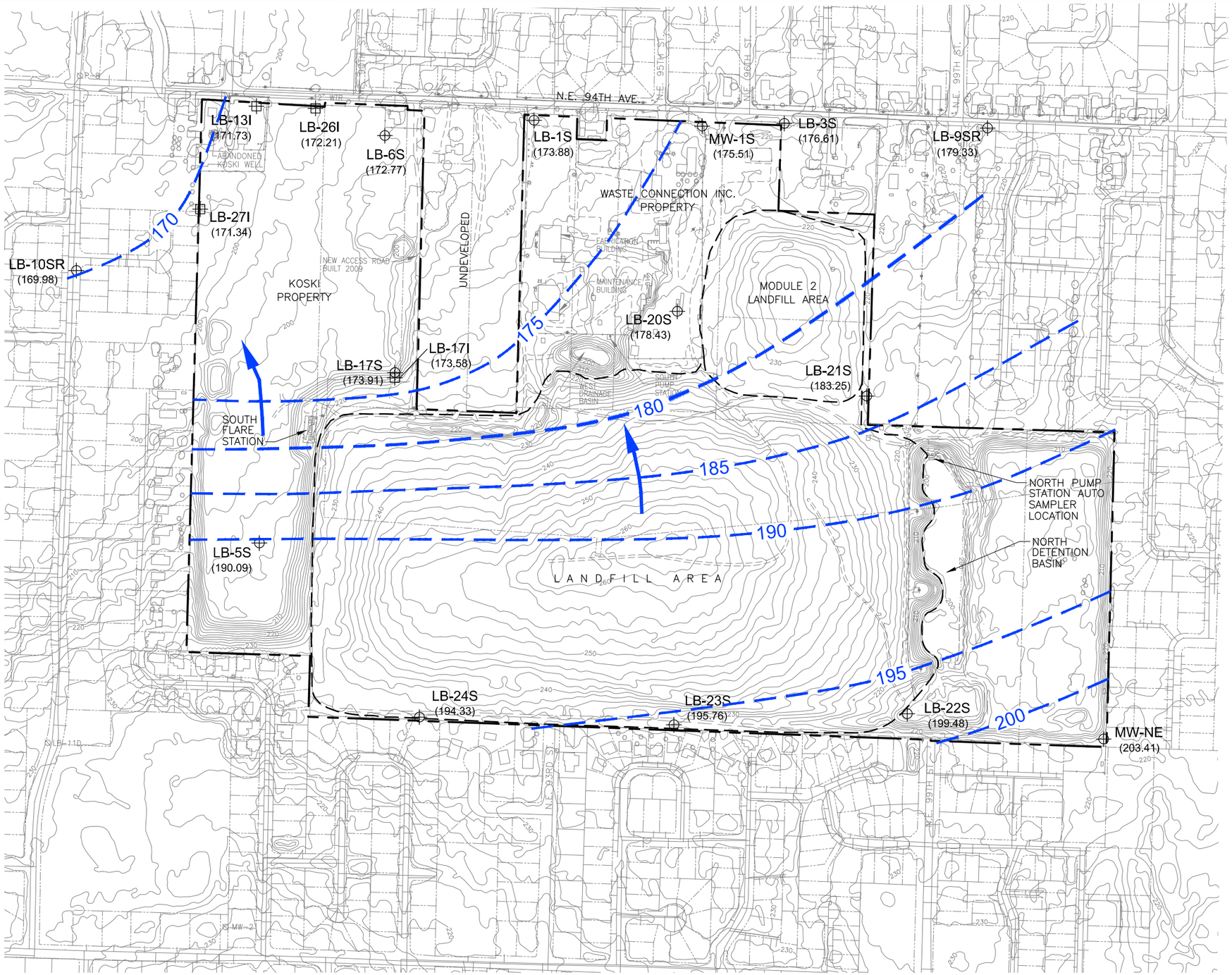
SCALE
0 400 800 FEET

PROJECT NO. 04220030.14	DES BY S.N.	GROUNDWATER MONITORING WELL LOCATIONS	DATE MARCH 2020
SCALE AS SHOWN	CHK BY D.L.	LEICHNER LANDFILL VANCOUVER, WASHINGTON	FIGURE 2-1
CAD FILE FIGURE 2-1	APP BY C.A.		



LEGEND:

LB-5S ⊕	Monitoring Well Location, Alluvial Water–Bearing Zone
LB-17I ⊕	Monitoring Well Location, Middle of Alluvial Water–Bearing Zone
— — —	Property Boundary
— — —	Limit of Landfill Cover and Approximate Edge of Waste
– –200– –	Groundwater Potentiometric Surface Contour, queried where uncertain
(179.33)	Groundwater Elevation Measured on January 28, 2019
→	Inferred Groundwater Flow Direction

NOTE:
Topography Taken From Clark County GIS, December 2008

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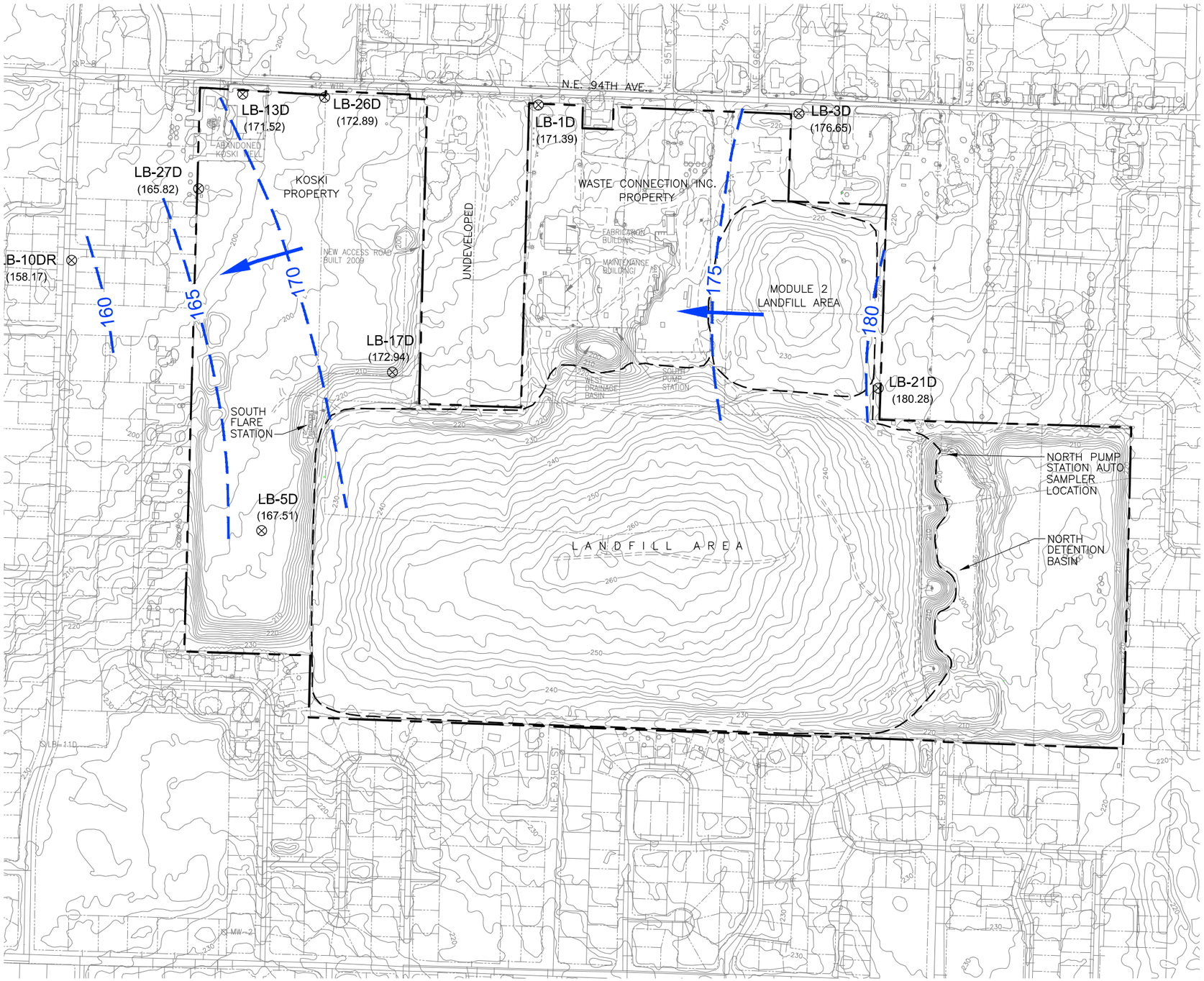
SCALE
0 400 800 FEET

PROJECT NO. 04222030.14	DES BY S.N.	GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS ALLUVIAL WATER BEARING ZONE JANUARY 28, 2019	DATE MARCH 2020
SCALE AS SHOWN	CHK BY D.L.	LEICHNER LANDFILL VANCOUVER, WASHINGTON	FIGURE 2-2
CAD FILE FIGURE 2-2	APP BY C.A.		



LEGEND:

LB-5D ⊗	Monitoring Well Location, Troutdale Aquifer
— — — —	Property Boundary
— — — — —	Limit of Landfill Cover and Approximate Edge of Waste
— —180— —	Groundwater Potentiometric Surface Contour, queried where uncertain
(180.28)	Groundwater Elevation Measured on January 28, 2019
→	Inferred Groundwater Flow Direction

NOTE:
Topography Taken From Clark County GIS, December 2008

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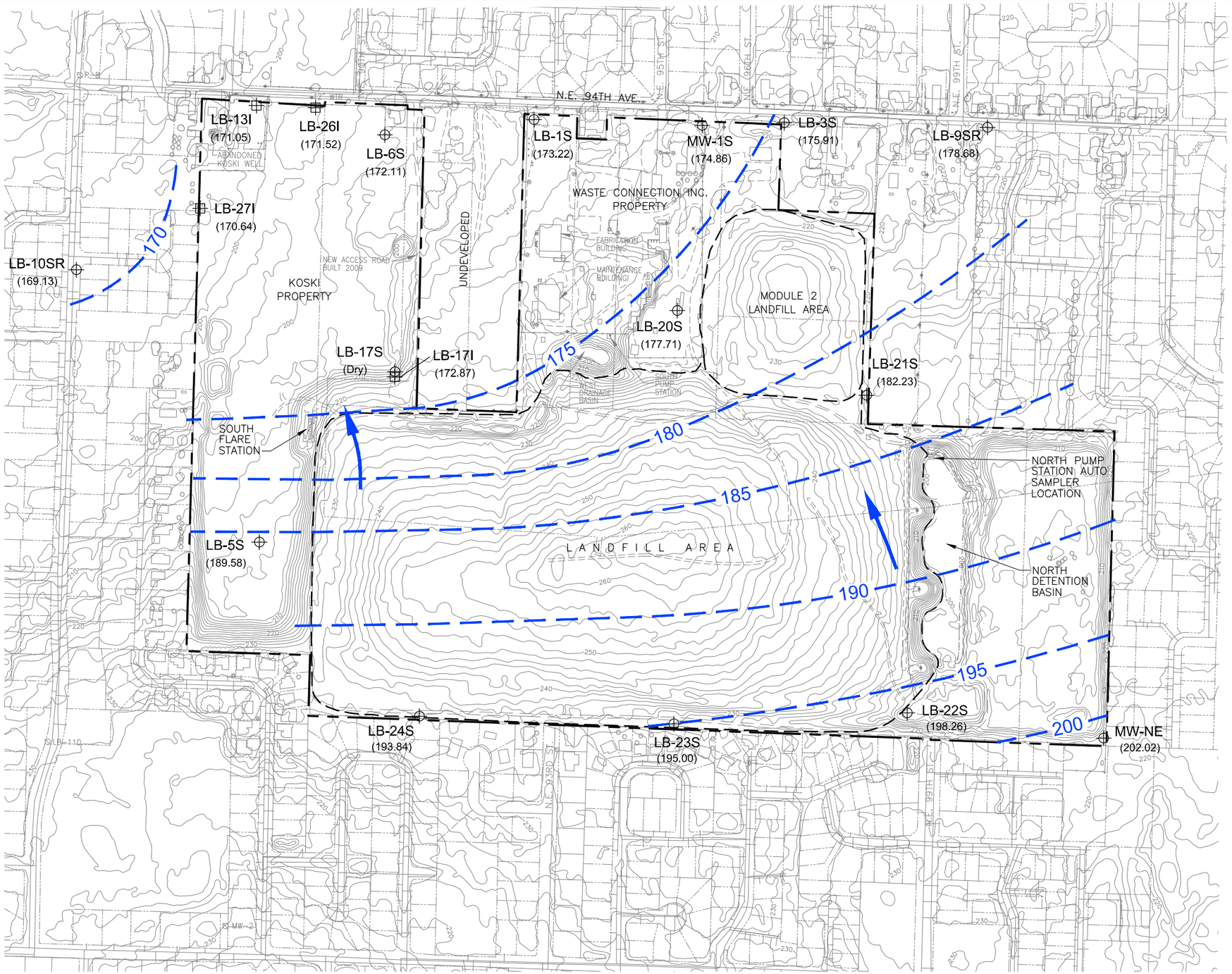
SCALE
0 400 800 FEET

PROJECT NO. 04220030.14	DES BY S.N.	GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS TROUTDALE FORMATION AQUIFER JANUARY 28, 2019 LEICHNER LANDFILL VANCOUVER, WASHINGTON	DATE MARCH 2020
SCALE AS SHOWN	CHK BY D.L.		FIGURE 2-3
CAD FILE FIGURE 2-3	APP BY C.A.		



LEGEND:

LB-5S ⊕	Monitoring Well Location, Alluvial Water–Bearing Zone
LB-17I ⊞	Monitoring Well Location, Middle of Alluvial Water–Bearing Zone
— — —	Property Boundary
- - - -	Limit of Landfill Cover and Approximate Edge of Waste
- -195- -	Groundwater Potentiometric Surface Contour, queried where uncertain
(174.86)	Groundwater Elevation Measured on July 22, 2019
→	Inferred Groundwater Flow Direction

NOTE:
Topography Taken From Clark County GIS, December 2008

SCALE
0 400 800 FEET

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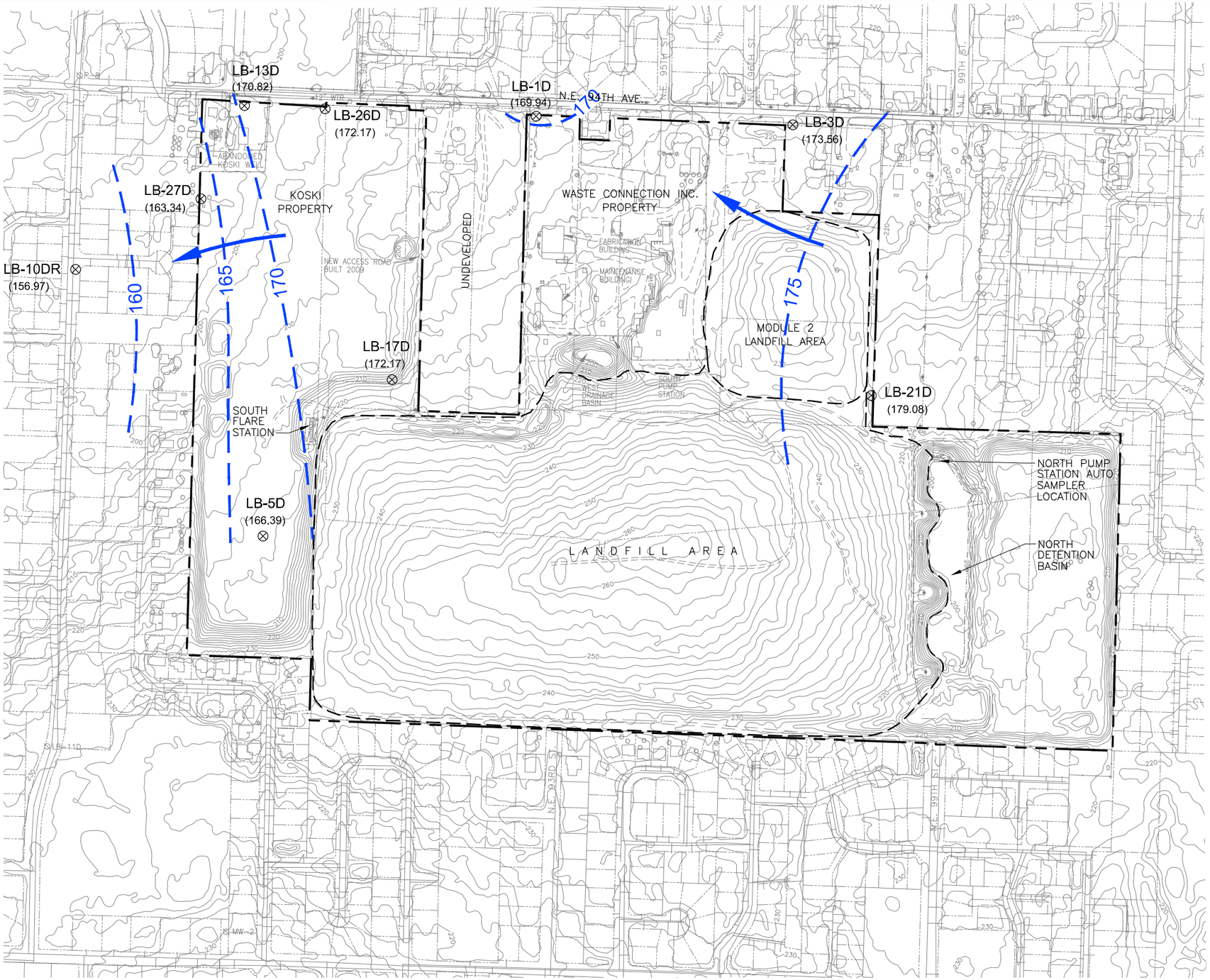
PROJECT NO. 04220030.14	DES BY S.N.	GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS ALLUVIAL WATER BEARING ZONE JULY 22, 2019 LEICHNER LANDFILL VANCOUVER, WASHINGTON	DATE MARCH 2020
SCALE AS SHOWN	CHK BY D.L.		FIGURE 2-4
CAD FILE FIGURE 2-4	APP BY C.A.		



LEGEND:

LB-5D ⊗	Monitoring Well Location, Troutdale Aquifer
— — — —	Property Boundary
— — — — —	Limit of Landfill Cover and Approximate Edge of Waste
— —175— —	Groundwater Potentiometric Surface Contour, queried where uncertain
(163.34)	Groundwater Elevation Measured on July 22, 2019
→	Inferred Groundwater Flow Direction

NOTE:
Topography Taken From Clark County GIS, December 2008

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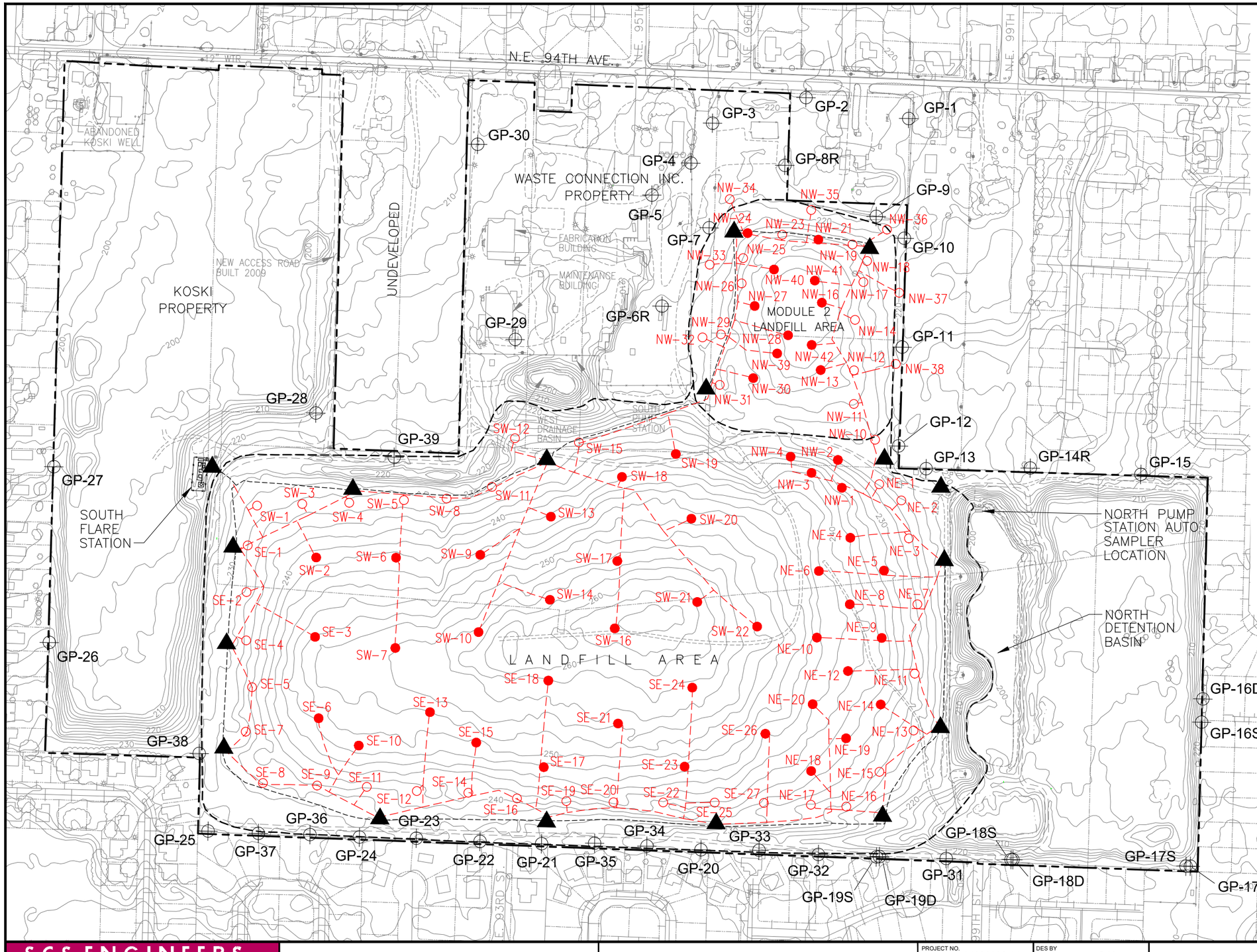
SCALE
0 400 800 FEET

PROJECT NO. 04220030.14	DES BY S.N.	GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS TROUTDALE FORMATION AQUIFER JULY 22, 2019 LEICHNER LANDFILL VANCOUVER, WASHINGTON	DATE MARCH 2020
SCALE AS SHOWN	CHK BY D.L.		FIGURE 2-5
CAD FILE FIGURE 2-5	APP BY C.A.		



LEGEND:

- GP-30 — Compliance Landfill Gas Monitoring Probe Location
- SW-1 — Vertical Landfill Gas Extraction Well
- SW-2 — Extraction Wells Proposed for Additional Data Collection
- Condensate Sump
- Gas Collection Piping
- Property Boundary
- Limit of Landfill Cover and Approximate Edge of Waste

NOTE:
Topography Taken From Clark County GIS, December 2008

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SCALE
0 300 600 FEET

PROJECT NO. 04220030.14	DES BY S.N.
SCALE AS SHOWN	CHK BY D.L.
CAD FILE FIGURE 4-1	APP BY C.A.

LANDFILL GAS PROBE AND EXTRACTION WELL LOCATIONS

LEICHNER LANDFILL
VANCOUVER, WASHINGTON

DATE MARCH 2020
FIGURE 4-1

TABLES

Table 2-1
2019 Groundwater Concentrations Above Compliance Levels
Leichner Landfill

Location	Sample Number	Date	Nitrate as Nitrogen (CL = 10 mg/L)	Dissolved Iron (CL = 0.3 mg/L)	Dissolved Manganese (CL = 0.05 mg/L)
LB-10SR	LB-022718-09-10SR	2/27/18	---	---	---
LB-10SR	LB-081418-04-10SR	8/14/18	---	---	---
LB-10SR	LB-012819-02-10SR	1/28/19	---	---	---
LB-10SR	LB-072319-03-10SR	7/23/19	10.4	---	---
LB-17D	LB-022618-07-17D	2/26/18	---	---	4.29
LB-17D	LB-012919-01-17D	1/29/19	---	---	4.10
LB-17I	LB-030118-16-17I	3/1/18	---	7.5	1.21
LB-17I	LB-012919-07-17I	1/29/19	---	7.94	1.34
LB-20S	LB-030118-14-20S	3/1/18	---	---	1.47
LB-20S	LB-012919-05-20S	1/29/19	---	---	1.06
LB-27I	LB-030118-19-27I	3/1/18	---	---	0.24
LB-27I	LB-081481-01-27I	8/14/18	---	---	0.29
LB-27I (Dup)	LB-081418-02-DUP	8/14/18	---	---	0.29
LB-27I	LB-013019-03-27I	1/30/19	---	---	0.23
LB-27I	LB-072219-4-27I	7/22/19	---	---	0.35

Notes:

CL = compliance leve for inorganic parameters and metals in groundwater at Leichner Landfill.

mg/L = milligrams per liter

--- = concentration was below the compliance level

Table 2-2
Statistical Summary of Groundwater Quality Data From 2015 to 2019
95 Percent Upper Confidence Limit of the Mean[a]
Leichner Landfill

Parameter	Compliance Level	Units	LB-1S	LB-1D	LB-3S	LB-3D	LB-5S	LB-5D	LB-6S	LB-10SR	LB-10DR	LB-13I	LB-13D	LB-17I	LB-17D	LB-20S	LB-26I	LB-26D	LB-27I	LB-27D
Inorganic Parameters																				
Chloride	250	mg/L	M(12.2)	7.2	M(4.14)	M(5.32)	4.7	9.6	5.9	21.6	16.6	9.4	M(10.8)	10.85	15.8	M(35)	9.0	M(5.88)	31.7	M(8.88)
Nitrate	10	mg/L	6.3	M(7.09)	M(3.90)	M(5.12)	5.9	M(0.82)	2.0	13.6	M(3.7)	3.8	M(5.23)	All ND	All ND	All ND	3.9	M(5.76)	M(0.91)	M(4.25)
Total Dissolved Solids	500	mg/L	205.7	209.0	187.1	183.7	M(182)	227.0	165.3	280.0	283.6	196.9	M(185)	249.9	218.0	241.9	199.3	185.2	357.5	249.1
Metals																				
Iron (dissolved)	0.3	mg/L	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	**9.6**	0.13	**M(0.43)**	M(0.046)	All ND	All ND	M(0.228)
Manganese (dissolved)	0.05	mg/L	All ND	M(0.001)	All ND	All ND	All ND	0.0024	All ND	0.003	M(0.002)	0.0034	All ND	**1.5**	**4.3**	**2.3**	M(0.0026)	All ND	**0.34**	M(0.0127)

NOTE:
mg/L = milligrams per liter; µg/L = micrograms per liter; ND = indicates not detected at any sampling event; M = maximum value detected in last five years shown in parenthesis.
Values shown in **bold** are greater than the specified compliance level.

[a] Values shown are the 95 percent upper confidence limit on the mean (UCL-95) calculated using MTCA Stat 97 program and Statistical Guidance for Ecology Site Managers (Ecology, 1992).

Table 4-1
2019 Compliance Landfill Gas Monitoring Probe Data
Leichner Landfill

Probe	Date and Time	Methane	Carbon Dioxide	Oxygen	Balance Gases
		Percent by Volume			
GP-1A	03/14/19	0.0	2.0	19.5	78.5
GP-1A	06/13/19	0.0	2.4	18.8	78.8
GP-1A	09/18/19	0.0	2.5	19.2	78.3
GP-1A	12/27/19	0.0	1.8	19.7	78.5
GP-1B	03/14/19	0.0	1.8	19.6	78.6
GP-1B	06/13/19	0.0	2.1	19.1	78.8
GP-1B	09/18/19	0.0	2.1	19.4	78.5
GP-1B	12/27/19	0.0	1.7	19.9	78.4
GP-02	03/14/19	0.0	2.1	19.1	78.8
GP-02	06/13/19	0.0	2.8	18.0	79.2
GP-02	09/18/19	0.0	2.8	18.5	78.7
GP-02	12/27/19	0.0	3.1	18.4	78.5
GP-03	03/14/19	0.0	2.6	18.9	78.5
GP-03	06/13/19	0.0	2.2	18.8	79.0
GP-03	09/18/19	0.0	2.8	18.4	78.8
GP-03	12/27/19	0.0	2.5	18.4	79.1
GP-4A	03/14/19	0.0	2.5	17.9	79.6
GP-4A	06/13/19	0.0	2.4	17.9	79.7
GP-4A	09/18/19	0.0	1.9	17.7	80.4
GP-4A	12/27/19	0.0	3.3	17.0	79.7
GP-4B	03/14/19	0.0	3.0	17.8	79.2
GP-4B	06/13/19	0.0	2.8	16.1	81.1
GP-4B	09/18/19	0.0	3.0	15.8	81.2
GP-4B	12/27/19	0.0	3.4	16.2	80.4
GP-05	03/14/19	0.0	3.5	17.3	79.2
GP-05	06/13/19	0.0	3.7	16.6	79.7
GP-05	09/18/19	0.0	4.7	15.2	80.1
GP-05	12/27/19	0.0	4.1	16.8	79.1
GP-06	03/14/19	0.0	4.8	14.6	80.6
GP-06	06/13/19	0.0	4.7	14.6	80.7
GP-06	09/18/19	0.0	6.2	13.1	80.7
GP-06	12/27/19	0.0	4.9	14.7	80.4
GP-07	01/03/19	5.9	9.6	0.0	84.5
GP-07	01/05/19	6.3	10.5	0.0	83.2
GP-07	01/07/19	5.1	9.1	0.0	85.8
GP-07	01/14/19	3.7	9.8	0.0	86.5
GP-07	03/14/19	1.1	8.1	0.0	90.8
GP-07	06/13/19	2.9	14.5	0.0	82.6
GP-07	09/18/19	1.8	12.7	0.0	85.5
GP-07	12/27/19	0.1	8.7	6.9	84.3

Table 4-1
2019 Compliance Landfill Gas Monitoring Probe Data
Leichner Landfill

Probe	Date and Time	Methane	Carbon Dioxide	Oxygen	Balance Gases
		Percent by Volume			
GP-8R	03/14/19	0.0	1.7	20.5	77.8
GP-8R	06/13/19	0.0	1.5	19.8	78.7
GP-8R	09/18/19	0.0	1.6	19.4	79.0
GP-8R	12/27/19	0.0	0.9	20.1	79.0
GP-9A	03/14/19	0.0	8.9	5.4	85.7
GP-9A	06/13/19	0.0	5.5	12.2	82.3
GP-9A	09/18/19	0.0	5.8	11.7	82.5
GP-9A	12/27/19	0.0	4.8	14.5	80.7
GP-9B	03/14/19	0.0	14.3	0.7	85.0
GP-9B	06/13/19	0.0	12.4	2.4	85.2
GP-9B	09/18/19	0.0	15.1	1.6	83.3
GP-9B	12/27/19	0.0	15.3	1.8	82.9
GP-10A	03/14/19	0.0	5.6	13.5	80.9
GP-10A	06/13/19	0.0	4.9	14.8	80.3
GP-10A	09/18/19	0.0	5.3	15.4	79.3
GP-10A	12/27/19	0.0	5.2	14.7	80.1
GP-10B	03/14/19	0.0	2.4	18.7	78.9
GP-10B	06/13/19	0.0	2.2	18.9	78.9
GP-10B	09/18/19	0.0	2.4	18.8	78.8
GP-10B	12/27/19	0.0	2.1	18.7	79.2
GP-11	03/14/19	0.0	0.8	20.1	79.1
GP-11	06/13/19	0.0	1.6	19.0	79.4
GP-11	09/18/19	0.0	1.7	18.4	79.9
GP-11	12/27/19	0.1	1.2	18.7	80.0
GP-12	03/14/19	0.0	0.9	20.8	78.3
GP-12	06/13/19	0.0	0.9	20.8	78.3
GP-12	09/18/19	0.0	1.5	20.1	78.4
GP-12	12/27/19	0.1	0.5	19.5	79.9
GP-13	03/14/19	0.0	1.0	19.1	79.9
GP-13	06/13/19	0.0	2.0	18.7	79.3
GP-13	09/18/19	0.0	2.3	18.5	79.2
GP-13	12/27/19	0.0	1.7	19.8	78.5
GP-14	03/14/19	0.0	0.8	20.4	78.8
GP-14	06/13/19	0.0	1.1	19.1	76.4
GP-14	Not Measured				
GP-14	12/27/19	0.0	0.8	20.4	78.8
GP-15	03/14/19	0.0	1.1	19.8	79.1
GP-15	06/13/19	0.0	0.9	19.3	79.8
GP-15	Not Measured				
GP-15	12/27/19	0.0	1.9	19.9	78.2

Table 4-1
2019 Compliance Landfill Gas Monitoring Probe Data
Leichner Landfill

Probe	Date and Time	Methane	Carbon Dioxide	Oxygen	Balance Gases
		Percent by Volume			
GP-16D	03/14/19	0.0	1.8	19.1	79.1
GP-16D	06/13/19	0.0	1.5	18.5	80.0
GP-16D	Not Measured				
GP-16D	12/27/19	0.0	2.9	19.2	77.9
GP-16S	03/14/19	0.0	1.3	20.3	78.4
GP-16S	06/13/19	0.0	1.6	19.4	79.0
GP-16S	Not Measured				
GP-16S	12/27/19	0.0	1.7	20.0	78.3
GP-17D	03/14/19	0.0	3.1	17.5	79.4
GP-17D	06/13/19	0.0	2.6	17.8	79.6
GP-17D	Not Measured				
GP-17D	12/27/19	0.0	3.8	19.2	77.0
GP-17S	03/14/19	0.0	3.0	18.3	78.7
GP-17S	06/13/19	0.0	3.0	18.5	78.5
GP-17S	Not Measured				
GP-17S	12/27/19	0.0	3.5	18.8	77.7
GP-18D	03/14/19	0.0	1.9	19.9	78.2
GP-18D	06/13/19	0.0	1.8	19.3	78.9
GP-18D	09/18/19	0.0	1.7	19.8	78.5
GP-18D	12/27/19	0.0	2.5	18.7	78.8
GP-18S	03/14/19	0.0	1.2	20.5	78.3
GP-18S	06/13/19	0.0	1.3	19.9	78.8
GP-18D	09/18/19	0.0	1.7	19.8	78.5
GP-18S	12/27/19	0.0	1.6	19.3	79.1
GP-19D	03/14/19	0.0	1.5	19.0	79.5
GP-19D	06/13/19	0.0	1.2	18.9	79.9
GP-19D	09/18/19	0.0	2.1	18.6	79.3
GP-19D	12/27/19	0.0	2.8	18.1	79.1
GP-19S	03/14/19	0.0	1.7	20.0	78.3
GP-19S	06/13/19	0.0	1.0	20.0	79.0
GP-19S	09/18/19	0.0	1.6	19.3	79.1
GP-19S	12/27/19	0.0	1.4	19.3	79.3
GP-20	03/14/19	0.0	6.5	8.2	85.3
GP-20	06/13/19	0.0	6.9	10.5	82.6
GP-20	09/18/19	0.0	7.0	11.9	81.1
GP-20	12/27/19	0.0	7.6	13.1	79.3
GP-21A	03/14/19	0.0	1.6	19.5	78.9
GP-21A	06/13/19	0.0	1.4	19.2	79.4
GP-21A	09/18/19	0.0	1.1	19.8	79.1
GP-21A	12/27/19	0.0	1.1	19.9	79.0

Table 4-1
2019 Compliance Landfill Gas Monitoring Probe Data
Leichner Landfill

Probe	Date and Time	Methane	Carbon Dioxide	Oxygen	Balance Gases
		Percent by Volume			
GP-21B	03/14/19	0.0	1.4	18.7	79.9
GP-21B	06/13/19	0.0	1.5	17.4	81.1
GP-21B	09/18/19	0.0	1.3	19.4	79.3
GP-21B	12/27/19	0.0	1.7	19.3	79.0
GP-22	03/14/19	0.0	1.2	20.3	78.5
GP-22	06/13/19	0.0	1.1	19.6	79.3
GP-22	09/18/19	0.0	1.2	19.6	79.2
GP-22	12/27/19	0.0	1.0	20.2	78.8
GP-23	03/14/19	0.0	1.1	20.2	78.7
GP-23	06/13/19	0.0	1.0	19.8	79.2
GP-23	09/18/19	0.0	1.7	18.9	79.4
GP-23	12/27/19	0.0	1.6	19.9	78.5
GP-24A	03/14/19	0.0	0.8	20.7	78.5
GP-24A	06/13/19	0.0	0.8	20.2	79.0
GP-24A	09/18/19	0.0	1.1	20.1	78.8
GP-24A	12/27/19	0.0	0.4	20.6	79.0
GP-24B	03/14/19	0.0	0.6	20.6	78.8
GP-24B	06/13/19	0.0	0.5	20.4	79.1
GP-24B	09/18/19	0.0	0.8	20.3	78.9
GP-24B	12/27/19	0.0	0.4	20.7	78.9
GP-25A	03/14/19	0.0	1.4	20.3	78.3
GP-25A	06/13/19	0.0	1.1	19.8	79.1
GP-25A	09/18/19	0.0	1.5	19.2	79.3
GP-25A	12/27/19	0.0	1.6	19.2	79.2
GP-25B	03/14/19	0.0	2.1	18.6	79.3
GP-25B	06/13/19	0.0	1.8	18.3	79.9
GP-25B	09/18/19	0.0	2.5	17.6	79.9
GP-25B	12/27/19	0.0	3.3	17.7	79.0
GP-26	03/14/19	0.0	0.7	20.9	78.4
GP-26	06/13/19	0.0	0.8	20.4	78.8
GP-26	09/18/19	0.0	1.0	20.3	78.7
GP-26	12/27/19	0.0	0.7	19.4	79.9
GP-27	03/14/19	0.0	0.6	20.7	78.7
GP-27	06/13/19	0.0	0.8	20.2	79.0
GP-27	09/18/19	0.0	0.8	20.1	79.1
GP-27	12/27/19	0.0	0.8	20.1	79.1
GP-28	03/14/19	0.1	5.4	14.0	80.5
GP-28	06/13/19	0.0	3.2	15.9	80.9
GP-28	09/18/19	0.0	3.2	18.2	78.6
GP-28	12/27/19	0.2	4.6	14.5	80.7

Table 4-1
2019 Compliance Landfill Gas Monitoring Probe Data
Leichner Landfill

Probe	Date and Time	Methane	Carbon Dioxide	Oxygen	Balance Gases
		Percent by Volume			
GP-29	03/14/19	0.0	5.8	10.8	83.4
GP-29	06/13/19	0.0	5.1	11.1	83.8
GP-29	09/18/19	0.0	6.4	10.8	82.8
GP-29	12/27/19	0.0	5.6	12.5	81.9
GP-30A	03/14/19	0.0	3.6	18.0	78.4
GP-30A	06/13/19	0.1	5.0	15.7	79.2
GP-30A	09/18/19	0.0	4.7	15.9	79.4
GP-30A	12/27/19	0.0	3.0	17.8	79.2
GP-30B	03/14/19	0.0	2.9	18.3	78.8
GP-30B	06/13/19	0.0	4.2	16.1	79.7
GP-30B	09/18/19	0.0	4.9	15.4	79.7
GP-30B	12/27/19	0.0	3.0	17.9	79.1
GP-31	03/14/19	0.0	1.0	20.4	78.6
GP-31	06/13/19	0.0	0.9	20.1	79.0
GP-31	09/18/19	0.0	1.7	19.5	78.8
GP-31	12/27/19	0.0	1.5	19.8	78.7
GP-32	03/14/19	0.0	1.8	18.3	79.9
GP-32	06/13/19	0.0	1.2	18.9	79.9
GP-32	09/18/19	0.0	1.8	18.9	79.3
GP-32	12/27/19	0.0	2.9	18.5	78.6
GP-33	03/14/19	0.0	1.7	18.3	80.0
GP-33	06/13/19	0.0	1.6	16.4	82.0
GP-33	09/18/19	0.0	2.1	17.6	80.3
GP-33	12/27/19	0.0	2.6	17.7	79.7
GP-34	03/14/19	0.0	4.9	12.8	82.3
GP-34	06/13/19	0.0	4.3	14.6	81.1
GP-34	09/18/19	0.0	4.4	15.5	80.1
GP-34	12/27/19	0.0	4.9	15.2	79.9
GP-35	03/14/19	0.0	2.4	17.1	80.5
GP-35	06/13/19	0.0	2.2	17.7	80.1
GP-35	09/18/19	0.0	1.2	20.3	78.5
GP-35	12/27/19	0.0	2.4	17.9	79.7
GP-36	03/14/19	0.0	0.8	20.0	79.2
GP-36	06/13/19	0.0	0.7	19.4	79.9
GP-36	09/18/19	0.0	1.2	18.6	80.2
GP-36	12/27/19	0.0	2.4	17.7	79.9
GP-37	03/14/19	0.0	1.7	18.9	79.4
GP-37	06/13/19	0.0	1.2	19.0	79.8
GP-37	09/18/19	0.0	1.5	18.6	79.9
GP-37	12/27/19	0.0	2.9	18.0	79.1

Table 4-1
2019 Compliance Landfill Gas Monitoring Probe Data
Leichner Landfill

Probe	Date and Time	Methane	Carbon Dioxide	Oxygen	Balance Gases
		Percent by Volume			
GP-38	03/14/19	0.0	1.1	19.5	79.4
GP-38	06/13/19	0.0	1.2	19.5	79.3
GP-38	09/18/19	0.0	1.5	19.8	78.7
GP-38	12/27/19	0.0	1.7	17.8	80.5
GP-39	01/05/19	13.0	17.7	0.0	69.3
GP-39	01/07/19	0.0	9.7	14.3	76.0
GP-39	03/14/19	0.2	8.8	13.1	77.9
GP-39	06/13/19	0.4	12.2	7.8	79.6
GP-39	09/18/19	0.0	4.0	16.8	79.2
GP-39	12/27/19	0.1	5.4	15.8	78.7

APPENDIX A

2019 Field Sampling Data Sheets (FSDSs)

First Quarter (January) 2019 FSDSs

SCS ENGINEERS

Field Report Form

Client: Clark County - Leichner		Weather: Sunny 48°F
Project: 04219030.13		
Event: 1Q19 GW		Date: 1/28/19
Prepared By: S Nilsson	Address: Vancouver, WA	Arrival: 0800
		Departure: 1600

- Calibrated YSI, packed truck, departed for site.
- Began sampling Deep wells and LB-10SR, starting with LB-10DR.
- Sampled LB-3D, -5D, -10DR, -10SR, -13D, -26D, -27D, and DUP1
- EF assisted with deep tubing during set-up/demob at wells, and conducted W.L. survey while SN stayed at wells and sampled.
- Samples stored on ice at SCS Portland for pick-up by ALS in the AM

Signed:

SCS ENGINEERS

Field Report Form

Client: Clark County - Leichner		Weather: Sunny 52°F
Project: 04219030.13		
Event: 1Q19 GW		Date: 1/29/19
Prepared By: S Nilsson	Address: Vancouver, WA	Arrival: 0830
		Departure: 1600

- Calibrated YSI, EF/SN travel to site
- Sampled remaining deep wells LB-1D and LB-17D.
- EF departed ~1030, +FB
- SN remaining - sampled LB-1S, -5S, -6S + DUP, -17I, and -20S.
- SN off site, samples stored on ice overnight prior to AM pick-up ff. by ALS Kelso.

Signed:

SCS ENGINEERS

Field Report Form

Client: Clark County - Leichner		Weather: Sunny 48°F
Project: 04219030.13		
Event: 1Q19 GW		Date: 1/30/19
Prepared By: S Nilsson	Address: Vancouver	Arrival: 0830
		Departure: 1500

- Calibrated YSI, SN depart for site.
- Sampled remaing wells on site:
  LB-3S, -13I, -26I, and -27I
- Returned to SCS Portland, samples stored on ice to be picked up by ALS in AM of 1/31/19
- Demob. equipment, bladder pump to Bellevue, etc.

Signed:

Leichner Landfill
Groundwater Elevation Survey

Project #: 04219030.13 Sampler: E Fadely/S Nilsson

Quarter: (1) 2 3 4 Date: 1/28/19

Monitoring Point Designation	Reference Elevation (ft. msl)	DTB (ft. btoc)	DTW (ft. btoc)	Time	Comments
Monitoring Wells					
MW-1 N	216.58	15.00	NA	1128	Dry @ 15.23'
MW-1 S	216.13	44.50	40.62	1133	
MW-1 E	216.45	29.05	NA	1130	Dry @ 29.25'
MW-NE	219.83	50.34	16.65	1346	
LB-R2	222.27	77.36	48.49	1043	
LB-1S	210.12	45.00	36.24	1246	
LB-1D	209.74	137.45	38.35	1243	
LB-3S	218.25	52.50	41.64	1502	
LB-3D	219.29	117.28	42.64	1439	
LB-5S	206.89	30.32	16.80	1020	
LB-5C	206.70	74.71	35.81	1023	
LB-5D	207.56	122.40	40.05	1018	
LB-6S	202.80	39.07	30.03	1415	
LB-9SR	217.94	49.60	38.61	1455	
LB-10SR	204.04	42.35	34.06	0828	
LB-10CR	203.05	71.95	33.02	0834	
LB-10DR	203.36	121.10	45.19	0830	
LB-13I	202.36	55.03	30.63	1312	
LB-13C	202.68	66.00	31.02	1310	
LB-13D	202.96	88.88	31.44	1217	
LB-17S	208.18	34.38	34.27	1036	
LB-17I	213.14	51.95	39.38	1038	
LB-17C	206.55	72.35	33.07	1033	
LB-17D	213.17	100.91	40.23	1420	
LB-20S	221.22	61.50	42.79	1235	
LB-21S	223.35	54.24	40.10	1356	
LB-21C	223.32	79.10	40.53	1353	
LB-21D	223.63	110.73	43.35	1350	
LB-22S	208.42	36.97	8.94	1335	
LB-23S	229.19	45.40	33.43	1330	
LB-24S	235.13	54.16	40.80	1325	
LB-26I	200.22	58.30	28.01	1318	
LB-26D	200.75	101.78	27.86	1315	
LB-27I	205.35	57.15	34.01	1116	
LB-27D	204.65	115.10	38.81	1115	

Notes: Sunny 48°F

Field Calibration Log
SCS Engineers

Equipment:			Serial Number:		Field Staff:			
YSI Pro Plus			17J102717		S Nilsson / E Fadely			
Location/ Project Number	Date	Time	Temperature (°C)	Dissolved Oxygen (mg/L)	pH 4.0 Buffer (S.U.)	pH 7.0 Buffer (S.U.)	Conductivity 1413 µS/cm standard (µS/cm)	ORP 220 mV standard (mV)
04219030.13	1/28/19	0658	14.4	8.22	4.0	7.0	1413	220
↓	1/29/19	0700	13.9	8.22	4.0	7.0	1413	220
↓	1/30/19	0715	12.8	8.22	4.0	7.0	1413	220

Notes:

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-3D

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** ~~LB-1~~ LB-012819-08-3D

DUP ID: SN **NA**

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		**TEMPERATURE:**	°F 50.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	[Product Thickness] DTP-DTW	[Water Column] DTB-DTW		[Water Column x Gal/ft] Volume (gal)
1/28/19	14:42	117.28	—	42.64	—	74.64	X 1	12.17
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)² x 0.163	1" =	0.041	2" =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/28/19	15:10	A	3	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/28/19	15:10	A	1	250, 500, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/28/19	15:10	A	1	125, 250, 500	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 14:42 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A (1444)	0.00	6.72	51.0	204.8	12.0	42.67	2.19	C/C
1	A (1447)	0.30	6.72	33.6	214.2	12.0	42.68	3.36	C/C
2	A (1450)	0.50	6.68	26.5	216.0	11.9	42.68	3.59	C/C
3	A (1453)	0.70	6.67	21.4	218.9	11.9	42.68	3.72	C/C
4	A (1456)	0.85	6.69	17.8	221.3	11.9	42.68	3.66	C/C
5	A (1459)	1.00	6.68	18.3	222.5	11.9	42.68	3.71	C/C
6			.	.		.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

C/C = clear/colorless

Low Flow Purge Method: 8/7/70 psi ~300 mL/min

SAMPLER: S Nilsson
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-5D

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012819-03-5D

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	(SW)	W	NW	(LIGHT)	MEDIUM	HEAVY
WEATHER:	(SUNNY)		CLOUDY		RAIN		?		**TEMPERATURE:**	(°F) 44.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	[Product Thickness] DTP-DTW	[Water Column] DTB-DTW		[Water Column x Gal/ft] Volume (gal)
1/28/19	10:18	122.40	—	40.05	—	82.35	X 1	13.42
/ /	:	.	.	.	.		X 3	.

Gal/ft = (dia./2)² x 0.163	1" = 0.041	(2") = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/28/19	10:45	A	3	(40 ml)	HCl	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/28/19	10:45	A	1	250, (500), 1L	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/28/19	10:45	A	1	(125) 250, 500	(HNO_3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [ ]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA

Purge Start Time: 10 : 19 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp (°C)	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1022)	0.00	6.41	42.1	305.1	10.3	40.05	2.75	C/C
1	A(1025)	0.20	6.42	10.6	301.7	11.5	40.05	1.38	C/C
2	A(1028)	0.35	6.39	-6.6	306.5	12.2	40.05	0.76	C/C
3	A(1031)	0.50	6.41	-19.0	309.0	12.6	40.05	0.57	C/C
4	A(1034)	0.60	6.39	-23.5	309.1	12.6	40.05	0.51	C/C
5	A(1037)	0.70	6.40	-28.4	309.5	12.8	40.05	0.49	C/C
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

C/C = clear/colorless

Low Flow Purge Method: 11/9/60psi ~ 60 mL/pulse

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-10DR

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012819-01-10DR

DUP ID: NA

WIND FROM:	N	(NE)	E	SE	S	(SW)	W	NW	(LIGHT)	MEDIUM	HEAVY
WEATHER:	(SUNNY)		CLOUDY		RAIN			?	**TEMPERATURE:**	(°F) 39.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	SM Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
1/28/19	45:19	121.10	—	45.19	—	75.91	X 1	12.37
/ /	08:30	.	.	.	.		X 3	.

Gal/ft = (dia./2)² x 0.163	1" =	0.041	(2") =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Sample Depth:

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	[√ if used] √
VOA Glass	1/28/19	09:10	A	3 (40 ml)	(HCl)	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L (None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/28/19	09:10	A	1	250 (500) 1L (None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500 HNO_3	YES	NO		
Red Diss. Poly	1/28/19	09:10	A	1	(125), 250, 500 (HNO3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L	YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [ ]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA

Purge Start Time: 08:50 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp (°C)	DTW	Diss O_2 (mg/l)	Water Quality
0	A(0851)	0.00	7.34	66.1	357.0	9.9	45.19	3.72	c/c
1	A(0854)	0.20	7.58	42.1	287.7	11.7	45.20	2.32	c/c
2	A(0857)	0.50	7.68	34.1	285.6	11.7	45.19	2.18	c/c
3	A(0900)	0.75	6.66	32.8	290.7	11.8	45.19	2.06	c/c
4	A(0903)	0.90	6.59	27.2	292.8	12.0	45.19	2.02	c/c
5	A(0906)	1.15	6.57	22.6	293.4	11.9	45.18	1.99	c/c
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

c/c = clear/colorless

Low Flow Purge Method: 8/7/70psi ~ 250 mL/min *YSI warmed up @ 0900 (pH change)

SAMPLER: S Nilsson
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-10SR
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012819-02-10SR
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN			?	**TEMPERATURE:**	°F 40.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		[Water Column x Gal/ft] Volume (gal)
1/28/19	09:27	42.35	—	34.12	—	8.23	X 1	1.34
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)^2 x 0.163	1" =	0.041	2" =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth:

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	[√ if used] √
VOA Glass	1/28/19	09:55	A	3	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/28/19	09:55	A	1	250, 500, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/28/19	09:55	A	1	125, 250, 500	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 09:27 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A (0930)	0.00	6.34	85.6	339.3	10.3	34.12	1.73	c/c
1	A (0933)	0.20	6.42	32.5	347.6	11.6	34.13	0.88	c/c
2	A (0936)	0.23	6.42	7.6	354.4	11.9	34.13	0.70	c/c
3	A (0939)	0.25	6.47	-4.8	359.5	12.1	34.13	0.60	c/c
4	A (0942)	0.55	6.49	-16.2	363.4	12.2	34.13	0.59	c/c
5	A (0945)	0.75	6.46	-21.5	368.8	12.4	34.12	0.51	c/c
6		.				.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

c/c = clear/colorless

Low Flow Purge Method: 9/6/25 psi ~175 mL/min

SAMPLER:
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-13D
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012819-06-13D
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	(W)	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	(SUNNY)		CLOUDY		RAIN			?	**TEMPERATURE:**	(°F) 40. °C	

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
1/28/19	12:18	88.88	—	31.44	—	57.44	X 1	9.36
/ /	:	.	.	.	.		X 3	— .

Gal/ft = (dia./2)^2 x 0.163 | 1" = 0.041 | (2") = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/28/19	12:40	A	3	(40 ml) (HCl)	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L (None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/28/19	12:40	A	1	250, (500), 1L (None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500 HNO_3	YES	NO		
Red Diss. Poly	1/28/19	12:40	A	1	(125), 250, 500 (HNO_3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L	YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 12:20 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp (°C)	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1221)	0.00	5.85	88.0	212.8	11.4	31.44	3.90	C/C
1	A(1224)	0.40	6.04	70.1	211.2	11.7	31.44	3.63	C/C
2	A(1227)	0.60	6.04	60.4	211.8	11.8	31.44	3.44	C/C
3	A(1230)	0.75	6.04	56.4	213.2	11.8	31.44	3.61	C/C
4	A(1233)	0.95	6.07	54.8	213.1	11.8	31.44	3.64	C/C
5	A(1236)	1.15	6.09	54.1	213.0	11.8	31.44	3.69	C/C
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

C/C = clear/colorless

Low Flow Purge Method: 8/7/60 psi ~ 350 mL/min

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-26D
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012819-07-26D
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		**TEMPERATURE:**	°F 49.	°C

(Circle appropriate units)

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
1/28/19	13:15	101.78	—	27.86	—	73.92	X 1	12.05
/ /	:	.	.	.	.		X 3	—

Gal/ft = $(dia./2)^2$ x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/28/19	13:40	A	3	40 ml	HCl	YES	NO		√
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/28/19	13:40	A	1	250, 500, 1L	None	YES	NO	NA	√
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/28/19	13:40	A	1	125, 250, 500	HNO_3	YES	YES		√
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [ ]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 13 : 18 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1319)	0.00	6.70	136.5	223.9	12.3	27.86	4.30	C/C
1	A(1322)	0.50	6.56	63.0	224.4	12.2	27.86	0.68	C/C
2	A(1325)	0.80	6.50	32.1	224.8	12.1	27.86	0.46	C/C
3	A(1328)	1.10	6.48	28.9	224.7	12.1	27.86	1.48	C/C
4	A(1331)	1.30	6.44	27.4	225.0	12.3	27.86	1.80	C/C
5	A(1334)	1.55	6.40	27.9	225.3	12.3	27.86	1.51	C/C
6	A(1337)	1.75	6.38	28.5	225.6	12.3	27.86	1.72	C/C

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

C/C = clear/colorless

Low Flow Purge Method: 8/7/60 psi ~ 400 mL/min

SAMPLER: S. Nilsson (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-27D

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012819-04-27D

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	(SW)	W	NW	(LIGHT)	MEDIUM	HEAVY
WEATHER:	(SUNNY)		CLOUDY		RAIN		?		**TEMPERATURE:**	(°F) 44.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product [Product Thickness]	DT-Water	DTP-DTW	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
~~1/28/19~~	11:15	115.10	—	38.81	—	76.29	X 1	12.44
1/28/19	SW:	.	.	.	.		X 3	—

Gal/ft = (dia./2)² x 0.163	1" = 0.041	(2" =) 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/28/19	11:40	A	3	(40 ml)	(HCl)	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/28/19	11:40	A	1	(250, 500, 1L)	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/28/19	11:40	A	1	(125) 250, 500	(HNO_3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 11:18 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1120)	0.00	6.72	41.6	284.2	10.5	39.90	4.00	C/C
1	A(1123)	0.25	6.53	33.3	286.4	11.3	40.41	3.45	C/C
2	A(1126)	0.50	6.67	62.8	293.6	11.4	40.62	3.26	C/C
3	A(1129)	0.70	6.68	73.8	293.9	11.6	40.63	3.12	C/C
4	A(1132)	0.90	6.69	74.3	292.8	11.6	40.65	3.01	C/C
5	A(1135)	1.10	6.71	74.8	290.8	11.6	40.65	2.94	C/C
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

C/C = clear/colorless

Low Flow Purge Method: 20/10/60 psi ~ 250 mL/min

SAMPLER: S Nilsson (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** DUP1
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012819-05-DUP1
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN			?	**TEMPERATURE:**	°F 44 .	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	[Product Thickness] DTP-DTW	[Water Column] DTB-DTW		[Water Column x Gal/ft] Volume (gal)
/ /	:	.	.	.	.	.	X 1	.
/ /	:	.	.	.	.		X 3	.

Gal/ft = (dia./2)^2 x 0.163	1" =	0.041	2" =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/28/19	11:45	A	3	40 ml	HCl	YES	NO		√
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/28/19	11:45	A	1	250, 500, 1L	None	YES	NO	NA	√
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/28/19	11:45	A	1	125, 250, 500	HNO_3	YES	YES		√
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [ ]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: : Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0		0.00	.			.	.	.	
1		.	.			.	.	.	
2		.	.			.	.	.	
3		.	.			.	.	.	
4		.	.			.	.	.	
5		.	.			.	.	.	
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

Collected at: LB-27D

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-1D
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012919-02-1D
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	(NW)	LIGHT	MEDIUM	HEAVY
WEATHER:	(SUNNY)		CLOUDY		RAIN		?		**TEMPERATURE:**	(°F) 36.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness] [Water Column] [Water Column x Gal/ft]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW		Volume (gal)
1/29/19	09:46	137.45	—	38.32	—	99.13	X 1	16.16
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)² x 0.163	1" =	0.041	(2") =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/29/19	10:10	A	3	(40 ml)	(HCl)	(YES)	NO		√
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/29/19	10:10	A	1	250, (500) 1L	(None)	(YES)	NO	NA	√
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/29/19	10:10	A	1	(125) 250, 500	(HNO_3)	(YES)	(YES)		√
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [ ]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 09:47 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp	°C	DTW	Diss O_2 (mg/l)	Water Quality
0	A (0949)	0.00	6.90	90.1	325.3	10.0		38.33	11.19	C/C
1	A (0952)	0.20	7.11	11.0	225.6	11.2		38.33	8.49	C/C
2	A (0955)	0.45	7.18	-18.1	226.3	11.4		38.33	8.21	C/C
3	A (0958)	0.60	7.20	-23.1	226.4	11.5		38.33	8.17	C/C
4	A (1001)	0.75	7.21	-25.5	226.0	11.5		38.33	8.08	C/C
5	A (1004)	0.90	7.21	-26.5	226.1	11.5		38.33	7.92	C/C
6			.			.		.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

C/C = clear/colorless

Low Flow Purge Method: 8/7/80psi ~250mL/min

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-1S

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012919-03-1S

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN			?			

TEMPERATURE: (°F) 40. °C [Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
1/29/19	10:30	45.00	—	36.24	—	8.76	X 1	1.43
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)² x 0.163	1" =	0.041	2" =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/29/19	10:55	A	3	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/29/19	10:55	A	1	250, 500, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/29/19	10:55	A	1	250, 500	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA

Purge Start Time: 10:32 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1034)	0.00	7.37	-16.4	279.0	10.3	36.24	6.79	C/C
1	A(1037)	0.15	7.21	-33.7	283.3	11.4	36.24	5.18	C/C
2	A(1040)	0.40	7.13	-33.1	287.5	11.5	36.24	5.10	C/C
3	A(1043)	0.60	7.12	-33.8	288.6	11.6	36.24	4.88	C/C
4	A(1046)	0.75	7.10	-34.0	288.7	11.6	36.24	4.91	C/C
5	A(1049)	0.90	7.08	-34.3	287.8	11.7	36.24	4.79	C/C
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

C/C = clear/colorless

Low Flow Purge Method: 9/6/25 psi ~ 200 mL/min

SAMPLER: S Nilsson (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** FB1

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB- 012919-04-FB1

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN			?	**TEMPERATURE:**	°F 42.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		[Water Column x Gal/ft] Volume (gal)
/ /	:	.	.	.	.	.	X 1	.
/ /	:	.	.	.	.		X 3	.

Gal/ft = (dia./2)^2 x 0.163	1" =	0.041	2" =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other = Transfer

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Sample Depth:

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	[√ if used] √
VOA Glass	01/29/19	10:05	G	3	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	01/29/19	10:05	G	1	250, 500, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	01/29/19	10:05	G	1	125, 250, 500	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA

Purge Start Time: :

Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0		0.00	.			.		.	
1		.	.			.	.	.	
2		.	.			.	.	.	
3		.	.			.	.	.	
4		.	.			.	.	.	
5		.	.			.	.	.	
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

Collected Near: LB-1S

SAMPLER: E Fadely
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-5S

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012919-06-5S

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	(NW)	LIGHT	MEDIUM	HEAVY
WEATHER:	(SUNNY)		CLOUDY		RAIN		?		**TEMPERATURE:**	(°F) 50 .	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness] [Water Column] [Water Column x Gal/ft]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW		Volume (gal)
1/29/19	12:46	30.32	—	16.80	—	13.52	X 1	2.20
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)^2 x 0.163	1" =	0.041	(2") =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/29/19	13:10	A	3	40 mL	(HCl)	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/29/19	13:10	A	1	250, (500) 1L	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/29/19	13:10	A	1	(125) 250, 500	(HNO_3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 12 : 44 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1245)	0.00	6.87	-7.4	146.0	12.8	16.80	8.59	c/c
1	A(1248)	0.45	6.56	-9.8	176.6	13.1	16.80	8.15	c/c
2	A(1251)	0.60	6.54	-10.6	180.6	13.1	16.80	8.04	c/c
3	A(1254)	0.75	6.56	-13.5	181.0	13.1	16.80	8.03	c/c
4	A(1257)	1.00	6.58	-14.9	182.0	13.1	16.80	8.00	c/c
5	A(1300)	1.20	6.59	-16.2	180.4	13.2	16.80	7.84	c/c
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

c/c = clear/colorless

Low Flow Purge Method: 8/7/20 psi ~ 300 mL/min

SAMPLER: S Nilsson
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-6S

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012919-08-6S

DUP ID: NA

WIND FROM:	N	(NE)	E	SE	S	SW	W	NW	(LIGHT)	MEDIUM	HEAVY
WEATHER:	(SUNNY)		CLOUDY		RAIN		?		**TEMPERATURE:**	(°F) 53.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product [Product Thickness]	DT-Water	DTP-DTW	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
1/29/19	14:39	39.07	—	29.99	—	9.08	X 1	1.48
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	(2") = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/29/19	15:00	A	3	(40 ml)	(HCl)	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/29/19	15:00	A	1	250, (500) 1L	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/29/19	15:00	A	1	(125, 250, 500)	(HNO_3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA

Purge Start Time: 14:40 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1441)	0.00	8.46	-59.5	172.3	13.0	29.99	6.68	C/C
1	A(1444)	0.250 ~~.50~~	7.02	-67.0	201.8	12.4	29.99	3.76	C/C
2	A(1447)	0.60	7.42	-66.5	206.4	12.3	29.99	3.15	C/C
3	A(1450)	0.90	7.40	-64.9	206.9	12.3	29.99	3.12	C/C
4	A(1453)	1.10	7.39	-63.0	207.1	12.2	29.99	3.12	C/C
5	A(1456)	1.40	7.41	-61.3	207.5	12.2	29.99	3.13	C/C
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

C/C = clear/colorless

Low Flow Purge Method: 8/7/25psi ~ 400 mL/min

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** DUP2

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012919-09-DUP2

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		**TEMPERATURE:** °F 53. °C		

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		[Water Column x Gal/ft] Volume (gal)
/ /	:	.	.	.	.	.	X 1	.
/ /	:	.	.	.	.		X 3	.

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Sample Depth:

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	[√ if used] √
VOA Glass	1/29/19	15:05	A	3	40 ml HCl	YES	NO		✓
Amber Glass	/ /	:			250, 500, 1L (None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/29/19	15:05	A	1	250, 500, 1L None	YES	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500 HNO_3	YES	NO		
Red Diss. Poly	1/29/19	15:05	A	1	125, 250, 500 HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L	YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinily) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA

Purge Start Time: : Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0		0.00	.			.	.	.	
1		.	.			.	.	.	
2		.	.			.	.	.	
3		.	.			.	.	.	
4		.	.			.	.	.	
5		.	.			.	.	.	
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

Collected at: LB-65

SAMPLER: S Nilsson
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-17D
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012919-01-17D
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	(SW)	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	(SUNNY)		CLOUDY		RAIN		?		**TEMPERATURE:**	(°F) 31 .	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		[Water Column x Gal/ft] Volume (gal)
1/29/19	08:44	100.91	—	40.23	—	60.68	X 1	9.89
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)² x 0.163 | 1" = 0.041 | (2") = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth:

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	[√ if used] √
VOA Glass	1/29/19	09:16	A	3	(40 ml)	HCl	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/29/19	09:10	A	1	250 (500) 1L	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/29/19	09:10	A	1	(125) 250, 500	(HNO_3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 | 5 | Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type	BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
	VOA - Glass	(8260) (8011) SW OR[ ] WA[X]
	AMBER - Glass	(8080) (8150) (TOX) OR[ ] WA[ ]
	WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
	YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
	GREEN - Poly	(Cyanide)
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
	RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 08:49 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A (0849)	0.00	6.47	39.7	381.0	10.5	40.22	3.08	CL
1	A (0852)	0.25	6.76	3.6	326.7	12.4	40.22	0.95	CL
2	A (0855)	0.70	7.02	-34.0	318.7	12.6	40.22	0.64	CL
3	A (0858)	0.90	7.25	-54.7	319.6	12.7	40.22	0.57	CL
4	A (0901)	1.20	7.26	-63.9	321.7	12.7	40.22	0.53	CL
5	A (0904)	1.40	7.28	-68.6	322.1	12.8	40.22	0.53	CL
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

CL=clear/colorless

Low Flow Purge Method: 8/7/65 psi ~ 350 mL/min

SAMPLER: S Nilsson (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-17I
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-012919-07-17I
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		**TEMPERATURE:**	°F 53.	°C

(Circle appropriate units)

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	[Product Thickness] DTP-DTW	[Water Column] DTB-DTW		[Water Column x Gal/ft] Volume (gal)
1/29/19	13:40	51.95	—	39.35	—	12.60	X 1	2.05
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)² x 0.163	1" =	0.041	2" =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/29/19	14:10	A	3	40 m	HCl	YES	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/29/19	14:10	A	1	250, 500, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/29/19	14:10	A	1	125, 250, 500	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 13:42 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp (°C)	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1344)	0.00	6.80	-27.1	291.9	14.9	39.34	4.49	C/C
1	A(1347)	0.20	6.54	-65.3	315.2	14.4	39.34	1.56	C/C
2	A(1350)	0.35	6.53	-86.4	333.4	14.3	39.34	0.92	C/C
3	A(1353)	0.50	6.62	-94.9	353.6	14.3	39.34	0.76	C/C
4	A(1356)	0.60	6.67	-99.4	359.2	14.3	39.34	0.69	C/C
5	A(1359)	0.75	6.69	-104.6	360.4	14.3	39.34	0.71	C/C
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

C/C = clear / colorless

Low Flow Purge Method: 8/7/30 psi ~ 250 mL/min

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LR-20S

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LR-012919-05-20S

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		**TEMPERATURE:**	(F) 42.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness] [Water Column] [Water Column x Gal/ft]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW		Volume (gal)
1/29/19	11:05	61.50	—	42.78	—	18.72	X 1	3.05
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)² x 0.163	1" = 0.041	(2") = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/29/19	12:00	A	3	(40 ml)	(HCl)	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/29/19	12:00	A	1	250, (500), 1L	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/29/19	12:00	A	1	(125), 250, 500	(HNO_3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 11 : 36 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp (°C)	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1140)	0.00	7.28	-41.1	262.2	12.5	42.78	3.34	Pale tan
1	A(1143)	0.15	7.38	-86.0	265.3	12.9	42.78	1.72	Tan/cloudy
2	A(1146)	0.30	7.02	-74.7	271.9	13.0	42.79	1.77	Tan/cloudy
3	A(1149)	0.40	6.57	-52.6	287.7	13.0	42.79	3.15	Tan/cloudy
4	A(1152)	0.60	6.53	-61.4	284.6	13.1	42.79	3.00	Tan/cloudy
5	A(1155)	0.75	6.51	-58.6	283.2	13.1	42.79	2.99	Tan/cloudy
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

Low Flow Purge Method: 8/7/30psi ~225 mL/min

SAMPLER: S Nilsson
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-3S

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-013019-04-3S

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		**TEMPERATURE:** °F 40 °C		

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		[Water Column x Gal/ft] Volume (gal)
1/30/19	12:20	52.55	—	41.64	—	10.91	X 1	1.78
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)² x 0.163	1" = 0.041	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth:

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	[√ if used] √
VOA Glass	1/30/19	12:50	A	3	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/30/19	12:50	A	1	250, 500, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/30/19	12:50	A	1	125, 250, 500	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 12:22 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1225)	0.00	7.39	37.6	220.1	11.5	41.64	7.93	C/C
1	A(1228)	0.20	7.12	28.3	216.1	11.9	41.64	6.49	C/C
2	A(1231)	0.45	6.89	34.2	212.8	12.1	41.64	6.32	C/C
3	A(1234)	0.55	6.80	36.6	212.3	12.2	41.64	6.30	C/C
4	A(1237)	0.70	6.80	38.3	211.2	12.1	41.64	6.32	C/C
5	A(1240)	0.85	6.77	38.1	210.3	12.1	41.64	6.30	C/C
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

C/C = clear/colorless

Low Flow Purge Method: 8/7/30 psi ~250 mL/min

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-13I
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-013019-02-13I
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		**TEMPERATURE:**	°F 36.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	[Product Thickness] DTP-DTW	[Water Column] DTB-DTW		[Water Column x Gal/ft] Volume (gal)
1/30/19	10:20	55.03	—	30.60	—	24.43	X 1	3.98
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)^2 x 0.163 | 1" = 0.041 | 2" = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount	Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/30/19	10:45	A	3	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/30/19	10:45	A	1	250, 500, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/30/19	10:45	A	1	125, 250, 500	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 10:21 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp	°C	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1023)	0.00	6.79	59.7	270.1	9.1		30.60	4.90	c/c
1	A(1026)	0.25	6.79	50.6	273.8	10.9		30.60	2.25	c/c
2	A(1029)	0.50	6.77	44.7	292.4	11.4		30.60	1.42	c/c
3	A(1032)	0.75	6.74	42.4	294.4	11.5		30.60	1.31	c/c
4	A(1035)	1.00	6.73	41.0	295.7	11.5		30.60	1.28	c/c
5	A(1038)	1.20	6.72	40.5	296.1	11.5		30.60	1.20	c/c
6			.			.		.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

cc = clear/colorless

Low Flow Purge Method: 8/7/35 psi ~ 300 mL/min

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-26I

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-013019-01-26I

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		**TEMPERATURE:**	(°F) 32.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product [Product Thickness]	DT-Water	DTP-DTW	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
1/30/19	09:25	58.30	—	27.99	—	30.31	X 1	4.94
/ /	:	.	.	.	.		X 3	.

Gal/ft = (dia./2)^2 x 0.163	1" =	0.041	2" =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/30/19	09:50	A	3	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/30/19	09:50	A	1	250, 500, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	1/30/19	09:50	A	1	125, 250, 500	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 09:28 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A(0930)	0.00	6.77	43.9	375.7	8.8	27.99	10.08	C/C
1	A(0933)	0.20	6.65	17.0	292.1	10.9	27.99	5.64	C/C
2	A(0936)	0.40	6.66	9.3	275.3	11.0	27.99	5.27	C/C
3	A(0939)	0.60	6.64	7.2	270.8	11.1	27.99	4.87	C/C
4	A(0942)	0.98	6.63	6.5	270.1	11.1	27.99	4.68	C/C
5	A(0945)	1.10	6.63	5.8	271.1	11.2	27.99	4.56	C/C
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

C/C = clear/colorless

Low Flow Purge Method: 8/7/40 psi ~ 250 mL/min

SAMPLER: S Nilsson
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-27I

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-013019-03-27I

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		**TEMPERATURE:**	°F 38.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	[Product Thickness] DTP-DTW	[Water Column] DTB-DTW		[Water Column x Gal/ft] Volume (gal)
1/30/19	11 :15	57.15	—	33.98	—	23.17	X 1	3.78
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	1/30/19	11 :40	A	3	40 mL HCl	YES	NO		√
Amber Glass	/ /	:			250, 500, 1L (None) (HCl) (H_2SO_4)	YES	NO		
White Poly	1/30/19	11 :40	A	1	250, 500, 1L None	YES	NO	NA	√
Yellow Poly	/ /	:			250, 500, 1L H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500 HNO_3	YES	NO		
Red Diss. Poly	1/30/19	11 :40	A	1	125, 250, 500 HNO_3	YES	YES		√
	/ /	:			250, 500, 1L	YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 11 : 19 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp	°C	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1121)	0.00	6.86	66.0	453.6	8.6		33.99	7.92	C/C
1	A(1124)	0.25	6.80	44.6	517.1	11.3		33.99	0.83	C/C
2	A(1127)	0.50	6.80	36.1	531.0	11.5		33.99	0.65	C/C
3	A(1130)	0.75	6.81	30.6	536.3	11.6		33.99	0.55	C/C
4	A(1133)	1.00	6.81	28.0	538.4	11.6		33.99	0.53	C/C
5	A(1136)	1.20	6.80	23.0	541.1	11.7		33.99	0.58	C/C
6			.			.		.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

C/C = clear/colorless

Low Flow Purge Method: 8/7/35 psi ~ 300 mL/min

SAMPLER: S Nilsson
(PRINTED NAME)

(SIGNATURE)

CHAIN OF CUSTODY

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

SR# _____ PAGE 1 OF 1 COC# _____

PROJECT NAME: Leichner Landfill
PROJECT NUMBER: 342190030.13
PROJECT MANAGER: David Lamadrid
COMPANY NAME: SCS Engineers
ADDRESS: 15940 SW 72nd Ave
CITY/STATE/ZIP: Portland OR 97224
E-MAIL ADDRESS: dlamadrid@scsengineers.com
PHONE #: 503-639-9736 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ SIM PAH☐	Volatile Organics 624☐ 8260☐ 8270LL☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO_2☐ RSK 175☐ Methane☐ Ethane☐ Ethene☐				REMARKS
LB-012819-08-3D	1/28/19	1510		W	5		X						X		X										
LB-012819-03-5D	1/28/19	1045		W	5		X						X		X										
LB-012819-01-10DR	1/28/19	0910		W	5		X						X		X										
LB-012819-02-10SR	1/28/19	0955		W	5		X						X		X										
LB-012819-06-13D	1/28/19	1240		W	5		X						X		X										
LB-012819-07-26D	1/28/19	1340		W	5		X						X		X										
LB-012819-04-27D	1/28/19	1140		W	5		X						X		X										
LB-012819-05-DUP1	1/28/19	1145		W	5		X						X		X										
Trip Blanks	—	—		W	2		X																		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
X V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 day
____ Standard (15 working days)
____ Provide FAX Results

Requested Report Date: _____

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu (Fe) Pb Mg (Mn) Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:
cc: Tiffany Andrews
tandrews@scsengineers.com
Metals are Field Filtered

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: [signature]	Signature: [signature]	Signature:	Signature:
Date/Time: 1/29/18 9:07	Date/Time: 1/29/19 0900	Date/Time:	Date/Time:
Printed Name:	Printed Name: [signature]	Printed Name:	Printed Name:
Firm:	Firm: ALS	Firm:	Firm:

CHAIN OF CUSTODY

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

SR# _____ PAGE 1 OF 1 COC# _____

PROJECT NAME: Leichner Landfill
PROJECT NUMBER: 042190030.13
PROJECT MANAGER: David Lamadrid
COMPANY NAME: SCS Engineers
ADDRESS: 15940 SW 72nd Ave
CITY/STATE/ZIP: Portland, OR 97224
E-MAIL ADDRESS: DLamadrid@scsengineers.com
PHONE #: 503-639-9736 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ SIM PAH☐	Volatile Organics 624☐ 8270LL☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO_2☐ RSK 175☐ Methane☐ Ethane☐ Ethene☐	REMARKS
LB-012919-02-1D	1/29/19	1010		W	5		X					X		X									
LB-012919-03-1S	1/29/19	1055		W	5		X					X		X									
LB-012919-04-FB1	1/29/19	1005		W	5		X					X		X									
LB-012919-06-5S	1/29/19	1310		W	5		X					X		X									
LB-012919-08-6S	1/29/19	1500		W	5		X					X		X									
LB-012919-09-DUP2	1/29/19	1505		W	5		X					X		X									
LB-012919-01-17D	1/29/19	0910		W	5		X					X		X									
LB-012919-07-17I	1/29/19	1416		W	5		X					X		X									
LB-012919-05-20S	1/29/19	1200		W	5		X					X		X									
Trip Blank	—	—		W	2		X																

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 day
____ Standard (15 working days)
____ Provide FAX Results

Requested Report Date _____

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu (Fe) Pb Mg (Mn) Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:
CC: Tiffany Andrews
Tandrews@scsengineers.com
Metals are field filtered

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature	Date/Time 1/30/19	Signature	Date/Time 1/30/19 0855	Signature	Date/Time	Signature	Date/Time
Printed Name E Fadely	Firm SCS	Printed Name	Firm HW	Printed Name	Firm	Printed Name	Firm

CHAIN OF CUSTODY

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

SR# _____ PAGE 1 OF 1 COC# _____

PROJECT NAME: Leichner Landfill
PROJECT NUMBER: 042190030.13
PROJECT MANAGER: David Lamadrid
COMPANY NAME: SCS Engineers
ADDRESS: 15940 SW 72nd Ave
CITY/STATE/ZIP: Portland OR, 97224
E-MAIL ADDRESS: DLamadrid@scsengineers.com
PHONE #: 503-639-9736 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO_2☐ RSK 175☐ Methane☐ Ethane☐ Ethene☐			REMARKS
LB-013019-04-3S	1/30/19	1250		W	5			X						X		X								
LB-013019-02-13I	1/30/19	1045		W	5			X						X		X								
LB-013019-01-26I	1/30/19	0950		W	5			X						X		X								
LB-013019-03-27I	1/30/19	1140		W	5			X						X		X								
Trip Blanks	—	—		W	3			X																

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 day
____ Standard (15 working days)
____ Provide FAX Results

_____ Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS: cc: Tiffany Andrews TAndrews@scsengineers.com
Metals are field filtered

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature / Date/Time	Signature / Date/Time: 1/31/19 0954	Signature / Date/Time	Signature / Date/Time
Printed Name / Firm: Williams	Printed Name / Firm: ALS	Printed Name / Firm	Printed Name / Firm

Third Quarter (July) 2019 FSDSs

SCS ENGINEERS

Field Report Form

Client: Clark County		Weather: Sunny 75°F
Project: 04219030.13		
Event: 3Q19 Leichner LF GW		Date: 7/22/19
Prepared By: S Nilsson	Address: Battle Ground WA	Arrival: 0730
		Departure: 1700

- Packed truck, departed for site, picked up ice
- Calibrated YST, conducted 3Q water level monitoring
- Began sampling GW wells:
  LB-1S, LB-5S, DUP (LB-5S), LB-13I, and LB-2TI
- Stored samples on ice
- Returned to SCS Portland and prepared samples for AM pick-up by ALS

Signed:

SCS ENGINEERS

Field Report Form

Client: Clark County		Weather: Cloudy 68°F
Project: 04219030.13		
Event: 3Q19 Leichner LF GW		Date: 7/23/19
Prepared By: S Nilsson	Address: Battle Ground, WA	Arrival: 800
		Departure: 1400

- Packed truck and departed for site
- Picked up ice
- Arrived on site & calibrated YSI.
- Finished sampling GW wells:
  LB-6S, LB-10SR, FB(LB-10SR) & LB-26I
- Departed site and returned to SCS PDX
- Samples stored on ice for AM ALS pick-up

Signed:

Field Calibration Log
SCS Engineers

Equipment:			Serial Number:		Field Staff:			
YSI Pro Plus			17J102717		S Nilsson			
Location/ Project Number	Date	Time	Temperature (°C)	Dissolved Oxygen (mg/L)	pH 4.0 Buffer (S.U.)	pH 7.0 Buffer (S.U.)	Conductivity 1413 µS/cm standard (µS/cm)	ORP 220 mV standard (mV)
04219030.13	7/22	630	22.7	8.71	4.0	7.0	1413	220
04219030.13	7/23	700	22.9	8.58	4.0	7.0	1413	220
Notes:								

Landfill Visual Inspection Program

	Yes	No
Are there any surface water impoundment's or erosion from heavy surface water runoff?		X
Are any monitoring wells or piezometers not clearly identified?		X
Are there any area's of distressed vegetation or unexplained animal remains?		X
Are there any areas of stained or tinted soils?		X
Is liquid seeping out of the slopes of the waste unit?		X
Are there any abnormal odors or observable vapors?		X
Are any of the monitoring wells damaged or unsecured?		X
Are there any abnormal conditions that are of concern to the Landfill operation?		X

Landfill Leichner Bros. LF
Inspector S. Nilsson
Date 7/22/19
Reason for inspection
1st, 2nd (3rd) or 4th groundwater monitoring event
Other

Notes: Sunny 75°F

Leichner Landfill
Groundwater Elevation Survey

Project #: 042190030.13

Sampler: S Nilsson

Quarter: 1 2 (3) 4

Date: 7/22/19

Monitoring Point Designation	Reference Elevation (ft. msl)	DTB (ft. btoc)	DTW (ft. btoc)	Time	Comments
Monitoring Wells					
MW-1 N	216.58	15.00	NA	938	Dry @ ~15.00'
MW-1 S	216.13	44.50	41.27	941	
MW-1 E	216.45	29.05	NA	944	Dry @ ~29.10'
MW-NE	219.83	50.34	18.04	840	
LB-R2	222.27	77.36	49.23	902	
LB-1S	210.12	45.00	36.90	953	
LB-1D	209.74	137.45	39.80	951	
LB-3S	218.25	52.50	42.34	930	
LB-3D	219.29	117.28	45.73	934	
LB-5S	206.89	30.32	17.31	1146	
LB-5C	206.70	74.71	36.78	1148	
LB-5D	207.56	122.40	41.17	1150	
LB-6S	202.80	39.07	30.69	1208	
LB-9SR	217.94	49.60	39.26	924	
LB-10SR	204.04	42.35	34.91	1214	
LB-10CR	203.05	71.95	33.81	1216	
LB-10DR	203.36	121.10	46.39	1218	
LB-13I	202.36	55.03	31.31	1417	
LB-13C	202.68	66.00	31.73	1414	
LB-13D	202.96	88.88	32.14	1411	
LB-17S	208.18	34.38	NA	912	Dry @ 34.40'
LB-17I	213.14	51.95	40.09	909	
LB-17C	206.55	72.35	33.79	910	
LB-17D	213.17	100.91	41.00	907	
LB-20S	221.22	61.50	43.51	946	
LB-21S	223.35	54.24	41.03	839	
LB-21C	223.32	79.10	41.46	837	
LB-21D	223.63	110.73	44.55	835	
LB-22S	208.42	36.97	10.16	850	
LB-23S	229.19	45.40	34.19	854	
LB-24S	235.13	54.16	41.29	857	
LB-26I	200.22	58.30	28.70	1202	
LB-26D	200.75	101.78	28.58	1204	
LB-27I	205.35	57.15	34.71	1318	
LB-27D	204.65	115.10	41.29	1315	

Notes: Sunny ~ 76°F
Probe decanned between wells

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LR-1S

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-072219-01-1S

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	(W)	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	(SUNNY)		CLOUDY		RAIN		?		**TEMPERATURE:**	(°F) 78 .	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product [Product Thickness]	DT-Water	DTP-DTW	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
7/22/19	9:53	45.00	-	36.90	-	-	X 1	-
/ /	:	.	.	.	.		X 3	-

Gal/ft = (dia./2)^2 x 0.163	1" =	0.041	(2") =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	√
VOA Glass	7/22/19	11:15	A	3	40 ml	(HCl)	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	7/22/19	11:15	A	1	250, 500, 1L	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	7/22/19	11:15	A	1	125, 250, 500	(HNO_3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA

Purge Start Time: 10:51 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp (°C)	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1057)	0.00	6.70	347.2	289.9	15.6	36.91	5.98	clear/colorless
1	A(1060)	0.25	6.27	141.4	277.6	13.0	36.91	4.36	clear/colorless
2	A(1103)	0.50	6.30	144.1	277.8	13.0	36.91	4.29	clear/colorless
3	A(1106)	0.80	6.28	145.8	277.9	13.0	36.91	4.21	clear/colorless
4	A(1109)	1.0	6.29	146.2	277.4	13.0	36.91	4.32	clear/colorless
5	A(1112)	1.25	6.31	146.9	279.1	13.0	36.91	4.28	clear/colorless
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

Low Flow Purge Method: ~9/6/30psi ~275 mL/min

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-5S
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-072219-02-5S
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	(W)	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	(SUNNY)		CLOUDY		RAIN		?		**TEMPERATURE:**	(°F) 71 .	° C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product [Product Thickness]	DT-Water	DTP-DTW	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
7/22/19	11 :46	30 .32	—	17.31	—	—	X 1	—
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia /2)^2 x 0.163	1" = 0.041	(2") = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth:

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	[√ if used]
VOA Glass	7/22/19	12 :20	A	3	(40 ml)	(HCl)	(YES)	NO		√
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	7/22/19	12 :20	A	1	250, 500, 1L	(None)	(YES)	NO	NA	√
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	7/22/19	12:20	A	1	125, 250, 500	(HNO_3)	(YES)	(YES)		√
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 11 : 57 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A (1159)	0.00	6.67	198.4	206.3	17.0	17.31	9.57	clear/colorless
1	A (1202)	0.25	6.31	156.1	204.9	15.2	17.31	8.02	clear/colorless
2	A (1205)	0.60	6.24	154.3	208.1	14.1	17.31	7.84	clear/colorless
3	A (1208)	0.80	6.20	147.2	207.9	14.0	17.31	7.41	clear/colorless
4	A (1211)	1.0	6.20	145.0	207.3	14.0	17.31	7.39	clear/colorless
5	A (1214)	1.20	6.19	144.9	206.8	13.9	17.31	7.48	clear/colorless
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

Low Flow Purge Method: 8/7/20 psi ~ 300 mL/min

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** DUP1
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-072219-03-DUP
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		**TEMPERATURE:** °F 74. °C		

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	[Product Thickness] DTP-DTW	[Water Column] DTB-DTW		[Water Column x Gal/ft] Volume (gal)
/ /	:	.	.	.	.	.	X 1	
/ /	:	.	.	.	.		X 3	.

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth:

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	[√ if used] √
VOA Glass	7/22/19	12:25	A	3	40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	7/22/19	12:25	A	1	250, 500, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	7/22/19	12:25	A	1	125, 250, 500	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [ ]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: : Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0		0.00	.			.	.	.	
1		.	.			.	.	.	
2		.	.			.	.	.	
3			.			.	.	.	
4		.	.			.	.	.	
5		.	.			.	.	.	
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

~~Low-Flow Purge Method:~~ Collected at LB-5S

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-6S

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-072319-02-6S

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	(W)	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		(CLOUDY)		RAIN		?		**TEMPERATURE:**	(°F) 64 .	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		[Water Column x Gal/ft] Volume (gal)
7/23/19	9:50	39.07	—	30.69	—	—	X 1	—
/ /	:	.	.	.	.	—	X 3	—

Gal/ft = (dia./2)² x 0.163	1" = 0.041	(2") = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	7/23/19	10:20	A	3 (40 ml)	(HCl)	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L (None) (HCl) (H_2SO_4)	YES	NO		
White Poly	7/23/19	10:20	A	1	250, 500, 1L (None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500 HNO_3	YES	NO		
Red Diss. Poly	7/23/19	10:20	A	1	125, 250, 500 (HNO_3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L	YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 9:59 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp (°C)	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1000)	0.00	7.24	135.5	166.7	15.5	30.69	9.47	clear/colorless
1	A(1003)	0.30	6.92	145.3	179.4	14.1	30.69	6.84	clear/colorless
2	A(1006)	0.70	6.70	150.4	180.0	12.8	30.69	5.21	clear/colorless
3	A(1009)	1.0	6.63	152.1	180.8	12.6	30.69	3.72	clear/colorless
4	A(1012)	1.2	6.61	154.7	183.0	12.5	30.69	3.59	clear/colorless
5	A(1015)	1.5	6.59	156.7	185.1	12.5	30.69	3.48	clear/colorless
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

Low Flow Purge Method: 8/7/25 ~ 350 mL/min

SAMPLER: S Nilsson
(PRINTED NAME)

(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-10SR
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-072319-03-10SR
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	(SW)	W	NW	LIGHT	(MEDIUM)	HEAVY
WEATHER:	SUNNY		(CLOUDY)		RAIN		?		**TEMPERATURE:**	(°F) 64.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product [Product Thickness]	DT-Water	DTP-DTW	DTB-DTW [Water Column]		[Water Column x Gal/ft] Volume (gal)
7/23/19	10:53	42.35	-	34.91	-	-	X 1	-
/ /	:	.	.	.	.		X 3	-

Gal/ft = (dia./2)² x 0.163	1" = 0.041	(2") = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	7/23/19	11:10	A	3	(40 ml)	(HCl)	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	7/23/19	11:10	A	1	250, 500, 1L	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	7/23/19	11:10	A	1	125, 250, 500	(HNO_3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 10:53 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp (°C)	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1054)	0.00	7.33	204.9	276.0	16.0	34.91	6.64	clear/colorless
1	A(1057)	0.25	6.92	248.7	304.8	14.4	34.91	1.32	clear/colorless
2	A(1100)	0.5	6.78	213.2	347.1	14.0	34.91	0.72	clear/colorless
3	A(1103)	0.65	6.78	211.9	354.9	14.0	34.91	0.54	clear/colorless
4	A(1106)	0.8	6.77	210.4	358.4	13.9	34.91	0.53	clear/colorless
5	A(1109)	0.95	6.76	209.4	360.0	13.9	34.91	0.53	clear/colorless
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

Low Flow Purge Method: 9/6/25 ~ 225 mL/min

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** FB1

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-072319-04-FB

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	(SW)	W	NW	LIGHT	(MEDIUM)	HEAVY
WEATHER:	SUNNY		(CLOUDY)		RAIN		?		**TEMPERATURE:**	(°F) 64 .	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	[Product Thickness] DTP-DTW	[Water Column] DTB-DTW		[Water Column x Gal/ft] Volume (gal)
/ /	:	.	.	.	.	.	X 1	.
/ /	:	.	.	.	.	.	X 3	.

Gal/ft = (dia./2)^2 x 0.163	1" = 0.041	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other = Transfer

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample)

Sample Depth:

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	[√ if used] √
VOA Glass	7/23/19	11 :36	GA	3	(40 ml)	(HCl)	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	7/23/19	11 :30	GA	1	250, 500, 1L	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	7/23/19	11 :30	GA	1	125, 250, 500	(HNO_3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA

Purge Start Time: : Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0		0.00	.			.	.	.	
1		.	.			.	.	.	
2		.	.			.	.	.	
3		.	.			.	.	.	
4		.	.			.	.	.	
5		.	.			.	.	.	
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

~~Low Flow Purge Method~~: Collected near LB-105R using DI water

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-13I
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-072219-05-13I
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		**TEMPERATURE:**	°F 73.	°C

(Circle appropriate units)

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		Volume (gal) [Water Column x Gal/ft]
7/22/19	14:12	55.03	-	31.31	-	-	X 1	-
/ /	:	.	.	.	.		X 3	-

Gal/ft = (dia./2)² x 0.163	1" = 0.041	2" = 0.163	3" = 0.367	4" = 0.653	6" = 1.469	10" = 4.080	12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth: [√ if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	7/22/19	14:50	A	3	40 mL	HCl	YES	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	7/22/19	14:56	A	1	250, 500, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	7/22/19	14:50	A	1	125, 250, 500	HNO_3	YES	YES		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below) SN
VOA - Glass	(8260) (8011) OR [X] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 14:30 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1431)	0.00	7.24	241.0	296.2	19.4	31.31	6.96	clear/colorless
1	A(1434)	0.25	6.71	248.7	302.8	14.8	31.31	1.43	clear/colorless
2	A(1437)	0.45	6.61	211.3	304.8	14.0	31.31	1.18	clear/colorless
3	A(1440)	0.70	6.57	200.4	306.2	14.1	31.31	1.01	clear/colorless
4	A(1443)	0.90	6.57	198.3	304.9	14.0	31.31	0.97	clear/colorless
5	A(1446)	1.2	6.59	179.3	305.1	14.1	31.31	0.94	clear/colorless
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

Low Flow Purge Method: 8/7/35 psi ~ 225 mL/min

SAMPLER: S Nilsson (PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-26I

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-072319-01-26I

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	(NW)	(LIGHT)	MEDIUM	HEAVY
WEATHER:	SUNNY		(CLOUDY)		RAIN		?		**TEMPERATURE:**	(°F) 64 .	° C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		[Water Column x Gal/ft] Volume (gal)
7/23/19	8:55	58.30	—	28.70	—	—	X 1	—
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)^2 x 0.163 | 1" = 0.041 | (2") = 0.163 | 3" = 0.367 | 4" = 0.653 | 6" = 1.469 | 10" = 4.080 | 12" = 5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth:

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	[√ if used] √
VOA Glass	7/23/19	9:36	A	3	(40 ml)	(HCl)	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	7/23/19	9:30	A	1	250, 500, 1L	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	7/23/19	9:30	A	1	125, 250, 500	(HNO3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 — Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [X]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 9 : 11 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp (°C)	DTW	Diss O_2 (mg/l)	Water Quality
0	A(912)	0.00	7.14	128.6	629.7	14.0	28.70	8.24	clear/colorless
1	A(915)	0.40	7.01	176.4	309.4	13.2	28.70	6.04	clear/colorless
2	A(918)	0.75	6.42	164.0	290.7	12.7	28.70	4.20	clear/colorless
3	A(921)	1.1	6.21	156.9	291.8	12.7	28.70	3.73	clear/colorless
4	A(924)	1.40	6.24	141.1	295.0	12.6	28.70	3.51	clear/colorless
5	A(927)	1.75	6.25	139.4	295.3	12.6	28.70	3.58	clear/colorless
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

Low Flow Purge Method: 8/7/40 psi ~350 mL/min

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS
15940 SW 72nd Avenue,
Portland, OR 97224
Office: 503.639.9201 Fax: 503.684.6984

PROJECT NAME: Leichner Landfill **WELL ID:** LB-27I
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-072219-04-27I
DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	(W)	NW	(LIGHT)	MEDIUM	HEAVY
WEATHER:	(SUNNY)		CLOUDY		RAIN		?		**TEMPERATURE:**	(°F) 76.	°C

[Circle appropriate units]

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW [Product Thickness]	DTB-DTW [Water Column]		[Water Column x Gal/ft] Volume (gal)
7/22/19	13:25	57.15	—	34.71	—	—	X 1	—
/ /	:	.	.	.	.		X 3	—

Gal/ft = (dia./2)^2 x 0.163	1" =	0.041	(2") =	0.163	3" =	0.367	4" =	0.653	6" =	1.469	10" =	4.080	12" =	5.875

§ METHODS: (A) Submersible Pump (B) Peristaltic Pump (C) Disposable Bailer (D) PVC/Teflon Bailer (E) Dedicated Bailer (F) Dedicated Pump (G) Other =

GROUNDWATER SAMPLING DATA (if product is detected, do NOT sample) Sample Depth:

Bottle Type	Date	Time	Method §	Amount & Volume mL		Preservative [circle]	Ice	Filter	pH	[√ if used] √
VOA Glass	7/22/19	13:55	A	3	(40 ml)	HCl	(YES)	NO		✓
Amber Glass	/ /	:			250, 500, 1L	(None) (HCl) (H_2SO_4)	YES	NO		
White Poly	7/22/19	13:55	A	1	250, (500) 1L	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:			250, 500, 1L	H_2SO_4	YES	NO		
Green Poly	/ /	:			250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:			125, 250, 500	HNO_3	YES	NO		
Red Diss. Poly	7/22/19	13:55	A	1	(125) 250, 500	(HNO_3)	(YES)	(YES)		✓
	/ /	:			250, 500, 1L		YES			

White no acid, Yellow H2SO4, Red HNO3 — 5 Total Bottles (include duplicate count):

Analysis Allowed per Bottle Type

BOTTLE TYPE	TYPICAL ANALYSIS ALLOWED PER BOTTLE TYPE (Circle applicable or write non-standard analysis below)
VOA - Glass	(8260) (8011) OR [ ] WA [ ]
AMBER - Glass	(8080) (8150) (TOX) OR [ ] WA [ ]
WHITE - Poly	(pH) (Conductivity) (TDS) (TSS) (Alkalinity) (HCO_3/CO_3) (Cl) (SO_4) (Silica, T.) (NO_3)
YELLOW - Poly	(COD) (TOC) (NH_3) (NO_3/NO_2) (Tannin/Lignin)
GREEN - Poly	(Cyanide)
RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Tl) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)

WATER QUALITY DATA Purge Start Time: 13:35 Pump/Bailer Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O_2 (mg/l)	Water Quality
0	A(1335)	0.00	7.11	211.4	499.6	20.6	34.71	15.87	clear/colorless
1	A(1338)	0.2	7.00	204.3	594.0	14.4	34.71	1.47	clear/colorless
2	A(1341)	0.4	6.69	198.1	620.2	13.9	34.71	0.98	clear/colorless
3	A(1344)	0.6	6.65	191.7	629.5	13.8	34.71	0.67	clear/colorless
4	A(1347)	0.8	6.64	184.8	628.9	13.8	34.71	0.63	clear/colorless
5	A(1350)	1.0	6.64	180.4	628.2	13.8	34.71	0.62	clear/colorless
6			.			.	.	.	

[Casing] [Select A-G] [Cumulative Totals] [Circle units] [Clarity, Color]

sample slightly turbid

Low Flow Purge Method: 8/7/35 psi ~ 270 mL/min

SAMPLER: S Nilsson
(PRINTED NAME) (SIGNATURE)

CHAIN OF CUSTODY

SR# _____

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE _____ OF _____ COC# _____

PROJECT NAME: Leichner Landfill
PROJECT NUMBER: 04219030.13
PROJECT MANAGER: Tiffany Andrews
COMPANY NAME: SCS Engineers
ADDRESS: 15940 SW 72nd Ave
CITY/STATE/ZIP: Portland, OR 97224
E-MAIL ADDRESS: TAndrews@scsengineers.com
PHONE #: 503 639 9401 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity ☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO_2☐ RSK 175☐ Methane☐ Ethane☐ Ethene☐				REMARKS
LB-07219-01-1S	7/22	1115		W	5		X						X		X										
LB-07219-02-5S	7/22	1220		W	5		X						X		X										
LB-07219-03-DUP	7/22	1225		W	5		X						X		X										
LB-07219-05-13T	7/22	1450		W	5		X						X		X										
LB-07219-04-27T	7/22	1355		W	5		X						X		X										
Trip Blanks	—	—		W			X																		

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 day
__✓__ Standard (15 working days)
____ Provide FAX Results

Requested Report Date _____

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu (Fe) Pb Mg (Mn) Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

Samples are field-filtered for metals

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: _____ Date/Time: 7/23/19 @	Signature: _____ Date/Time: 7/23/19	Signature: _____ Date/Time: _____	Signature: _____ Date/Time: _____
Printed Name: _____ Firm: SCS	Printed Name: _____ Firm: ALS Env	Printed Name: _____ Firm: _____	Printed Name: _____ Firm: _____

CHAIN OF CUSTODY

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

SR# _____

PAGE 1 OF 1 COC# _____

PROJECT NAME: Leichner Landfill
PROJECT NUMBER: 042190030.13
PROJECT MANAGER: Tiffany Andrews
COMPANY NAME: SCS Engineers
ADDRESS: 15940 SW 72nd Ave
CITY/STATE/ZIP: Portland, OR 97224
E-MAIL ADDRESS: tandrews@scsengineers.com
PHONE #: 503-639-9607 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity ☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO_2☐ RSK 175☐ Methane☐ Ethane☐ Ethene☐			REMARKS
LB-072319-02-6S	7/23	1020		W	5		X						X		X									
LB-072319-03-10SR	7/23	1118		W	5		X						X		X									
LB-072319-04-FB	7/23	1130		W	5		X						X		X									
LB-072319-01-26I	7/23	930		W	5		X						X		X									
Trip Blanks	—	—		W	4		X																	

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

____ 24 hr. ____ 48 hr.
____ 5 day
X Standard (15 working days)
____ Provide FAX Results

Requested Report Date: _____

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu (Fe) Pb Mg (Mn) Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

***INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)**

SPECIAL INSTRUCTIONS/COMMENTS:

Field filtered Metals

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature:	Date/Time: 7/24/19 0855	Signature:	Date/Time: 7/24/19 0855	Signature:	Date/Time:	Signature:	Date/Time:
Printed Name: S Nilson	Firm: SCS	Printed Name: E Morrow	Firm: ALS Courier	Printed Name:	Firm:	Printed Name:	Firm:

APPENDIX B

Summary Tables of 2019 Groundwater Field Parameter Measurements and Analytical Data

Table B-1
2019 Groundwater Chemistry
Field Parameters
Leichner Landfill

Location	Sample Number	Date	Field pH (S.U.)	Field Conductivity (umhos/cm)	Temperature (^{o}C)	Dissolved Oxygen (mg/L)
LB-1D	LB-012919-02-1D	1/29/19	7.21	226	11.5	7.92
LB-1S	LB-012919-03-1S	1/29/19	7.08	288	11.7	4.79
LB-1S	LB-072219-01-1S	7/22/19	6.31	279	13.0	4.28
LB-3D	LB-012819-08-3D	1/28/19	6.68	223	11.9	3.71
LB-3S	LB-013019-04-3S	1/30/19	6.77	210	12.1	6.30
LB-5D	LB-012819-03-5D	1/28/19	6.40	310	12.8	0.49
LB-5S	LB-012919-06-5S	1/29/19	6.59	180	13.2	7.84
LB-5S	LB-072219-02-5S	7/22/19	6.19	207	13.9	7.48
LB-5S (Dup)	LB-072219-03-DUP	7/22/19	6.19	207	13.9	7.48
LB-6S	LB-012919-08-6S	1/29/19	7.41	208	12.2	3.13
LB-6S (Dup)	LB-012919-09-DUP2	1/29/19	7.41	208	12.2	3.13
LB-6S	LB-072319-02-6S	7/23/19	6.59	185	12.5	3.48
LB-10DR	LB-012819-01-10DR	1/28/19	6.57	293	11.9	1.99
LB-10SR	LB-012819-02-10SR	1/28/19	6.46	369	12.4	0.51
LB-10SR	LB-072319-03-10SR	7/23/19	6.76	360	13.9	0.53
LB-13D	LB-012819-06-13D	1/28/19	6.09	213	11.8	3.69
LB-13I	LB-013019-02-13I	1/30/19	6.72	296	11.5	1.20
LB-13I	LB-072219-05-13I	7/22/19	6.59	305	14.1	0.94
LB-17D	LB-012919-01-17D	1/29/19	7.28	322	12.8	0.53
LB-17I	LB-012919-07-17I	1/29/19	6.69	360	14.3	0.71
LB-20S	LB-012919-05-20S	1/29/19	6.51	283	13.1	2.99
LB-26D	LB-012819-07-26D	1/28/19	6.38	226	12.3	1.72
LB-26I	LB-013019-01-26I	1/30/19	6.63	271	11.2	4.56
LB-26I	LB-072319-01-26I	7/23/19	6.25	295	12.6	3.58
LB-27D	LB-012819-05-27D	1/28/19	6.71	291	11.6	2.94
LB-27I	LB-013019-03-27I	1/30/19	6.80	541	11.7	0.58
LB-27I	LB-072219-04-27I	7/22/19	6.64	628	13.8	0.62
FIELDQC	LB-012919-04-FB1	1/29/19	N/A	N/A	N/A	N/A
FIELDQC	LB-072319-04-FB	7/23/19	N/A	N/A	N/A	N/A

Notes:
NT = not tested; N/A = Not Applicable

Table B-2
2019 Groundwater Chemistry
Volatile Organic Compounds[a] (µg/L)
Leichner Landfill

Location	Sample Number	Date	PCE	TCE	1,4-DCB	1,1-DCA	1,1,1-TCA	Chloroethane	cis-1,2-DCE	Chlorobenzene
LB-1D	LB-012919-02-1D	1/29/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-1S	LB-012919-03-1S	1/29/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-1S	LB-072219-01-1S	7/22/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-3D	LB-012819-08-3D	1/28/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-3S	LB-013019-04-3S	1/30/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-5D	LB-012819-03-5D	1/28/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-5S	LB-012919-06-5S	1/29/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-5S	LB-072219-02-5S	7/22/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-5S (Dup)	LB-072219-03-DUP	7/22/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-6S	LB-012919-08-6S	1/29/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-6S (Dup)	LB-012919-09-DUP2	1/29/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-6S	LB-072319-02-6S	7/23/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-10DR	LB-012819-01-10DR	1/28/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-10SR	LB-012819-02-10SR	1/28/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-10SR	LB-072319-03-10SR	7/23/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-13D	LB-012819-06013D	1/28/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-13I	LB-013019-02-13I	1/30/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-13I	LB-072219-05-13I	7/22/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-17D	LB-012919-01-17D	1/29/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-17I	LB-012919-07-17I	1/29/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-20S	LB-011919-05-20S	1/29/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-26D	LB-012819-07-26D	1/28/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-26I	LB-013019-01-26I	1/30/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-26I	LB-072319-01-26I	7/23/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-27D	LB-012819-04-27D	1/28/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-27D (Dup)	LB-012819-05-DUP1	1/28/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-27I	LB-013019-03-27I	1/30/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
LB-27I	LB-072219-04-27I	7/22/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L

Table B-2
2019 Groundwater Chemistry
Volatile Organic Compounds[a] (µg/L)
Leichner Landfill

Location	Sample Number	Date	PCE	TCE	1,4-DCB	1,1-DCA	1,1,1-TCA	Chloroethane	cis-1,2-DCE	Chlorobenzene
FIELDQC	LB-012919-04-FB1	1/29/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
FIELDQC	LB-072319-04-FB	7/23/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
FIELDQC	Trip Blank	1/28/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L
FIELDQC	Trip Blank	7/22/19	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L	0.50 L

Notes:
PCE = tetrachloroethene; TCE = trichloroethene; ; 1,4-DCB = 1,4-dichlorobenzene; 1,1-DCA = 1,1-dichloroethane; 1,1,1-TCA = 1,1,1-trichloroethane; cis-1,2-DCE = cis-1,2-dichloroethene

B = analyte detected above the laboratory method detection limit (MDL) but below the method reporting limit (MRL)

Dup = field duplicate sample; J = estimated concentration; L = not detected at or above MRL; Re = resample.; NT = not tested

Table B-3
2019 Groundwater Chemistry
Inorganic Parameters and
Dissolved Metals Concentrations (mg/L)
Leichner Landfill

Location	Sample Number	Date	Conductivity (µmhos/cm)	Chloride (CL = 250 mg/L)	Nitrate as Nitrogen (CL = 10 mg/L)	Total Dissolved Solids (CL = 500 mg/L)	Dissolved Iron (CL = 0.3 mg/L)	Dissolved Manganese (CL = 0.05 mg/L)
LB-1D	LB-012919-02-1D	1/29/19	NT	6.43	5.86	118	0.021 L	0.0011 L
LB-1S	LB-012919-03-1S	1/29/19	NT	10.2	5.31	145	0.021 L	0.0011 L
LB-1S	LB-072219-01-1S	7/22/19	NT	12.2	4.49	205	0.021 L	0.0011 L
LB-3D	LB-012819-08-3D	1/28/19	NT	5.21	5.12	153	0.021 L	0.0011 L
LB-3S	LB-013019-04-3S	1/30/19	NT	3.48	0.10 L	106	0.021 L	0.0011 L
LB-5D	LB-012819-03-5D	1/28/19	NT	7.42	0.71	194	0.021 L	0.0016
LB-5S	LB-012919-06-5S	1/29/19	NT	3.33	3.74	95.5	0.021 L	0.0011 L
LB-5S	LB-072219-025S	7/22/19	NT	4.34	5.58	168	0.021 L	0.0011 L
LB-5S (Dup)	lB-072219-03-DUP	7/22/19	NT	4.30	5.58	156	0.021 L	0.0011 L
LB-6S	LB-012919-08-6S	1/29/19	NT	3.95	1.29	89.5	0.021 L	0.0011 L
LB-6S (Dup)	LB-012919-09-DUP2	1/29/19	NT	3.92	1.28	94.3	0.021 L	0.0011 L
LB-6S	LB-072319-02-6S	7/23/19	NT	3.56	1.14	154	0.021 L	0.0011 L
LB-10DR	LB-012819-01-10DR	1/28/19	NT	10.1	2.63	209	0.021 L	0.0011 L
LB-10SR	LB-012819-02-10SR	1/28/19	NT	2.06	9.30	251	0.021 L	0.0013
LB-10SR	LB-072319-03-10SR	7/23/19	NT	4.08	10.4	258	0.021 L	0.0011
LB-13D	LB-012819-06-13D	1/28/19	NT	4.56	4.55	166	0.021 L	0.0011 L
LB-13I	LB-013019-02-13I	1/30/19	NT	9.91	2.88	152	0.021 L	0.0040
LB-13I	lB-072219-05-13I	7/22/19	NT	10.1	3.75	207	0.021 L	0.0045
LB-17D	LB-012919-01-17D	1/29/19	NT	9.5	0.10 L	152	0.110	4.10
LB-17I	LB-012919-07-17I	1/29/19	NT	10.1	0.10 L	148	7.94	1.34
LB-20S	LB-012919-05-20S	1/29/19	NT	3.39	0.10 L	152	0.154	1.06
LB-26D	LB-012819-07-26D	1/28/19	NT	5.06	4.63	174	0.021 L	0.0011 L
LB-26I	lB-013019-01-26I	1/30/19	NT	7.86	3.69	143	0.021 L	0.0012
LB-26I	LB-072319-01-26I	7/23/19	NT	9.66	3.44	213	0.021 L	0.0020
LB-27D	LB-012819-04-27D	1/28/19	NT	7.62	2.31	194	0.037	0.0086
LB-27D (Dup)	LB-012819-05-DUP1	1/28/19	NT	7.60	2.63	197	0.021 L	0.0088

Table B-3
2019 Groundwater Chemistry
Inorganic Parameters and
Dissolved Metals Concentrations (mg/L)
Leichner Landfill

Location	Sample Number	Date	Conductivity (µmhos/cm)	Chloride (CL = 250 mg/L)	Nitrate as Nitrogen (CL = 10 mg/L)	Total Dissolved Solids (CL = 500 mg/L)	Dissolved Iron (CL = 0.3 mg/L)	Dissolved Manganese (CL = 0.05 mg/L)
LB-27I	LB-013019-03-27I	1/30/19	NT	27.7	0.10 L	267	0.021 L	0.232
LB-27I	LB-072219-4-27I	7/22/19	NT	20.5	0.49	380	0.021 L	0.347
FIELDQC	LB-012919-04-FB1	1/29/19	NT	0.10 L	0.05 L	8.0	0.021 L	0.0011 L
FIELDQC	LB-072319-04-FB	7/23/19	NT	0.10 L	0.05 L	13.0	0.021 L	0.0011 L

Notes:

CL = compliance leve for inorganic parameters and metals in groundwater at Leichner Landfill.

µmhos/cm = microohms per centimer; mg/L = milligrams per liter

B = estimated concentration; detected above the method detection limit (MDL) but below the method reporting limit (MRL); L = not detected at or above MRL;

J = estimated concentration; H = due to laboratory error, sample was extracted and analyzed past the recommended 7-day hold time; NT = not tested.

= concentrattion is above the compliance level

APPENDIX C

2019 Laboratory Analytical Data

First Quarter (January) 2019 Laboratory Reports

February 20, 2019 Service Request No:K1900813

David Lamadrid
SCS Engineers
15940 SW 72nd Ave
Portland, OR 97224

Laboratory Results for: Leichner Landfill

Dear David,

Enclosed are the results of the sample(s) submitted to our laboratory January 29, 2019
For your reference, these analyses have been assigned our service request number **K1900813.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

ALS Environmental

Client: SCS Engineers
Project: Leichner Landfill
Sample Matrix: Ground Water

Service Request: K1900813
Date Received: 01/29/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), Laboratory Control Sample (LCS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt:

Nine ground water samples were received for analysis at ALS Environmental on 01/29/2019. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

EPA 8260, 01/30/19: The following analytes were flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS46\0130F003.D: Carbon Tetrachloride, 1,2-Dibromo-3-chloropropene, and Naphthalene . In accordance with the EPA Method, 80% or more of the CCV analytes must pass within 20% of the true value. The ALS SOP allows for 40% difference for the remaining analytes. The CCV met these criteria. The quality of the sample data was not significantly affected. No further corrective action was required.

Approved by  Date 02/20/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-012819-08-3D			Lab ID: K1900813-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	153			5.0	mg/L	SM 2540 C
Chloride	5.21			0.20	mg/L	300.0
Nitrate as Nitrogen	5.12			0.10	mg/L	300.0

CLIENT ID: LB-012819-03-5D			Lab ID: K1900813-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	194			5.0	mg/L	SM 2540 C
Chloride	7.42			0.20	mg/L	300.0
Nitrate as Nitrogen	0.71			0.10	mg/L	300.0
Manganese, Dissolved	1.6			1.1	ug/L	6010C

CLIENT ID: LB-012819-01-10DR			Lab ID: K1900813-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	209			5.0	mg/L	SM 2540 C
Chloride	10.1			0.20	mg/L	300.0
Nitrate as Nitrogen	2.63			0.10	mg/L	300.0

CLIENT ID: LB-012819-02-10SR			Lab ID: K1900813-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	251			5.0	mg/L	SM 2540 C
Chloride	2.06			0.20	mg/L	300.0
Nitrate as Nitrogen	9.30			0.10	mg/L	300.0
Manganese, Dissolved	1.3			1.1	ug/L	6010C

CLIENT ID: LB-012819-06-13D			Lab ID: K1900813-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	166			5.0	mg/L	SM 2540 C
Chloride	4.56			0.20	mg/L	300.0
Nitrate as Nitrogen	4.55			0.10	mg/L	300.0

CLIENT ID: LB-012819-07-26D			Lab ID: K1900813-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	174			5.0	mg/L	SM 2540 C
Chloride	5.06			0.20	mg/L	300.0
Nitrate as Nitrogen	4.63			0.10	mg/L	300.0

CLIENT ID: LB-012819-04-27D			Lab ID: K1900813-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	194			5.0	mg/L	SM 2540 C
Chloride	7.62			0.20	mg/L	300.0
Nitrate as Nitrogen	2.31			0.10	mg/L	300.0
Iron, Dissolved	37			21	ug/L	6010C
Manganese, Dissolved	8.6			1.1	ug/L	6010C

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-012819-05-DUP1			Lab ID: K1900813-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	197			5.0	mg/L	SM 2540 C
Chloride	7.60			0.20	mg/L	300.0
Nitrate as Nitrogen	2.63			0.10	mg/L	300.0
Manganese, Dissolved	8.8			1.1	ug/L	6010C

Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: SCS Engineers **Service Request:**K1900813

Project: Leichner
Landfill/04219030.13

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1900813-001	LB-012819-08-3D	1/28/2019	1510
K1900813-002	LB-012819-03-5D	1/28/2019	1045
K1900813-003	LB-012819-01-10DR	1/28/2019	0910
K1900813-004	LB-012819-02-10SR	1/28/2019	0955
K1900813-005	LB-012819-06-13D	1/28/2019	1240
K1900813-006	LB-012819-07-26D	1/28/2019	1340
K1900813-007	LB-012819-04-27D	1/28/2019	1140
K1900813-008	LB-012819-05-DUP1	1/28/2019	1145

CHAIN OF CUSTODY

SR# K1900813

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 1 OF 1 COC#

PROJECT NAME: Leichner Landfill
PROJECT NUMBER: 04219030.13
PROJECT MANAGER: David Lamadrid
COMPANY NAME: SCS Engineers
ADDRESS: 15940 SW 72nd Ave
CITY/STATE/ZIP: Portland, OR 97224
E-MAIL ADDRESS: dlamadrid@scsengineers.com
PHONE #: 503-639-9736 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond, Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS, Turb.	(circle) NH3-N, COD, TKN, TOC, DOC, NO2+NO3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO3☐ HCO3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases RSK 175☐ Methane☐ Ethane☐ Ethene☐ CO2☐			REMARKS
LB-012819-08-3D	1/28/19	1510		W	5		X						X		X								
LB-012819-03-5D	1/28/19	1045		W	5		X						X		X								
LB-012819-01-10DR	1/28/19	0910		W	5		X						X		X								
LB-012819-02-10SR	1/28/19	0955		W	5		X						X		X								
LB-012819-06-13D	1/28/19	1240		W	5		X						X		X								
LB-012819-07-26D	1/28/19	1340		W	5		X						X		X								
LB-012819-04-27D	1/28/19	1140		W	5		X						X		X								
LB-012819-05-DUP1	1/28/19	1145		W	5		X						X		X								
Trip Blanks	—	—		W	2		X																

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required

___ II. Report Dup., MS, MSD as required

___ III. CLP Like Summary (no raw data)

___ IV. Data Validation Report

___ V. EDD

INVOICE INFORMATION

P.O. # ______

Bill To: ______

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.

___ 5 day

___ Standard (15 working days)

___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu (Fe) Pb Mg (Mn) Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

***INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: ______ (CIRCLE ONE)**

SPECIAL INSTRUCTIONS/COMMENTS:
cc: Tiffany Andrews
tandrews@scsengineers.com
Metals are Field Filtered

Container Supply Number
96317

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature	Date/Time 1/29/19 9:07	Signature	Date/Time 1/29/19 0904	Signature	Date/Time 1/29/19 1140	Signature	Date/Time 1-29-19 1145
Printed Name	Firm	Printed Name Bowman	Firm ALV	Printed Name Bowman	Firm ALV	Printed Name	Firm ALS-K

PC H2

Cooler Receipt and Preservation Form

Client SCS Engineering Service Request *K19* 20813

Received: 1-29-19 Opened: 1-29-19 By: JSP Unloaded: 1-29-19 By: JSP

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Tape Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected. Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number (NA)	Filed
2.1	1.9	N/A	N/A	-0.2	360	96317		

4. Packing material: *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA (Y) N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions:

SHORT HOLD TIME

Miscellaneous Forms

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1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Sample Results

ALS Environmental—Kelso Laboratory
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Volatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 15:10
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-08-3D	**Units:**	ug/L
Lab Code:	K1900813-001	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
Chloromethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
Bromomethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
Chloroethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
Trichlorofluoromethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
Acetone	ND U	20	1	01/30/19 17:31	1/30/19	
Carbon Disulfide	ND U	0.50	1	01/30/19 17:31	1/30/19	
Methylene chloride	ND U	2.0	1	01/30/19 17:31	1/30/19	
Methyl tert-Butyl Ether	ND U	0.50	1	01/30/19 17:31	1/30/19	
trans-1,2-Dichloroethene	ND U	0.50	1	01/30/19 17:31	1/30/19	
1,1-Dichloroethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
2,2-Dichloropropane	ND U	0.50	1	01/30/19 17:31	1/30/19	
cis-1,2-Dichloroethene	ND U	0.50	1	01/30/19 17:31	1/30/19	
2-Butanone (MEK)	ND U	20	1	01/30/19 17:31	1/30/19	
Bromochloromethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
Chloroform	ND U	0.50	1	01/30/19 17:31	1/30/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	01/30/19 17:31	1/30/19	
Carbon Tetrachloride	ND U	0.50	1	01/30/19 17:31	1/30/19	
1,1-Dichloropropene	ND U	0.50	1	01/30/19 17:31	1/30/19	
Benzene	ND U	0.50	1	01/30/19 17:31	1/30/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	01/30/19 17:31	1/30/19	
Trichloroethene (TCE)	ND U	0.50	1	01/30/19 17:31	1/30/19	
1,2-Dichloropropane	ND U	0.50	1	01/30/19 17:31	1/30/19	
Dibromomethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
Bromodichloromethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
cis-1,3-Dichloropropene	ND U	0.50	1	01/30/19 17:31	1/30/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	01/30/19 17:31	1/30/19	
Toluene	ND U	0.50	1	01/30/19 17:31	1/30/19	
trans-1,3-Dichloropropene	ND U	0.50	1	01/30/19 17:31	1/30/19	
1,1,2-Trichloroethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
Tetrachloroethene (PCE)	ND U	0.50	1	01/30/19 17:31	1/30/19	
2-Hexanone	ND U	20	1	01/30/19 17:31	1/30/19	
1,3-Dichloropropane	ND U	0.50	1	01/30/19 17:31	1/30/19	
Dibromochloromethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	01/30/19 17:31	1/30/19	
Chlorobenzene	ND U	0.50	1	01/30/19 17:31	1/30/19	
Ethylbenzene	ND U	0.50	1	01/30/19 17:31	1/30/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
m,p-Xylenes	ND U	0.50	1	01/30/19 17:31	1/30/19	
o-Xylene	ND U	0.50	1	01/30/19 17:31	1/30/19	
Styrene	ND U	0.50	1	01/30/19 17:31	1/30/19	
Bromoform	ND U	0.50	1	01/30/19 17:31	1/30/19	
Isopropylbenzene	ND U	2.0	1	01/30/19 17:31	1/30/19	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 15:10
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-08-3D	**Units:**	ug/L
Lab Code:	K1900813-001	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	01/30/19 17:31	1/30/19	
Bromobenzene	ND U	2.0	1	01/30/19 17:31	1/30/19	
n-Propylbenzene	ND U	2.0	1	01/30/19 17:31	1/30/19	
1,2,3-Trichloropropane	ND U	0.50	1	01/30/19 17:31	1/30/19	
2-Chlorotoluene	ND U	2.0	1	01/30/19 17:31	1/30/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	01/30/19 17:31	1/30/19	
4-Chlorotoluene	ND U	2.0	1	01/30/19 17:31	1/30/19	
tert-Butylbenzene	ND U	2.0	1	01/30/19 17:31	1/30/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	01/30/19 17:31	1/30/19	
sec-Butylbenzene	ND U	2.0	1	01/30/19 17:31	1/30/19	
4-Isopropyltoluene	ND U	2.0	1	01/30/19 17:31	1/30/19	
1,3-Dichlorobenzene	ND U	0.50	1	01/30/19 17:31	1/30/19	
1,4-Dichlorobenzene	ND U	0.50	1	01/30/19 17:31	1/30/19	
n-Butylbenzene	ND U	2.0	1	01/30/19 17:31	1/30/19	
1,2-Dichlorobenzene	ND U	0.50	1	01/30/19 17:31	1/30/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	01/30/19 17:31	1/30/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	01/30/19 17:31	1/30/19	
Hexachlorobutadiene	ND U	2.0	1	01/30/19 17:31	1/30/19	
Naphthalene	ND U	2.0	1	01/30/19 17:31	1/30/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	01/30/19 17:31	1/30/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	107	73 - 122	01/30/19 17:31	
Toluene-d8	115	65 - 144	01/30/19 17:31	
4-Bromofluorobenzene	105	68 - 117	01/30/19 17:31	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 10:45
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-03-5D	**Units:**	ug/L
Lab Code:	K1900813-002	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
Chloromethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
Bromomethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
Chloroethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
Trichlorofluoromethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
Acetone	ND U	20	1	01/30/19 17:57	1/30/19	
Carbon Disulfide	ND U	0.50	1	01/30/19 17:57	1/30/19	
Methylene chloride	ND U	2.0	1	01/30/19 17:57	1/30/19	
Methyl tert-Butyl Ether	ND U	0.50	1	01/30/19 17:57	1/30/19	
trans-1,2-Dichloroethene	ND U	0.50	1	01/30/19 17:57	1/30/19	
1,1-Dichloroethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
2,2-Dichloropropane	ND U	0.50	1	01/30/19 17:57	1/30/19	
cis-1,2-Dichloroethene	ND U	0.50	1	01/30/19 17:57	1/30/19	
2-Butanone (MEK)	ND U	20	1	01/30/19 17:57	1/30/19	
Bromochloromethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
Chloroform	ND U	0.50	1	01/30/19 17:57	1/30/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	01/30/19 17:57	1/30/19	
Carbon Tetrachloride	ND U	0.50	1	01/30/19 17:57	1/30/19	
1,1-Dichloropropene	ND U	0.50	1	01/30/19 17:57	1/30/19	
Benzene	ND U	0.50	1	01/30/19 17:57	1/30/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	01/30/19 17:57	1/30/19	
Trichloroethene (TCE)	ND U	0.50	1	01/30/19 17:57	1/30/19	
1,2-Dichloropropane	ND U	0.50	1	01/30/19 17:57	1/30/19	
Dibromomethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
Bromodichloromethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
cis-1,3-Dichloropropene	ND U	0.50	1	01/30/19 17:57	1/30/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	01/30/19 17:57	1/30/19	
Toluene	ND U	0.50	1	01/30/19 17:57	1/30/19	
trans-1,3-Dichloropropene	ND U	0.50	1	01/30/19 17:57	1/30/19	
1,1,2-Trichloroethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
Tetrachloroethene (PCE)	ND U	0.50	1	01/30/19 17:57	1/30/19	
2-Hexanone	ND U	20	1	01/30/19 17:57	1/30/19	
1,3-Dichloropropane	ND U	0.50	1	01/30/19 17:57	1/30/19	
Dibromochloromethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	01/30/19 17:57	1/30/19	
Chlorobenzene	ND U	0.50	1	01/30/19 17:57	1/30/19	
Ethylbenzene	ND U	0.50	1	01/30/19 17:57	1/30/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
m,p-Xylenes	ND U	0.50	1	01/30/19 17:57	1/30/19	
o-Xylene	ND U	0.50	1	01/30/19 17:57	1/30/19	
Styrene	ND U	0.50	1	01/30/19 17:57	1/30/19	
Bromoform	ND U	0.50	1	01/30/19 17:57	1/30/19	
Isopropylbenzene	ND U	2.0	1	01/30/19 17:57	1/30/19	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 10:45
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-03-5D	**Units:**	ug/L
Lab Code:	K1900813-002	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	01/30/19 17:57	1/30/19	
Bromobenzene	ND U	2.0	1	01/30/19 17:57	1/30/19	
n-Propylbenzene	ND U	2.0	1	01/30/19 17:57	1/30/19	
1,2,3-Trichloropropane	ND U	0.50	1	01/30/19 17:57	1/30/19	
2-Chlorotoluene	ND U	2.0	1	01/30/19 17:57	1/30/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	01/30/19 17:57	1/30/19	
4-Chlorotoluene	ND U	2.0	1	01/30/19 17:57	1/30/19	
tert-Butylbenzene	ND U	2.0	1	01/30/19 17:57	1/30/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	01/30/19 17:57	1/30/19	
sec-Butylbenzene	ND U	2.0	1	01/30/19 17:57	1/30/19	
4-Isopropyltoluene	ND U	2.0	1	01/30/19 17:57	1/30/19	
1,3-Dichlorobenzene	ND U	0.50	1	01/30/19 17:57	1/30/19	
1,4-Dichlorobenzene	ND U	0.50	1	01/30/19 17:57	1/30/19	
n-Butylbenzene	ND U	2.0	1	01/30/19 17:57	1/30/19	
1,2-Dichlorobenzene	ND U	0.50	1	01/30/19 17:57	1/30/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	01/30/19 17:57	1/30/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	01/30/19 17:57	1/30/19	
Hexachlorobutadiene	ND U	2.0	1	01/30/19 17:57	1/30/19	
Naphthalene	ND U	2.0	1	01/30/19 17:57	1/30/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	01/30/19 17:57	1/30/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	111	73 - 122	01/30/19 17:57	
Toluene-d8	115	65 - 144	01/30/19 17:57	
4-Bromofluorobenzene	104	68 - 117	01/30/19 17:57	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 09:10
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-01-10DR	**Units:**	ug/L
Lab Code:	K1900813-003	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
Chloromethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
Bromomethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
Chloroethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
Trichlorofluoromethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
Acetone	ND U	20	1	01/30/19 18:23	1/30/19	
Carbon Disulfide	ND U	0.50	1	01/30/19 18:23	1/30/19	
Methylene chloride	ND U	2.0	1	01/30/19 18:23	1/30/19	
Methyl tert-Butyl Ether	ND U	0.50	1	01/30/19 18:23	1/30/19	
trans-1,2-Dichloroethene	ND U	0.50	1	01/30/19 18:23	1/30/19	
1,1-Dichloroethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
2,2-Dichloropropane	ND U	0.50	1	01/30/19 18:23	1/30/19	
cis-1,2-Dichloroethene	ND U	0.50	1	01/30/19 18:23	1/30/19	
2-Butanone (MEK)	ND U	20	1	01/30/19 18:23	1/30/19	
Bromochloromethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
Chloroform	ND U	0.50	1	01/30/19 18:23	1/30/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	01/30/19 18:23	1/30/19	
Carbon Tetrachloride	ND U	0.50	1	01/30/19 18:23	1/30/19	
1,1-Dichloropropene	ND U	0.50	1	01/30/19 18:23	1/30/19	
Benzene	ND U	0.50	1	01/30/19 18:23	1/30/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	01/30/19 18:23	1/30/19	
Trichloroethene (TCE)	ND U	0.50	1	01/30/19 18:23	1/30/19	
1,2-Dichloropropane	ND U	0.50	1	01/30/19 18:23	1/30/19	
Dibromomethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
Bromodichloromethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
cis-1,3-Dichloropropene	ND U	0.50	1	01/30/19 18:23	1/30/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	01/30/19 18:23	1/30/19	
Toluene	ND U	0.50	1	01/30/19 18:23	1/30/19	
trans-1,3-Dichloropropene	ND U	0.50	1	01/30/19 18:23	1/30/19	
1,1,2-Trichloroethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
Tetrachloroethene (PCE)	ND U	0.50	1	01/30/19 18:23	1/30/19	
2-Hexanone	ND U	20	1	01/30/19 18:23	1/30/19	
1,3-Dichloropropane	ND U	0.50	1	01/30/19 18:23	1/30/19	
Dibromochloromethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	01/30/19 18:23	1/30/19	
Chlorobenzene	ND U	0.50	1	01/30/19 18:23	1/30/19	
Ethylbenzene	ND U	0.50	1	01/30/19 18:23	1/30/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
m,p-Xylenes	ND U	0.50	1	01/30/19 18:23	1/30/19	
o-Xylene	ND U	0.50	1	01/30/19 18:23	1/30/19	
Styrene	ND U	0.50	1	01/30/19 18:23	1/30/19	
Bromoform	ND U	0.50	1	01/30/19 18:23	1/30/19	
Isopropylbenzene	ND U	2.0	1	01/30/19 18:23	1/30/19	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 09:10
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-01-10DR	**Units:**	ug/L
Lab Code:	K1900813-003	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	01/30/19 18:23	1/30/19	
Bromobenzene	ND U	2.0	1	01/30/19 18:23	1/30/19	
n-Propylbenzene	ND U	2.0	1	01/30/19 18:23	1/30/19	
1,2,3-Trichloropropane	ND U	0.50	1	01/30/19 18:23	1/30/19	
2-Chlorotoluene	ND U	2.0	1	01/30/19 18:23	1/30/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	01/30/19 18:23	1/30/19	
4-Chlorotoluene	ND U	2.0	1	01/30/19 18:23	1/30/19	
tert-Butylbenzene	ND U	2.0	1	01/30/19 18:23	1/30/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	01/30/19 18:23	1/30/19	
sec-Butylbenzene	ND U	2.0	1	01/30/19 18:23	1/30/19	
4-Isopropyltoluene	ND U	2.0	1	01/30/19 18:23	1/30/19	
1,3-Dichlorobenzene	ND U	0.50	1	01/30/19 18:23	1/30/19	
1,4-Dichlorobenzene	ND U	0.50	1	01/30/19 18:23	1/30/19	
n-Butylbenzene	ND U	2.0	1	01/30/19 18:23	1/30/19	
1,2-Dichlorobenzene	ND U	0.50	1	01/30/19 18:23	1/30/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	01/30/19 18:23	1/30/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	01/30/19 18:23	1/30/19	
Hexachlorobutadiene	ND U	2.0	1	01/30/19 18:23	1/30/19	
Naphthalene	ND U	2.0	1	01/30/19 18:23	1/30/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	01/30/19 18:23	1/30/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	110	73 - 122	01/30/19 18:23	
Toluene-d8	115	65 - 144	01/30/19 18:23	
4-Bromofluorobenzene	106	68 - 117	01/30/19 18:23	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 09:55
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-02-10SR	**Units:**	ug/L
Lab Code:	K1900813-004	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
Chloromethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
Bromomethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
Chloroethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
Trichlorofluoromethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
Acetone	ND U	20	1	01/30/19 18:49	1/30/19	
Carbon Disulfide	ND U	0.50	1	01/30/19 18:49	1/30/19	
Methylene chloride	ND U	2.0	1	01/30/19 18:49	1/30/19	
Methyl tert-Butyl Ether	ND U	0.50	1	01/30/19 18:49	1/30/19	
trans-1,2-Dichloroethene	ND U	0.50	1	01/30/19 18:49	1/30/19	
1,1-Dichloroethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
2,2-Dichloropropane	ND U	0.50	1	01/30/19 18:49	1/30/19	
cis-1,2-Dichloroethene	ND U	0.50	1	01/30/19 18:49	1/30/19	
2-Butanone (MEK)	ND U	20	1	01/30/19 18:49	1/30/19	
Bromochloromethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
Chloroform	ND U	0.50	1	01/30/19 18:49	1/30/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	01/30/19 18:49	1/30/19	
Carbon Tetrachloride	ND U	0.50	1	01/30/19 18:49	1/30/19	
1,1-Dichloropropene	ND U	0.50	1	01/30/19 18:49	1/30/19	
Benzene	ND U	0.50	1	01/30/19 18:49	1/30/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	01/30/19 18:49	1/30/19	
Trichloroethene (TCE)	ND U	0.50	1	01/30/19 18:49	1/30/19	
1,2-Dichloropropane	ND U	0.50	1	01/30/19 18:49	1/30/19	
Dibromomethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
Bromodichloromethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
cis-1,3-Dichloropropene	ND U	0.50	1	01/30/19 18:49	1/30/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	01/30/19 18:49	1/30/19	
Toluene	ND U	0.50	1	01/30/19 18:49	1/30/19	
trans-1,3-Dichloropropene	ND U	0.50	1	01/30/19 18:49	1/30/19	
1,1,2-Trichloroethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
Tetrachloroethene (PCE)	ND U	0.50	1	01/30/19 18:49	1/30/19	
2-Hexanone	ND U	20	1	01/30/19 18:49	1/30/19	
1,3-Dichloropropane	ND U	0.50	1	01/30/19 18:49	1/30/19	
Dibromochloromethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	01/30/19 18:49	1/30/19	
Chlorobenzene	ND U	0.50	1	01/30/19 18:49	1/30/19	
Ethylbenzene	ND U	0.50	1	01/30/19 18:49	1/30/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
m,p-Xylenes	ND U	0.50	1	01/30/19 18:49	1/30/19	
o-Xylene	ND U	0.50	1	01/30/19 18:49	1/30/19	
Styrene	ND U	0.50	1	01/30/19 18:49	1/30/19	
Bromoform	ND U	0.50	1	01/30/19 18:49	1/30/19	
Isopropylbenzene	ND U	2.0	1	01/30/19 18:49	1/30/19	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 09:55
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-02-10SR	**Units:**	ug/L
Lab Code:	K1900813-004	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	01/30/19 18:49	1/30/19	
Bromobenzene	ND U	2.0	1	01/30/19 18:49	1/30/19	
n-Propylbenzene	ND U	2.0	1	01/30/19 18:49	1/30/19	
1,2,3-Trichloropropane	ND U	0.50	1	01/30/19 18:49	1/30/19	
2-Chlorotoluene	ND U	2.0	1	01/30/19 18:49	1/30/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	01/30/19 18:49	1/30/19	
4-Chlorotoluene	ND U	2.0	1	01/30/19 18:49	1/30/19	
tert-Butylbenzene	ND U	2.0	1	01/30/19 18:49	1/30/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	01/30/19 18:49	1/30/19	
sec-Butylbenzene	ND U	2.0	1	01/30/19 18:49	1/30/19	
4-Isopropyltoluene	ND U	2.0	1	01/30/19 18:49	1/30/19	
1,3-Dichlorobenzene	ND U	0.50	1	01/30/19 18:49	1/30/19	
1,4-Dichlorobenzene	ND U	0.50	1	01/30/19 18:49	1/30/19	
n-Butylbenzene	ND U	2.0	1	01/30/19 18:49	1/30/19	
1,2-Dichlorobenzene	ND U	0.50	1	01/30/19 18:49	1/30/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	01/30/19 18:49	1/30/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	01/30/19 18:49	1/30/19	
Hexachlorobutadiene	ND U	2.0	1	01/30/19 18:49	1/30/19	
Naphthalene	ND U	2.0	1	01/30/19 18:49	1/30/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	01/30/19 18:49	1/30/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	110	73 - 122	01/30/19 18:49	
Toluene-d8	115	65 - 144	01/30/19 18:49	
4-Bromofluorobenzene	104	68 - 117	01/30/19 18:49	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 12:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-06-13D	**Units:**	ug/L
Lab Code:	K1900813-005	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
Chloromethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
Bromomethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
Chloroethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
Trichlorofluoromethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
Acetone	ND U	20	1	01/30/19 19:15	1/30/19	
Carbon Disulfide	ND U	0.50	1	01/30/19 19:15	1/30/19	
Methylene chloride	ND U	2.0	1	01/30/19 19:15	1/30/19	
Methyl tert-Butyl Ether	ND U	0.50	1	01/30/19 19:15	1/30/19	
trans-1,2-Dichloroethene	ND U	0.50	1	01/30/19 19:15	1/30/19	
1,1-Dichloroethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
2,2-Dichloropropane	ND U	0.50	1	01/30/19 19:15	1/30/19	
cis-1,2-Dichloroethene	ND U	0.50	1	01/30/19 19:15	1/30/19	
2-Butanone (MEK)	ND U	20	1	01/30/19 19:15	1/30/19	
Bromochloromethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
Chloroform	ND U	0.50	1	01/30/19 19:15	1/30/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	01/30/19 19:15	1/30/19	
Carbon Tetrachloride	ND U	0.50	1	01/30/19 19:15	1/30/19	
1,1-Dichloropropene	ND U	0.50	1	01/30/19 19:15	1/30/19	
Benzene	ND U	0.50	1	01/30/19 19:15	1/30/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	01/30/19 19:15	1/30/19	
Trichloroethene (TCE)	ND U	0.50	1	01/30/19 19:15	1/30/19	
1,2-Dichloropropane	ND U	0.50	1	01/30/19 19:15	1/30/19	
Dibromomethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
Bromodichloromethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
cis-1,3-Dichloropropene	ND U	0.50	1	01/30/19 19:15	1/30/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	01/30/19 19:15	1/30/19	
Toluene	ND U	0.50	1	01/30/19 19:15	1/30/19	
trans-1,3-Dichloropropene	ND U	0.50	1	01/30/19 19:15	1/30/19	
1,1,2-Trichloroethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
Tetrachloroethene (PCE)	ND U	0.50	1	01/30/19 19:15	1/30/19	
2-Hexanone	ND U	20	1	01/30/19 19:15	1/30/19	
1,3-Dichloropropane	ND U	0.50	1	01/30/19 19:15	1/30/19	
Dibromochloromethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	01/30/19 19:15	1/30/19	
Chlorobenzene	ND U	0.50	1	01/30/19 19:15	1/30/19	
Ethylbenzene	ND U	0.50	1	01/30/19 19:15	1/30/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
m,p-Xylenes	ND U	0.50	1	01/30/19 19:15	1/30/19	
o-Xylene	ND U	0.50	1	01/30/19 19:15	1/30/19	
Styrene	ND U	0.50	1	01/30/19 19:15	1/30/19	
Bromoform	ND U	0.50	1	01/30/19 19:15	1/30/19	
Isopropylbenzene	ND U	2.0	1	01/30/19 19:15	1/30/19	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 12:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-06-13D	**Units:**	ug/L
Lab Code:	K1900813-005	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	01/30/19 19:15	1/30/19	
Bromobenzene	ND U	2.0	1	01/30/19 19:15	1/30/19	
n-Propylbenzene	ND U	2.0	1	01/30/19 19:15	1/30/19	
1,2,3-Trichloropropane	ND U	0.50	1	01/30/19 19:15	1/30/19	
2-Chlorotoluene	ND U	2.0	1	01/30/19 19:15	1/30/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	01/30/19 19:15	1/30/19	
4-Chlorotoluene	ND U	2.0	1	01/30/19 19:15	1/30/19	
tert-Butylbenzene	ND U	2.0	1	01/30/19 19:15	1/30/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	01/30/19 19:15	1/30/19	
sec-Butylbenzene	ND U	2.0	1	01/30/19 19:15	1/30/19	
4-Isopropyltoluene	ND U	2.0	1	01/30/19 19:15	1/30/19	
1,3-Dichlorobenzene	ND U	0.50	1	01/30/19 19:15	1/30/19	
1,4-Dichlorobenzene	ND U	0.50	1	01/30/19 19:15	1/30/19	
n-Butylbenzene	ND U	2.0	1	01/30/19 19:15	1/30/19	
1,2-Dichlorobenzene	ND U	0.50	1	01/30/19 19:15	1/30/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	01/30/19 19:15	1/30/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	01/30/19 19:15	1/30/19	
Hexachlorobutadiene	ND U	2.0	1	01/30/19 19:15	1/30/19	
Naphthalene	ND U	2.0	1	01/30/19 19:15	1/30/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	01/30/19 19:15	1/30/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	109	73 - 122	01/30/19 19:15	
Toluene-d8	115	65 - 144	01/30/19 19:15	
4-Bromofluorobenzene	105	68 - 117	01/30/19 19:15	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 13:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-07-26D	**Units:**	ug/L
Lab Code:	K1900813-006	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
Chloromethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
Bromomethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
Chloroethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
Trichlorofluoromethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
Acetone	ND U	20	1	01/30/19 19:42	1/30/19	
Carbon Disulfide	ND U	0.50	1	01/30/19 19:42	1/30/19	
Methylene chloride	ND U	2.0	1	01/30/19 19:42	1/30/19	
Methyl tert-Butyl Ether	ND U	0.50	1	01/30/19 19:42	1/30/19	
trans-1,2-Dichloroethene	ND U	0.50	1	01/30/19 19:42	1/30/19	
1,1-Dichloroethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
2,2-Dichloropropane	ND U	0.50	1	01/30/19 19:42	1/30/19	
cis-1,2-Dichloroethene	ND U	0.50	1	01/30/19 19:42	1/30/19	
2-Butanone (MEK)	ND U	20	1	01/30/19 19:42	1/30/19	
Bromochloromethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
Chloroform	ND U	0.50	1	01/30/19 19:42	1/30/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	01/30/19 19:42	1/30/19	
Carbon Tetrachloride	ND U	0.50	1	01/30/19 19:42	1/30/19	
1,1-Dichloropropene	ND U	0.50	1	01/30/19 19:42	1/30/19	
Benzene	ND U	0.50	1	01/30/19 19:42	1/30/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	01/30/19 19:42	1/30/19	
Trichloroethene (TCE)	ND U	0.50	1	01/30/19 19:42	1/30/19	
1,2-Dichloropropane	ND U	0.50	1	01/30/19 19:42	1/30/19	
Dibromomethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
Bromodichloromethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
cis-1,3-Dichloropropene	ND U	0.50	1	01/30/19 19:42	1/30/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	01/30/19 19:42	1/30/19	
Toluene	ND U	0.50	1	01/30/19 19:42	1/30/19	
trans-1,3-Dichloropropene	ND U	0.50	1	01/30/19 19:42	1/30/19	
1,1,2-Trichloroethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
Tetrachloroethene (PCE)	ND U	0.50	1	01/30/19 19:42	1/30/19	
2-Hexanone	ND U	20	1	01/30/19 19:42	1/30/19	
1,3-Dichloropropane	ND U	0.50	1	01/30/19 19:42	1/30/19	
Dibromochloromethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	01/30/19 19:42	1/30/19	
Chlorobenzene	ND U	0.50	1	01/30/19 19:42	1/30/19	
Ethylbenzene	ND U	0.50	1	01/30/19 19:42	1/30/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
m,p-Xylenes	ND U	0.50	1	01/30/19 19:42	1/30/19	
o-Xylene	ND U	0.50	1	01/30/19 19:42	1/30/19	
Styrene	ND U	0.50	1	01/30/19 19:42	1/30/19	
Bromoform	ND U	0.50	1	01/30/19 19:42	1/30/19	
Isopropylbenzene	ND U	2.0	1	01/30/19 19:42	1/30/19	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 13:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-07-26D	**Units:**	ug/L
Lab Code:	K1900813-006	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	01/30/19 19:42	1/30/19	
Bromobenzene	ND U	2.0	1	01/30/19 19:42	1/30/19	
n-Propylbenzene	ND U	2.0	1	01/30/19 19:42	1/30/19	
1,2,3-Trichloropropane	ND U	0.50	1	01/30/19 19:42	1/30/19	
2-Chlorotoluene	ND U	2.0	1	01/30/19 19:42	1/30/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	01/30/19 19:42	1/30/19	
4-Chlorotoluene	ND U	2.0	1	01/30/19 19:42	1/30/19	
tert-Butylbenzene	ND U	2.0	1	01/30/19 19:42	1/30/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	01/30/19 19:42	1/30/19	
sec-Butylbenzene	ND U	2.0	1	01/30/19 19:42	1/30/19	
4-Isopropyltoluene	ND U	2.0	1	01/30/19 19:42	1/30/19	
1,3-Dichlorobenzene	ND U	0.50	1	01/30/19 19:42	1/30/19	
1,4-Dichlorobenzene	ND U	0.50	1	01/30/19 19:42	1/30/19	
n-Butylbenzene	ND U	2.0	1	01/30/19 19:42	1/30/19	
1,2-Dichlorobenzene	ND U	0.50	1	01/30/19 19:42	1/30/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	01/30/19 19:42	1/30/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	01/30/19 19:42	1/30/19	
Hexachlorobutadiene	ND U	2.0	1	01/30/19 19:42	1/30/19	
Naphthalene	ND U	2.0	1	01/30/19 19:42	1/30/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	01/30/19 19:42	1/30/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	109	73 - 122	01/30/19 19:42	
Toluene-d8	120	65 - 144	01/30/19 19:42	
4-Bromofluorobenzene	105	68 - 117	01/30/19 19:42	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 11:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-04-27D	**Units:**	ug/L
Lab Code:	K1900813-007	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
Chloromethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
Bromomethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
Chloroethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
Trichlorofluoromethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
Acetone	ND U	20	1	01/30/19 20:08	1/30/19	
Carbon Disulfide	ND U	0.50	1	01/30/19 20:08	1/30/19	
Methylene chloride	ND U	2.0	1	01/30/19 20:08	1/30/19	
Methyl tert-Butyl Ether	ND U	0.50	1	01/30/19 20:08	1/30/19	
trans-1,2-Dichloroethene	ND U	0.50	1	01/30/19 20:08	1/30/19	
1,1-Dichloroethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
2,2-Dichloropropane	ND U	0.50	1	01/30/19 20:08	1/30/19	
cis-1,2-Dichloroethene	ND U	0.50	1	01/30/19 20:08	1/30/19	
2-Butanone (MEK)	ND U	20	1	01/30/19 20:08	1/30/19	
Bromochloromethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
Chloroform	ND U	0.50	1	01/30/19 20:08	1/30/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	01/30/19 20:08	1/30/19	
Carbon Tetrachloride	ND U	0.50	1	01/30/19 20:08	1/30/19	
1,1-Dichloropropene	ND U	0.50	1	01/30/19 20:08	1/30/19	
Benzene	ND U	0.50	1	01/30/19 20:08	1/30/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	01/30/19 20:08	1/30/19	
Trichloroethene (TCE)	ND U	0.50	1	01/30/19 20:08	1/30/19	
1,2-Dichloropropane	ND U	0.50	1	01/30/19 20:08	1/30/19	
Dibromomethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
Bromodichloromethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
cis-1,3-Dichloropropene	ND U	0.50	1	01/30/19 20:08	1/30/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	01/30/19 20:08	1/30/19	
Toluene	ND U	0.50	1	01/30/19 20:08	1/30/19	
trans-1,3-Dichloropropene	ND U	0.50	1	01/30/19 20:08	1/30/19	
1,1,2-Trichloroethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
Tetrachloroethene (PCE)	ND U	0.50	1	01/30/19 20:08	1/30/19	
2-Hexanone	ND U	20	1	01/30/19 20:08	1/30/19	
1,3-Dichloropropane	ND U	0.50	1	01/30/19 20:08	1/30/19	
Dibromochloromethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	01/30/19 20:08	1/30/19	
Chlorobenzene	ND U	0.50	1	01/30/19 20:08	1/30/19	
Ethylbenzene	ND U	0.50	1	01/30/19 20:08	1/30/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
m,p-Xylenes	ND U	0.50	1	01/30/19 20:08	1/30/19	
o-Xylene	ND U	0.50	1	01/30/19 20:08	1/30/19	
Styrene	ND U	0.50	1	01/30/19 20:08	1/30/19	
Bromoform	ND U	0.50	1	01/30/19 20:08	1/30/19	
Isopropylbenzene	ND U	2.0	1	01/30/19 20:08	1/30/19	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 11:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-04-27D	**Units:**	ug/L
Lab Code:	K1900813-007	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	01/30/19 20:08	1/30/19	
Bromobenzene	ND U	2.0	1	01/30/19 20:08	1/30/19	
n-Propylbenzene	ND U	2.0	1	01/30/19 20:08	1/30/19	
1,2,3-Trichloropropane	ND U	0.50	1	01/30/19 20:08	1/30/19	
2-Chlorotoluene	ND U	2.0	1	01/30/19 20:08	1/30/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	01/30/19 20:08	1/30/19	
4-Chlorotoluene	ND U	2.0	1	01/30/19 20:08	1/30/19	
tert-Butylbenzene	ND U	2.0	1	01/30/19 20:08	1/30/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	01/30/19 20:08	1/30/19	
sec-Butylbenzene	ND U	2.0	1	01/30/19 20:08	1/30/19	
4-Isopropyltoluene	ND U	2.0	1	01/30/19 20:08	1/30/19	
1,3-Dichlorobenzene	ND U	0.50	1	01/30/19 20:08	1/30/19	
1,4-Dichlorobenzene	ND U	0.50	1	01/30/19 20:08	1/30/19	
n-Butylbenzene	ND U	2.0	1	01/30/19 20:08	1/30/19	
1,2-Dichlorobenzene	ND U	0.50	1	01/30/19 20:08	1/30/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	01/30/19 20:08	1/30/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	01/30/19 20:08	1/30/19	
Hexachlorobutadiene	ND U	2.0	1	01/30/19 20:08	1/30/19	
Naphthalene	ND U	2.0	1	01/30/19 20:08	1/30/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	01/30/19 20:08	1/30/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	107	73 - 122	01/30/19 20:08	
Toluene-d8	113	65 - 144	01/30/19 20:08	
4-Bromofluorobenzene	103	68 - 117	01/30/19 20:08	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 11:45
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-05-DUP1	**Units:**	ug/L
Lab Code:	K1900813-008	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
Chloromethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
Bromomethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
Chloroethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
Trichlorofluoromethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
Acetone	ND U	20	1	01/30/19 20:34	1/30/19	
Carbon Disulfide	ND U	0.50	1	01/30/19 20:34	1/30/19	
Methylene chloride	ND U	2.0	1	01/30/19 20:34	1/30/19	
Methyl tert-Butyl Ether	ND U	0.50	1	01/30/19 20:34	1/30/19	
trans-1,2-Dichloroethene	ND U	0.50	1	01/30/19 20:34	1/30/19	
1,1-Dichloroethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
2,2-Dichloropropane	ND U	0.50	1	01/30/19 20:34	1/30/19	
cis-1,2-Dichloroethene	ND U	0.50	1	01/30/19 20:34	1/30/19	
2-Butanone (MEK)	ND U	20	1	01/30/19 20:34	1/30/19	
Bromochloromethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
Chloroform	ND U	0.50	1	01/30/19 20:34	1/30/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	01/30/19 20:34	1/30/19	
Carbon Tetrachloride	ND U	0.50	1	01/30/19 20:34	1/30/19	
1,1-Dichloropropene	ND U	0.50	1	01/30/19 20:34	1/30/19	
Benzene	ND U	0.50	1	01/30/19 20:34	1/30/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	01/30/19 20:34	1/30/19	
Trichloroethene (TCE)	ND U	0.50	1	01/30/19 20:34	1/30/19	
1,2-Dichloropropane	ND U	0.50	1	01/30/19 20:34	1/30/19	
Dibromomethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
Bromodichloromethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
cis-1,3-Dichloropropene	ND U	0.50	1	01/30/19 20:34	1/30/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	01/30/19 20:34	1/30/19	
Toluene	ND U	0.50	1	01/30/19 20:34	1/30/19	
trans-1,3-Dichloropropene	ND U	0.50	1	01/30/19 20:34	1/30/19	
1,1,2-Trichloroethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
Tetrachloroethene (PCE)	ND U	0.50	1	01/30/19 20:34	1/30/19	
2-Hexanone	ND U	20	1	01/30/19 20:34	1/30/19	
1,3-Dichloropropane	ND U	0.50	1	01/30/19 20:34	1/30/19	
Dibromochloromethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	01/30/19 20:34	1/30/19	
Chlorobenzene	ND U	0.50	1	01/30/19 20:34	1/30/19	
Ethylbenzene	ND U	0.50	1	01/30/19 20:34	1/30/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
m,p-Xylenes	ND U	0.50	1	01/30/19 20:34	1/30/19	
o-Xylene	ND U	0.50	1	01/30/19 20:34	1/30/19	
Styrene	ND U	0.50	1	01/30/19 20:34	1/30/19	
Bromoform	ND U	0.50	1	01/30/19 20:34	1/30/19	
Isopropylbenzene	ND U	2.0	1	01/30/19 20:34	1/30/19	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 11:45
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-05-DUP1	**Units:**	ug/L
Lab Code:	K1900813-008	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	01/30/19 20:34	1/30/19	
Bromobenzene	ND U	2.0	1	01/30/19 20:34	1/30/19	
n-Propylbenzene	ND U	2.0	1	01/30/19 20:34	1/30/19	
1,2,3-Trichloropropane	ND U	0.50	1	01/30/19 20:34	1/30/19	
2-Chlorotoluene	ND U	2.0	1	01/30/19 20:34	1/30/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	01/30/19 20:34	1/30/19	
4-Chlorotoluene	ND U	2.0	1	01/30/19 20:34	1/30/19	
tert-Butylbenzene	ND U	2.0	1	01/30/19 20:34	1/30/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	01/30/19 20:34	1/30/19	
sec-Butylbenzene	ND U	2.0	1	01/30/19 20:34	1/30/19	
4-Isopropyltoluene	ND U	2.0	1	01/30/19 20:34	1/30/19	
1,3-Dichlorobenzene	ND U	0.50	1	01/30/19 20:34	1/30/19	
1,4-Dichlorobenzene	ND U	0.50	1	01/30/19 20:34	1/30/19	
n-Butylbenzene	ND U	2.0	1	01/30/19 20:34	1/30/19	
1,2-Dichlorobenzene	ND U	0.50	1	01/30/19 20:34	1/30/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	01/30/19 20:34	1/30/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	01/30/19 20:34	1/30/19	
Hexachlorobutadiene	ND U	2.0	1	01/30/19 20:34	1/30/19	
Naphthalene	ND U	2.0	1	01/30/19 20:34	1/30/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	01/30/19 20:34	1/30/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	110	73 - 122	01/30/19 20:34	
Toluene-d8	115	65 - 144	01/30/19 20:34	
4-Bromofluorobenzene	109	68 - 117	01/30/19 20:34	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	TRIP BLANK	**Units:**	ug/L
Lab Code:	K1900813-009	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
Chloromethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
Bromomethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
Chloroethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
Trichlorofluoromethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
Acetone	ND U	20	1	01/30/19 14:28	1/30/19	
Carbon Disulfide	ND U	0.50	1	01/30/19 14:28	1/30/19	
Methylene chloride	ND U	2.0	1	01/30/19 14:28	1/30/19	
Methyl tert-Butyl Ether	ND U	0.50	1	01/30/19 14:28	1/30/19	
trans-1,2-Dichloroethene	ND U	0.50	1	01/30/19 14:28	1/30/19	
1,1-Dichloroethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
2,2-Dichloropropane	ND U	0.50	1	01/30/19 14:28	1/30/19	
cis-1,2-Dichloroethene	ND U	0.50	1	01/30/19 14:28	1/30/19	
2-Butanone (MEK)	ND U	20	1	01/30/19 14:28	1/30/19	
Bromochloromethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
Chloroform	ND U	0.50	1	01/30/19 14:28	1/30/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	01/30/19 14:28	1/30/19	
Carbon Tetrachloride	ND U	0.50	1	01/30/19 14:28	1/30/19	
1,1-Dichloropropene	ND U	0.50	1	01/30/19 14:28	1/30/19	
Benzene	ND U	0.50	1	01/30/19 14:28	1/30/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	01/30/19 14:28	1/30/19	
Trichloroethene (TCE)	ND U	0.50	1	01/30/19 14:28	1/30/19	
1,2-Dichloropropane	ND U	0.50	1	01/30/19 14:28	1/30/19	
Dibromomethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
Bromodichloromethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
cis-1,3-Dichloropropene	ND U	0.50	1	01/30/19 14:28	1/30/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	01/30/19 14:28	1/30/19	
Toluene	ND U	0.50	1	01/30/19 14:28	1/30/19	
trans-1,3-Dichloropropene	ND U	0.50	1	01/30/19 14:28	1/30/19	
1,1,2-Trichloroethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
Tetrachloroethene (PCE)	ND U	0.50	1	01/30/19 14:28	1/30/19	
2-Hexanone	ND U	20	1	01/30/19 14:28	1/30/19	
1,3-Dichloropropane	ND U	0.50	1	01/30/19 14:28	1/30/19	
Dibromochloromethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	01/30/19 14:28	1/30/19	
Chlorobenzene	ND U	0.50	1	01/30/19 14:28	1/30/19	
Ethylbenzene	ND U	0.50	1	01/30/19 14:28	1/30/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
m,p-Xylenes	ND U	0.50	1	01/30/19 14:28	1/30/19	
o-Xylene	ND U	0.50	1	01/30/19 14:28	1/30/19	
Styrene	ND U	0.50	1	01/30/19 14:28	1/30/19	
Bromoform	ND U	0.50	1	01/30/19 14:28	1/30/19	
Isopropylbenzene	ND U	2.0	1	01/30/19 14:28	1/30/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	TRIP BLANK	**Units:**	ug/L
Lab Code:	K1900813-009	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	01/30/19 14:28	1/30/19	
Bromobenzene	ND U	2.0	1	01/30/19 14:28	1/30/19	
n-Propylbenzene	ND U	2.0	1	01/30/19 14:28	1/30/19	
1,2,3-Trichloropropane	ND U	0.50	1	01/30/19 14:28	1/30/19	
2-Chlorotoluene	ND U	2.0	1	01/30/19 14:28	1/30/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	01/30/19 14:28	1/30/19	
4-Chlorotoluene	ND U	2.0	1	01/30/19 14:28	1/30/19	
tert-Butylbenzene	ND U	2.0	1	01/30/19 14:28	1/30/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	01/30/19 14:28	1/30/19	
sec-Butylbenzene	ND U	2.0	1	01/30/19 14:28	1/30/19	
4-Isopropyltoluene	ND U	2.0	1	01/30/19 14:28	1/30/19	
1,3-Dichlorobenzene	ND U	0.50	1	01/30/19 14:28	1/30/19	
1,4-Dichlorobenzene	ND U	0.50	1	01/30/19 14:28	1/30/19	
n-Butylbenzene	ND U	2.0	1	01/30/19 14:28	1/30/19	
1,2-Dichlorobenzene	ND U	0.50	1	01/30/19 14:28	1/30/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	01/30/19 14:28	1/30/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	01/30/19 14:28	1/30/19	
Hexachlorobutadiene	ND U	2.0	1	01/30/19 14:28	1/30/19	
Naphthalene	ND U	2.0	1	01/30/19 14:28	1/30/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	01/30/19 14:28	1/30/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	109	73 - 122	01/30/19 14:28	
Toluene-d8	113	65 - 144	01/30/19 14:28	
4-Bromofluorobenzene	104	68 - 117	01/30/19 14:28	

Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 15:10
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-08-3D	**Basis:**	NA
Lab Code:	K1900813-001		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/01/19 11:28	01/30/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/01/19 11:28	01/30/19	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 10:45
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-03-5D	**Basis:**	NA
Lab Code:	K1900813-002		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/01/19 11:38	01/30/19	
Manganese	6010C	**1.6**	ug/L	1.1	1	02/01/19 11:38	01/30/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 09:10
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-01-10DR	**Basis:**	NA
Lab Code:	K1900813-003		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/01/19 11:41	01/30/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/01/19 11:41	01/30/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 09:55
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-02-10SR	**Basis:**	NA
Lab Code:	K1900813-004		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/01/19 11:43	01/30/19	
Manganese	6010C	**1.3**	ug/L	1.1	1	02/01/19 11:43	01/30/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 12:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-06-13D	**Basis:**	NA
Lab Code:	K1900813-005		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/01/19 11:56	01/30/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/01/19 11:56	01/30/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 13:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-07-26D	**Basis:**	NA
Lab Code:	K1900813-006		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/01/19 11:59	01/30/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/01/19 11:59	01/30/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 11:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-04-27D	**Basis:**	NA
Lab Code:	K1900813-007		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	**37**	ug/L	21	1	02/01/19 12:01	01/30/19	
Manganese	6010C	**8.6**	ug/L	1.1	1	02/01/19 12:01	01/30/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 11:45
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-05-DUP1	**Basis:**	NA
Lab Code:	K1900813-008		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/01/19 12:04	01/30/19	
Manganese	6010C	**8.8**	ug/L	1.1	1	02/01/19 12:04	01/30/19	

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 15:10
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-08-3D	**Basis:**	NA
Lab Code:	K1900813-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**5.21**	mg/L	0.20	2	01/29/19 14:07	
Nitrate as Nitrogen	300.0	**5.12**	mg/L	0.10	2	01/29/19 14:07	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 15:10
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-08-3D	**Basis:**	NA
Lab Code:	K1900813-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**153**	mg/L	5.0	1	01/30/19 10:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 10:45
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-03-5D	**Basis:**	NA
Lab Code:	K1900813-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**7.42**	mg/L	0.20	2	01/29/19 14:48	
Nitrate as Nitrogen	300.0	**0.71**	mg/L	0.10	2	01/29/19 14:48	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 10:45
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-03-5D	**Basis:**	NA
Lab Code:	K1900813-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**194**	mg/L	5.0	1	01/30/19 10:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 09:10
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-01-10DR	**Basis:**	NA
Lab Code:	K1900813-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**10.1**	mg/L	0.20	2	01/29/19 14:58	
Nitrate as Nitrogen	300.0	**2.63**	mg/L	0.10	2	01/29/19 14:58	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 09:10
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-01-10DR	**Basis:**	NA
Lab Code:	K1900813-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**209**	mg/L	5.0	1	01/30/19 10:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 09:55
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-02-10SR	**Basis:**	NA
Lab Code:	K1900813-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**2.06**	mg/L	0.20	2	01/29/19 15:08	
Nitrate as Nitrogen	300.0	**9.30**	mg/L	0.10	2	01/29/19 15:08	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 09:55
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-02-10SR	**Basis:**	NA
Lab Code:	K1900813-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**251**	mg/L	5.0	1	01/30/19 10:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 12:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-06-13D	**Basis:**	NA
Lab Code:	K1900813-005		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**4.56**	mg/L	0.20	2	01/29/19 15:18	
Nitrate as Nitrogen	300.0	**4.55**	mg/L	0.10	2	01/29/19 15:18	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 12:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-06-13D	**Basis:**	NA
Lab Code:	K1900813-005		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**166**	mg/L	5.0	1	01/30/19 10:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 13:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-07-26D	**Basis:**	NA
Lab Code:	K1900813-006		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**5.06**	mg/L	0.20	2	01/29/19 15:28	
Nitrate as Nitrogen	300.0	**4.63**	mg/L	0.10	2	01/29/19 15:28	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 13:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-07-26D	**Basis:**	NA
Lab Code:	K1900813-006		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**174**	mg/L	5.0	1	01/30/19 10:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 11:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-04-27D	**Basis:**	NA
Lab Code:	K1900813-007		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**7.62**	mg/L	0.20	2	01/29/19 15:59	
Nitrate as Nitrogen	300.0	**2.31**	mg/L	0.10	2	01/29/19 15:59	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 11:40
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-04-27D	**Basis:**	NA
Lab Code:	K1900813-007		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**194**	mg/L	5.0	1	01/30/19 10:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 11:45
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-05-DUP1	**Basis:**	NA
Lab Code:	K1900813-008		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**7.60**	mg/L	0.20	2	01/29/19 16:09	
Nitrate as Nitrogen	300.0	**2.63**	mg/L	0.10	2	01/29/19 16:09	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19 11:45
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19 11:45
Sample Name:	LB-012819-05-DUP1	**Basis:**	NA
Lab Code:	K1900813-008		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**197**	mg/L	5.0	1	01/30/19 10:10	

QC Summary Forms

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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Volatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: SCS Engineers **Service Request:** K1900813
Project: Leichner
Sample Matrix: Landfill/04219030.13 Ground Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds

Analysis Method: 8260C
Extraction Method: EPA 5030B

Sample Name	Lab Code	4-Bromofluorobenzene 68 - 117	Dibromofluoromethane 73 - 122	Toluene-d8 65 - 144
LB-012819-08-3D	K1900813-001	105	107	115
LB-012819-03-5D	K1900813-002	104	111	115
LB-012819-01-10DR	K1900813-003	106	110	115
LB-012819-02-10SR	K1900813-004	104	110	115
LB-012819-06-13D	K1900813-005	105	109	115
LB-012819-07-26D	K1900813-006	105	109	120
LB-012819-04-27D	K1900813-007	103	107	113
LB-012819-05-DUP1	K1900813-008	109	110	115
TRIP BLANK	K1900813-009	104	109	113
LB-012819-03-5D MS	KWG1900546-1	105	107	120
LB-012819-03-5D DMS	KWG1900546-2	108	111	117
Lab Control Sample	KWG1900546-3	110	109	117
Method Blank	KWG1900546-4	106	108	114

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19
		Date Analyzed:	01/30/19
		Date Extracted:	01/30/19

Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	LB-012819-03-5D	**Units:**	ug/L
Lab Code:	K1900813-002	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030B		

		Matrix Spike KWG1900546-1			**Duplicate Matrix Spike** KWG1900546-2					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloroform	ND U	10.7	10.0	107	10.1	10.0	101	64-133	6	30
Carbon Tetrachloride	ND U	11.4	10.0	114	10.6	10.0	106	53-161	8	30
Benzene	ND U	10.8	10.0	108	10.1	10.0	101	63-144	7	30
Trichloroethene (TCE)	ND U	11.7	10.0	117	10.4	10.0	104	53-139	12	30
Bromodichloromethane	ND U	10.5	10.0	105	9.90	10.0	99	61-134	5	30
Toluene	ND U	10.9	10.0	109	9.91	10.0	99	71-136	10	30
1,1,2-Trichloroethane	ND U	10.4	10.0	104	9.90	10.0	99	74-124	5	30
2-Hexanone	ND U	51.4	50.0	103	51.6	50.0	103	53-132	<1	30
Chlorobenzene	ND U	10.3	10.0	103	9.56	10.0	96	69-126	7	30
Ethylbenzene	ND U	11.2	10.0	112	9.98	10.0	100	66-136	12	30
1,2,3-Trichloropropane	ND U	10.1	10.0	101	9.75	10.0	98	71-127	3	30
2-Chlorotoluene	ND U	10.4	10.0	104	9.60	10.0	96	55-139	8	30
1,2-Dichlorobenzene	ND U	9.77	10.0	98	9.22	10.0	92	72-119	6	30
Naphthalene	ND U	8.86	10.0	89	9.14	10.0	91	52-147	3	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	NA
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1900546-4	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
Chloromethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
Bromomethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
Chloroethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
Trichlorofluoromethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
Acetone	ND U	20	1	01/30/19 13:36	1/30/19	
Carbon Disulfide	ND U	0.50	1	01/30/19 13:36	1/30/19	
Methylene chloride	ND U	2.0	1	01/30/19 13:36	1/30/19	
Methyl tert-Butyl Ether	ND U	0.50	1	01/30/19 13:36	1/30/19	
trans-1,2-Dichloroethene	ND U	0.50	1	01/30/19 13:36	1/30/19	
1,1-Dichloroethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
2,2-Dichloropropane	ND U	0.50	1	01/30/19 13:36	1/30/19	
cis-1,2-Dichloroethene	ND U	0.50	1	01/30/19 13:36	1/30/19	
2-Butanone (MEK)	ND U	20	1	01/30/19 13:36	1/30/19	
Bromochloromethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
Chloroform	ND U	0.50	1	01/30/19 13:36	1/30/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	01/30/19 13:36	1/30/19	
Carbon Tetrachloride	ND U	0.50	1	01/30/19 13:36	1/30/19	
1,1-Dichloropropene	ND U	0.50	1	01/30/19 13:36	1/30/19	
Benzene	ND U	0.50	1	01/30/19 13:36	1/30/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	01/30/19 13:36	1/30/19	
Trichloroethene (TCE)	ND U	0.50	1	01/30/19 13:36	1/30/19	
1,2-Dichloropropane	ND U	0.50	1	01/30/19 13:36	1/30/19	
Dibromomethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
Bromodichloromethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
cis-1,3-Dichloropropene	ND U	0.50	1	01/30/19 13:36	1/30/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	01/30/19 13:36	1/30/19	
Toluene	ND U	0.50	1	01/30/19 13:36	1/30/19	
trans-1,3-Dichloropropene	ND U	0.50	1	01/30/19 13:36	1/30/19	
1,1,2-Trichloroethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
Tetrachloroethene (PCE)	ND U	0.50	1	01/30/19 13:36	1/30/19	
2-Hexanone	ND U	20	1	01/30/19 13:36	1/30/19	
1,3-Dichloropropane	ND U	0.50	1	01/30/19 13:36	1/30/19	
Dibromochloromethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	01/30/19 13:36	1/30/19	
Chlorobenzene	ND U	0.50	1	01/30/19 13:36	1/30/19	
Ethylbenzene	ND U	0.50	1	01/30/19 13:36	1/30/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
m,p-Xylenes	ND U	0.50	1	01/30/19 13:36	1/30/19	
o-Xylene	ND U	0.50	1	01/30/19 13:36	1/30/19	
Styrene	ND U	0.50	1	01/30/19 13:36	1/30/19	
Bromoform	ND U	0.50	1	01/30/19 13:36	1/30/19	
Isopropylbenzene	ND U	2.0	1	01/30/19 13:36	1/30/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	NA
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1900546-4	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	01/30/19 13:36	1/30/19	
Bromobenzene	ND U	2.0	1	01/30/19 13:36	1/30/19	
n-Propylbenzene	ND U	2.0	1	01/30/19 13:36	1/30/19	
1,2,3-Trichloropropane	ND U	0.50	1	01/30/19 13:36	1/30/19	
2-Chlorotoluene	ND U	2.0	1	01/30/19 13:36	1/30/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	01/30/19 13:36	1/30/19	
4-Chlorotoluene	ND U	2.0	1	01/30/19 13:36	1/30/19	
tert-Butylbenzene	ND U	2.0	1	01/30/19 13:36	1/30/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	01/30/19 13:36	1/30/19	
sec-Butylbenzene	ND U	2.0	1	01/30/19 13:36	1/30/19	
4-Isopropyltoluene	ND U	2.0	1	01/30/19 13:36	1/30/19	
1,3-Dichlorobenzene	ND U	0.50	1	01/30/19 13:36	1/30/19	
1,4-Dichlorobenzene	ND U	0.50	1	01/30/19 13:36	1/30/19	
n-Butylbenzene	ND U	2.0	1	01/30/19 13:36	1/30/19	
1,2-Dichlorobenzene	ND U	0.50	1	01/30/19 13:36	1/30/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	01/30/19 13:36	1/30/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	01/30/19 13:36	1/30/19	
Hexachlorobutadiene	ND U	2.0	1	01/30/19 13:36	1/30/19	
Naphthalene	ND U	2.0	1	01/30/19 13:36	1/30/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	01/30/19 13:36	1/30/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	108	73 - 122	01/30/19 13:36	
Toluene-d8	114	65 - 144	01/30/19 13:36	
4-Bromofluorobenzene	106	68 - 117	01/30/19 13:36	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Analyzed:**	01/30/19
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Extracted:**	01/30/19

Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	EPA 5030B	**Basis:**	NA
		Analysis Lot:	KWG1900545

Lab Control Sample
KWG1900546-3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8.95	10.0	90	66-124
1,1,1-Trichloroethane (TCA)	6.74	10.0	67	59-136
1,1,2,2-Tetrachloroethane	9.17	10.0	92	70-127
1,1,2-Trichloroethane	9.55	10.0	96	74-118
1,1-Dichloroethane	8.71	10.0	87	68-132
1,1-Dichloropropene	6.68	10.0	67	59-134
1,2,3-Trichlorobenzene	8.06	10.0	81	68-120
1,2,3-Trichloropropane	8.88	10.0	89	69-123
1,2,4-Trichlorobenzene	8.27	10.0	83	58-126
1,2,4-Trimethylbenzene	8.45	10.0	85	63-122
1,2-Dibromo-3-chloropropane	7.48	10.0	75	55-132
1,2-Dibromoethane (EDB)	9.36	10.0	94	74-118
1,2-Dichlorobenzene	8.89	10.0	89	72-115
1,2-Dichloroethane (EDC)	9.65	10.0	97	56-142
1,2-Dichloropropane	9.25	10.0	93	67-126
1,3,5-Trimethylbenzene	7.85	10.0	79	62-126
1,3-Dichlorobenzene	8.76	10.0	88	70-116
1,3-Dichloropropane	9.58	10.0	96	75-116
1,4-Dichlorobenzene	8.72	10.0	87	73-115
2,2-Dichloropropane	7.28	10.0	73	37-145
2-Butanone (MEK)	48.3	50.0	97	71-149
2-Chlorotoluene	8.17	10.0	82	55-131
2-Hexanone	46.5	50.0	93	59-131
4-Chlorotoluene	8.51	10.0	85	66-121
4-Isopropyltoluene	7.80	10.0	78	61-128
4-Methyl-2-pentanone (MIBK)	46.4	50.0	93	64-134
Acetone	49.5	50.0	99	68-135
Benzene	8.24	10.0	82	69-124
Bromobenzene	9.14	10.0	91	72-116
Bromochloromethane	9.90	10.0	99	75-131
Bromodichloromethane	9.31	10.0	93	63-129
Bromoform	9.41	10.0	94	52-144
Bromomethane	5.94	10.0	59	35-113
Carbon Disulfide	12.7	20.0	63	46-144
Carbon Tetrachloride	6.51	10.0	65	55-140
Chlorobenzene	8.68	10.0	87	72-116
Chloroethane	7.47	10.0	75	58-134
Chloroform	8.73	10.0	87	70-129
Chloromethane	8.50	10.0	85	34-130
cis-1,2-Dichloroethene	8.74	10.0	87	71-118
cis-1,3-Dichloropropene	9.40	10.0	94	62-132

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Analyzed:**	01/30/19
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Extracted:**	01/30/19

Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	EPA 5030B	**Basis:**	NA
		Analysis Lot:	KWG1900545

Lab Control Sample
KWG1900546-3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Dibromochloromethane	9.24	10.0	92	67-126
Dibromomethane	9.27	10.0	93	69-128
Dichlorodifluoromethane	5.45	10.0	55	32-124
Ethylbenzene	7.79	10.0	78	67-121
Hexachlorobutadiene	7.38	10.0	74	57-119
Isopropylbenzene	7.58	10.0	76	67-129
m,p-Xylenes	15.8	20.0	79	69-121
Methyl tert-Butyl Ether	10.2	10.0	102	54-126
Methylene chloride	9.24	10.0	92	71-122
Naphthalene	7.94	10.0	79	64-126
n-Butylbenzene	7.57	10.0	76	55-130
n-Propylbenzene	7.48	10.0	75	61-124
o-Xylene	8.43	10.0	84	71-119
sec-Butylbenzene	7.36	10.0	74	59-128
Styrene	9.02	10.0	90	74-121
tert-Butylbenzene	7.40	10.0	74	61-127
Tetrachloroethene (PCE)	6.90	10.0	69	62-126
Toluene	7.98	10.0	80	69-124
trans-1,2-Dichloroethene	7.89	10.0	79	67-125
trans-1,3-Dichloropropene	9.20	10.0	92	59-125
Trichloroethene (TCE)	7.44	10.0	74	67-128
Trichlorofluoromethane	5.25	10.0	53	52-141

Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	NA
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	KQ1901245-02		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/01/19 11:23	01/30/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/01/19 11:23	01/30/19	

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19
		Date Analyzed:	02/1/19
		Date Extracted:	01/30/19

Matrix Spike Summary
Dissolved Metals

Sample Name:	LB-012819-08-3D	**Units:**	ug/L
Lab Code:	K1900813-001	**Basis:**	NA
Analysis Method:	6010C		
Prep Method:	EPA CLP ILM04.0		

Matrix Spike
KQ1901245-04

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Iron	ND U	893	1000	89	75-125
Manganese	ND U	435	500	87	75-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project	Leichner	**Date Collected:**	01/28/19
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19
		Date Analyzed:	02/01/19

Replicate Sample Summary

Dissolved Metals

Sample Name:	LB-012819-08-3D	**Units:**	ug/L
Lab Code:	K1900813-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample KQ1901245-03 Result	Average	RPD	RPD Limit
Iron	6010C	21	ND U	ND U	ND	-	20
Manganese	6010C	1.1	ND U	ND U	ND	-	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: SCS Engineers
Project: Leichner
Sample Matrix: Landfill/04219030.13 Ground Water

Service Request: K1900813
Date Analyzed: 02/01/19

Lab Control Sample Summary
Dissolved Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ1901245-01

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron	6010C	2230	2500	89	80-120
Manganese	6010C	1080	1250	86	80-120

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	NA
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1900813-MB1		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	1	01/29/19 16:49	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.050	1	01/29/19 16:49	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	NA
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1900813-MB1		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	01/30/19 10:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	NA
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1900813-MB2		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	01/30/19 10:10	

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QA/QC Report

Client:	SCS Engineers	**Service Request:**	K1900813
Project:	Leichner	**Date Collected:**	01/28/19
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19
		Date Analyzed:	1/29/19

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name:	LB-012819-08-3D	**Units:**	mg/L
Lab Code:	K1900813-001	**Basis:**	NA

			Matrix Spike				Duplicate Matrix Spike				
			K1900813-001MS				K1900813-001DMS				
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloride	300.0	5.21	12.9	8.00	96	12.9	8.00	96	90-110	<1	20
Nitrate as Nitrogen	300.0	5.12	13.0	8.00	99	13.0	8.00	99	90-110	<1	20

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Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	SCS Engineers	**Service Request:**	K1900813
Project	Leichner	**Date Collected:**	01/28/19
Sample Matrix:	Landfill/04219030.13 Ground Water	**Date Received:**	01/29/19
		Date Analyzed:	01/29/19

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	LB-012819-08-3D	**Units:**	mg/L
Lab Code:	K1900813-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample K1900813-001DUP Result	Average	RPD	RPD Limit
Chloride	300.0	0.20	5.21	5.18	5.20	<1	20
Nitrate as Nitrogen	300.0	0.10	5.12	5.07	5.09	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client: SCS Engineers
Project: Leichner
Sample Matrix: Landfill/04219030.13 Ground Water

Service Request: K1900813
Date Analyzed: 01/29/19 - 01/30/19

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
K1900813-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.80	5.00	96	90-110
Nitrate as Nitrogen	300.0	2.39	2.50	95	90-110
Solids, Total Dissolved	SM 2540 C	503	523	96	85-115

February 15, 2019 Service Request No:K1900836

David Lamadrid
SCS Engineers
15940 SW 72nd Ave
Portland, OR 97224

Laboratory Results for: Leichner Landfill

Dear David,

Enclosed are the results of the sample(s) submitted to our laboratory January 30, 2019
For your reference, these analyses have been assigned our service request number **K1900836.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: SCS Engineers
Project: Leichner Landfill
Sample Matrix: Ground Water

Service Request: K1900836
Date Received: 01/30/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), Laboratory Control Sample (LCS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt:

Ten ground water samples were received for analysis at ALS Environmental on 01/30/2019. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

EPA 8260, 2/8/19: The following analyte was flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS46\0208F005.D: 1,2-Dibromo-3-chloropropane and Naphthalene. In accordance with the EPA Method, 80% or more of the CCV analytes must pass within 20% of the true value. The ALS SOP allows for 40% difference for the remaining analytes. The CCV met these criteria. The quality of the sample data was not significantly affected. No further corrective action was required.

Approved by  Date 02/15/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-012919-02-1D			Lab ID: K1900836-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	118			5.0	mg/L	SM 2540 C
Chloride	6.43			0.20	mg/L	300.0
Nitrate as Nitrogen	5.86			0.10	mg/L	300.0

CLIENT ID: LB-012919-03-1S			Lab ID: K1900836-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	145			5.0	mg/L	SM 2540 C
Chloride	10.2			0.20	mg/L	300.0
Nitrate as Nitrogen	5.31			0.10	mg/L	300.0

CLIENT ID: LB-012919-04-FB1			Lab ID: K1900836-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	8.0			5.0	mg/L	SM 2540 C

CLIENT ID: LB-012919-06-5S			Lab ID: K1900836-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	95.5			5.0	mg/L	SM 2540 C
Chloride	3.33			0.20	mg/L	300.0
Nitrate as Nitrogen	3.74			0.10	mg/L	300.0

CLIENT ID: LB-012919-08-6S			Lab ID: K1900836-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	89.5			5.0	mg/L	SM 2540 C
Chloride	3.95			0.20	mg/L	300.0
Nitrate as Nitrogen	1.29			0.10	mg/L	300.0

CLIENT ID: LB-012919-09-DUP2			Lab ID: K1900836-006			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	94.3			5.0	mg/L	SM 2540 C
Chloride	3.92			0.20	mg/L	300.0
Nitrate as Nitrogen	1.28			0.10	mg/L	300.0

CLIENT ID: LB-012919-01-17D			Lab ID: K1900836-007			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	152			5.0	mg/L	SM 2540 C
Chloride	9.49			0.20	mg/L	300.0
Iron, Dissolved	110			21	ug/L	6010C
Manganese, Dissolved	4100			1.1	ug/L	6010C

CLIENT ID: LB-012919-07-17I			Lab ID: K1900836-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	148			5.0	mg/L	SM 2540 C
Chloride	10.1			0.20	mg/L	300.0
Iron, Dissolved	7940			21	ug/L	6010C
Manganese, Dissolved	1340			1.1	ug/L	6010C

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-012919-07-17I			Lab ID: K1900836-008			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**

CLIENT ID: LB-012919-05-20S			Lab ID: K1900836-009			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	152			5.0	mg/L	SM 2540 C
Chloride	3.39			0.20	mg/L	300.0
Iron, Dissolved	154			21	ug/L	6010C
Manganese, Dissolved	1060			1.1	ug/L	6010C

Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: SCS Engineers **Service Request:**K1900836
Project: Leichner Landfill/04219030.13

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1900836-001	LB-012919-02-1D	1/29/2019	1010
K1900836-002	LB-012919-03-1S	1/29/2019	1055
K1900836-003	LB-012919-04-FB1	1/29/2019	1005
K1900836-004	LB-012919-06-5S	1/29/2019	1310
K1900836-005	LB-012919-08-6S	1/29/2019	1500
K1900836-006	LB-012919-09-DUP2	1/29/2019	1505
K1900836-007	LB-012919-01-17D	1/29/2019	0910
K1900836-008	LB-012919-07-17I	1/29/2019	1410
K1900836-009	LB-012919-05-20S	1/29/2019	1200

CHAIN OF CUSTODY

SR# K1900836

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE 1 OF 1 COC#

PROJECT NAME: Leichner Landfill
PROJECT NUMBER: 042190030.13
PROJECT MANAGER: David Lamadrid
COMPANY NAME: SCS Engineers
ADDRESS: 15940 SW 72nd Ave
CITY/STATE/ZIP: Portland, OR 97224
E-MAIL ADDRESS: DLamadrid@scsengineers.com
PHONE #: 503-639-9736 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☐ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases RSK 175☐ CO_2☐ Methane☐ Ethane☐ Ethene☐	REMARKS
LB-012919-02-1D	1/29/19	1010		W	5		X						X	X							
LB-012919-03-1S	1/29/19	1055		W	5		X						X	X							
LB-012919-04-FB1	1/29/19	1005		W	5		X						X	X							
LB-012919-06-5S	1/29/19	1310		W	5		X						X	X							
LB-012919-08-6S	1/29/19	1500		W	5		X						X	X							
LB-012919-09-DUP2	1/29/19	1505		W	5		X						X	X							
LB-012919-01-17D	1/29/19	0910		W	5		X						X	X							
LB-012919-07-17I	1/29/19	1410		W	5		X						X	X							
LB-012919-05-20S	1/29/19	1200		W	5		X						X	X							
Trip Blank	—	—		W	2		X														

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 day
___ Standard (15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu (Fe) Pb Mg (Mn) Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

CC: Tiffany Andrews
Tandrews@scsengineers.com
Metals are field filtered

Container Supply Number

96317

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Date/Time: 1/30/19	Date/Time: 1/30/19 0855	Date/Time: 1/30/19 1015	Date/Time: 1-30-19 1015
Printed Name: E Fadely	Printed Name:	Printed Name:	Printed Name:
Firm: SCS	Firm: HW	Firm: HW	Firm: ALSK

PC HH

Cooler Receipt and Preservation Form

Client SCS ENGINEERS Service Request K19 00836

Received: 1-30-19 Opened: 1-30-19 By: JSP Unloaded: 1-30-19 By: JSP

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 TOP FRONT
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected. Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number (NA)	Filed
6.0	5.9	NA	NA	-0.1	362	96317		

4. Packing material: *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA (Y) N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

SHORT HOLD TIME

Miscellaneous Forms

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Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Sample Results

ALS Environmental—Kelso Laboratory
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Volatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-02-1D	**Units:**	ug/L
Lab Code:	K1900836-001	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
Chloromethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
Bromomethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
Chloroethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
Trichlorofluoromethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
Acetone	ND U	20	1	02/08/19 16:36	2/8/19	
Carbon Disulfide	ND U	0.50	1	02/08/19 16:36	2/8/19	
Methylene chloride	ND U	2.0	1	02/08/19 16:36	2/8/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/08/19 16:36	2/8/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/08/19 16:36	2/8/19	
1,1-Dichloroethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
2,2-Dichloropropane	ND U	0.50	1	02/08/19 16:36	2/8/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/08/19 16:36	2/8/19	
2-Butanone (MEK)	ND U	20	1	02/08/19 16:36	2/8/19	
Bromochloromethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
Chloroform	ND U	0.50	1	02/08/19 16:36	2/8/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/08/19 16:36	2/8/19	
Carbon Tetrachloride	ND U	0.50	1	02/08/19 16:36	2/8/19	
1,1-Dichloropropene	ND U	0.50	1	02/08/19 16:36	2/8/19	
Benzene	ND U	0.50	1	02/08/19 16:36	2/8/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/08/19 16:36	2/8/19	
Trichloroethene (TCE)	ND U	0.50	1	02/08/19 16:36	2/8/19	
1,2-Dichloropropane	ND U	0.50	1	02/08/19 16:36	2/8/19	
Dibromomethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
Bromodichloromethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/08/19 16:36	2/8/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/08/19 16:36	2/8/19	
Toluene	ND U	0.50	1	02/08/19 16:36	2/8/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/08/19 16:36	2/8/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/08/19 16:36	2/8/19	
2-Hexanone	ND U	20	1	02/08/19 16:36	2/8/19	
1,3-Dichloropropane	ND U	0.50	1	02/08/19 16:36	2/8/19	
Dibromochloromethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/08/19 16:36	2/8/19	
Chlorobenzene	ND U	0.50	1	02/08/19 16:36	2/8/19	
Ethylbenzene	ND U	0.50	1	02/08/19 16:36	2/8/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
m,p-Xylenes	ND U	0.50	1	02/08/19 16:36	2/8/19	
o-Xylene	ND U	0.50	1	02/08/19 16:36	2/8/19	
Styrene	ND U	0.50	1	02/08/19 16:36	2/8/19	
Bromoform	ND U	0.50	1	02/08/19 16:36	2/8/19	
Isopropylbenzene	ND U	2.0	1	02/08/19 16:36	2/8/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-02-1D	**Units:**	ug/L
Lab Code:	K1900836-001	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/08/19 16:36	2/8/19	
Bromobenzene	ND U	2.0	1	02/08/19 16:36	2/8/19	
n-Propylbenzene	ND U	2.0	1	02/08/19 16:36	2/8/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/08/19 16:36	2/8/19	
2-Chlorotoluene	ND U	2.0	1	02/08/19 16:36	2/8/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/08/19 16:36	2/8/19	
4-Chlorotoluene	ND U	2.0	1	02/08/19 16:36	2/8/19	
tert-Butylbenzene	ND U	2.0	1	02/08/19 16:36	2/8/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/08/19 16:36	2/8/19	
sec-Butylbenzene	ND U	2.0	1	02/08/19 16:36	2/8/19	
4-Isopropyltoluene	ND U	2.0	1	02/08/19 16:36	2/8/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/08/19 16:36	2/8/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/08/19 16:36	2/8/19	
n-Butylbenzene	ND U	2.0	1	02/08/19 16:36	2/8/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/08/19 16:36	2/8/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/08/19 16:36	2/8/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/08/19 16:36	2/8/19	
Hexachlorobutadiene	ND U	2.0	1	02/08/19 16:36	2/8/19	
Naphthalene	ND U	2.0	1	02/08/19 16:36	2/8/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/08/19 16:36	2/8/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	109	73 - 122	02/08/19 16:36	
Toluene-d8	114	65 - 144	02/08/19 16:36	
4-Bromofluorobenzene	103	68 - 117	02/08/19 16:36	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:55
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-03-1S	**Units:**	ug/L
Lab Code:	K1900836-002	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
Chloromethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
Bromomethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
Chloroethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
Trichlorofluoromethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
Acetone	ND U	20	1	02/08/19 17:02	2/8/19	
Carbon Disulfide	ND U	0.50	1	02/08/19 17:02	2/8/19	
Methylene chloride	ND U	2.0	1	02/08/19 17:02	2/8/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/08/19 17:02	2/8/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/08/19 17:02	2/8/19	
1,1-Dichloroethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
2,2-Dichloropropane	ND U	0.50	1	02/08/19 17:02	2/8/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/08/19 17:02	2/8/19	
2-Butanone (MEK)	ND U	20	1	02/08/19 17:02	2/8/19	
Bromochloromethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
Chloroform	ND U	0.50	1	02/08/19 17:02	2/8/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/08/19 17:02	2/8/19	
Carbon Tetrachloride	ND U	0.50	1	02/08/19 17:02	2/8/19	
1,1-Dichloropropene	ND U	0.50	1	02/08/19 17:02	2/8/19	
Benzene	ND U	0.50	1	02/08/19 17:02	2/8/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/08/19 17:02	2/8/19	
Trichloroethene (TCE)	ND U	0.50	1	02/08/19 17:02	2/8/19	
1,2-Dichloropropane	ND U	0.50	1	02/08/19 17:02	2/8/19	
Dibromomethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
Bromodichloromethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/08/19 17:02	2/8/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/08/19 17:02	2/8/19	
Toluene	ND U	0.50	1	02/08/19 17:02	2/8/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/08/19 17:02	2/8/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/08/19 17:02	2/8/19	
2-Hexanone	ND U	20	1	02/08/19 17:02	2/8/19	
1,3-Dichloropropane	ND U	0.50	1	02/08/19 17:02	2/8/19	
Dibromochloromethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/08/19 17:02	2/8/19	
Chlorobenzene	ND U	0.50	1	02/08/19 17:02	2/8/19	
Ethylbenzene	ND U	0.50	1	02/08/19 17:02	2/8/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
m,p-Xylenes	ND U	0.50	1	02/08/19 17:02	2/8/19	
o-Xylene	ND U	0.50	1	02/08/19 17:02	2/8/19	
Styrene	ND U	0.50	1	02/08/19 17:02	2/8/19	
Bromoform	ND U	0.50	1	02/08/19 17:02	2/8/19	
Isopropylbenzene	ND U	2.0	1	02/08/19 17:02	2/8/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:55
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-03-1S	**Units:**	ug/L
Lab Code:	K1900836-002	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/08/19 17:02	2/8/19	
Bromobenzene	ND U	2.0	1	02/08/19 17:02	2/8/19	
n-Propylbenzene	ND U	2.0	1	02/08/19 17:02	2/8/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/08/19 17:02	2/8/19	
2-Chlorotoluene	ND U	2.0	1	02/08/19 17:02	2/8/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/08/19 17:02	2/8/19	
4-Chlorotoluene	ND U	2.0	1	02/08/19 17:02	2/8/19	
tert-Butylbenzene	ND U	2.0	1	02/08/19 17:02	2/8/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/08/19 17:02	2/8/19	
sec-Butylbenzene	ND U	2.0	1	02/08/19 17:02	2/8/19	
4-Isopropyltoluene	ND U	2.0	1	02/08/19 17:02	2/8/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/08/19 17:02	2/8/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/08/19 17:02	2/8/19	
n-Butylbenzene	ND U	2.0	1	02/08/19 17:02	2/8/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/08/19 17:02	2/8/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/08/19 17:02	2/8/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/08/19 17:02	2/8/19	
Hexachlorobutadiene	ND U	2.0	1	02/08/19 17:02	2/8/19	
Naphthalene	ND U	2.0	1	02/08/19 17:02	2/8/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/08/19 17:02	2/8/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	108	73 - 122	02/08/19 17:02	
Toluene-d8	115	65 - 144	02/08/19 17:02	
4-Bromofluorobenzene	105	68 - 117	02/08/19 17:02	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:05
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-04-FB1	**Units:**	ug/L
Lab Code:	K1900836-003	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
Chloromethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
Bromomethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
Chloroethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
Trichlorofluoromethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
Acetone	ND U	20	1	02/08/19 17:28	2/8/19	
Carbon Disulfide	ND U	0.50	1	02/08/19 17:28	2/8/19	
Methylene chloride	ND U	2.0	1	02/08/19 17:28	2/8/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/08/19 17:28	2/8/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/08/19 17:28	2/8/19	
1,1-Dichloroethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
2,2-Dichloropropane	ND U	0.50	1	02/08/19 17:28	2/8/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/08/19 17:28	2/8/19	
2-Butanone (MEK)	ND U	20	1	02/08/19 17:28	2/8/19	
Bromochloromethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
Chloroform	ND U	0.50	1	02/08/19 17:28	2/8/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/08/19 17:28	2/8/19	
Carbon Tetrachloride	ND U	0.50	1	02/08/19 17:28	2/8/19	
1,1-Dichloropropene	ND U	0.50	1	02/08/19 17:28	2/8/19	
Benzene	ND U	0.50	1	02/08/19 17:28	2/8/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/08/19 17:28	2/8/19	
Trichloroethene (TCE)	ND U	0.50	1	02/08/19 17:28	2/8/19	
1,2-Dichloropropane	ND U	0.50	1	02/08/19 17:28	2/8/19	
Dibromomethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
Bromodichloromethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/08/19 17:28	2/8/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/08/19 17:28	2/8/19	
Toluene	ND U	0.50	1	02/08/19 17:28	2/8/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/08/19 17:28	2/8/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/08/19 17:28	2/8/19	
2-Hexanone	ND U	20	1	02/08/19 17:28	2/8/19	
1,3-Dichloropropane	ND U	0.50	1	02/08/19 17:28	2/8/19	
Dibromochloromethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/08/19 17:28	2/8/19	
Chlorobenzene	ND U	0.50	1	02/08/19 17:28	2/8/19	
Ethylbenzene	ND U	0.50	1	02/08/19 17:28	2/8/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
m,p-Xylenes	ND U	0.50	1	02/08/19 17:28	2/8/19	
o-Xylene	ND U	0.50	1	02/08/19 17:28	2/8/19	
Styrene	ND U	0.50	1	02/08/19 17:28	2/8/19	
Bromoform	ND U	0.50	1	02/08/19 17:28	2/8/19	
Isopropylbenzene	ND U	2.0	1	02/08/19 17:28	2/8/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:05
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-04-FB1	**Units:**	ug/L
Lab Code:	K1900836-003	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/08/19 17:28	2/8/19	
Bromobenzene	ND U	2.0	1	02/08/19 17:28	2/8/19	
n-Propylbenzene	ND U	2.0	1	02/08/19 17:28	2/8/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/08/19 17:28	2/8/19	
2-Chlorotoluene	ND U	2.0	1	02/08/19 17:28	2/8/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/08/19 17:28	2/8/19	
4-Chlorotoluene	ND U	2.0	1	02/08/19 17:28	2/8/19	
tert-Butylbenzene	ND U	2.0	1	02/08/19 17:28	2/8/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/08/19 17:28	2/8/19	
sec-Butylbenzene	ND U	2.0	1	02/08/19 17:28	2/8/19	
4-Isopropyltoluene	ND U	2.0	1	02/08/19 17:28	2/8/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/08/19 17:28	2/8/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/08/19 17:28	2/8/19	
n-Butylbenzene	ND U	2.0	1	02/08/19 17:28	2/8/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/08/19 17:28	2/8/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/08/19 17:28	2/8/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/08/19 17:28	2/8/19	
Hexachlorobutadiene	ND U	2.0	1	02/08/19 17:28	2/8/19	
Naphthalene	ND U	2.0	1	02/08/19 17:28	2/8/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/08/19 17:28	2/8/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	108	73 - 122	02/08/19 17:28	
Toluene-d8	113	65 - 144	02/08/19 17:28	
4-Bromofluorobenzene	107	68 - 117	02/08/19 17:28	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 13:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-06-5S	**Units:**	ug/L
Lab Code:	K1900836-004	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
Chloromethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
Bromomethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
Chloroethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
Trichlorofluoromethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
Acetone	ND U	20	1	02/08/19 17:55	2/8/19	
Carbon Disulfide	ND U	0.50	1	02/08/19 17:55	2/8/19	
Methylene chloride	ND U	2.0	1	02/08/19 17:55	2/8/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/08/19 17:55	2/8/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/08/19 17:55	2/8/19	
1,1-Dichloroethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
2,2-Dichloropropane	ND U	0.50	1	02/08/19 17:55	2/8/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/08/19 17:55	2/8/19	
2-Butanone (MEK)	ND U	20	1	02/08/19 17:55	2/8/19	
Bromochloromethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
Chloroform	ND U	0.50	1	02/08/19 17:55	2/8/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/08/19 17:55	2/8/19	
Carbon Tetrachloride	ND U	0.50	1	02/08/19 17:55	2/8/19	
1,1-Dichloropropene	ND U	0.50	1	02/08/19 17:55	2/8/19	
Benzene	ND U	0.50	1	02/08/19 17:55	2/8/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/08/19 17:55	2/8/19	
Trichloroethene (TCE)	ND U	0.50	1	02/08/19 17:55	2/8/19	
1,2-Dichloropropane	ND U	0.50	1	02/08/19 17:55	2/8/19	
Dibromomethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
Bromodichloromethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/08/19 17:55	2/8/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/08/19 17:55	2/8/19	
Toluene	ND U	0.50	1	02/08/19 17:55	2/8/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/08/19 17:55	2/8/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/08/19 17:55	2/8/19	
2-Hexanone	ND U	20	1	02/08/19 17:55	2/8/19	
1,3-Dichloropropane	ND U	0.50	1	02/08/19 17:55	2/8/19	
Dibromochloromethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/08/19 17:55	2/8/19	
Chlorobenzene	ND U	0.50	1	02/08/19 17:55	2/8/19	
Ethylbenzene	ND U	0.50	1	02/08/19 17:55	2/8/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
m,p-Xylenes	ND U	0.50	1	02/08/19 17:55	2/8/19	
o-Xylene	ND U	0.50	1	02/08/19 17:55	2/8/19	
Styrene	ND U	0.50	1	02/08/19 17:55	2/8/19	
Bromoform	ND U	0.50	1	02/08/19 17:55	2/8/19	
Isopropylbenzene	ND U	2.0	1	02/08/19 17:55	2/8/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 13:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-06-5S	**Units:**	ug/L
Lab Code:	K1900836-004	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/08/19 17:55	2/8/19	
Bromobenzene	ND U	2.0	1	02/08/19 17:55	2/8/19	
n-Propylbenzene	ND U	2.0	1	02/08/19 17:55	2/8/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/08/19 17:55	2/8/19	
2-Chlorotoluene	ND U	2.0	1	02/08/19 17:55	2/8/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/08/19 17:55	2/8/19	
4-Chlorotoluene	ND U	2.0	1	02/08/19 17:55	2/8/19	
tert-Butylbenzene	ND U	2.0	1	02/08/19 17:55	2/8/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/08/19 17:55	2/8/19	
sec-Butylbenzene	ND U	2.0	1	02/08/19 17:55	2/8/19	
4-Isopropyltoluene	ND U	2.0	1	02/08/19 17:55	2/8/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/08/19 17:55	2/8/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/08/19 17:55	2/8/19	
n-Butylbenzene	ND U	2.0	1	02/08/19 17:55	2/8/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/08/19 17:55	2/8/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/08/19 17:55	2/8/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/08/19 17:55	2/8/19	
Hexachlorobutadiene	ND U	2.0	1	02/08/19 17:55	2/8/19	
Naphthalene	ND U	2.0	1	02/08/19 17:55	2/8/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/08/19 17:55	2/8/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	110	73 - 122	02/08/19 17:55	
Toluene-d8	116	65 - 144	02/08/19 17:55	
4-Bromofluorobenzene	104	68 - 117	02/08/19 17:55	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 15:00
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-08-6S	**Units:**	ug/L
Lab Code:	K1900836-005	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
Chloromethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
Bromomethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
Chloroethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
Trichlorofluoromethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
Acetone	ND U	20	1	02/08/19 18:21	2/8/19	
Carbon Disulfide	ND U	0.50	1	02/08/19 18:21	2/8/19	
Methylene chloride	ND U	2.0	1	02/08/19 18:21	2/8/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/08/19 18:21	2/8/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/08/19 18:21	2/8/19	
1,1-Dichloroethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
2,2-Dichloropropane	ND U	0.50	1	02/08/19 18:21	2/8/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/08/19 18:21	2/8/19	
2-Butanone (MEK)	ND U	20	1	02/08/19 18:21	2/8/19	
Bromochloromethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
Chloroform	ND U	0.50	1	02/08/19 18:21	2/8/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/08/19 18:21	2/8/19	
Carbon Tetrachloride	ND U	0.50	1	02/08/19 18:21	2/8/19	
1,1-Dichloropropene	ND U	0.50	1	02/08/19 18:21	2/8/19	
Benzene	ND U	0.50	1	02/08/19 18:21	2/8/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/08/19 18:21	2/8/19	
Trichloroethene (TCE)	ND U	0.50	1	02/08/19 18:21	2/8/19	
1,2-Dichloropropane	ND U	0.50	1	02/08/19 18:21	2/8/19	
Dibromomethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
Bromodichloromethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/08/19 18:21	2/8/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/08/19 18:21	2/8/19	
Toluene	ND U	0.50	1	02/08/19 18:21	2/8/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/08/19 18:21	2/8/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/08/19 18:21	2/8/19	
2-Hexanone	ND U	20	1	02/08/19 18:21	2/8/19	
1,3-Dichloropropane	ND U	0.50	1	02/08/19 18:21	2/8/19	
Dibromochloromethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/08/19 18:21	2/8/19	
Chlorobenzene	ND U	0.50	1	02/08/19 18:21	2/8/19	
Ethylbenzene	ND U	0.50	1	02/08/19 18:21	2/8/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
m,p-Xylenes	ND U	0.50	1	02/08/19 18:21	2/8/19	
o-Xylene	ND U	0.50	1	02/08/19 18:21	2/8/19	
Styrene	ND U	0.50	1	02/08/19 18:21	2/8/19	
Bromoform	ND U	0.50	1	02/08/19 18:21	2/8/19	
Isopropylbenzene	ND U	2.0	1	02/08/19 18:21	2/8/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 15:00
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-08-6S	**Units:**	ug/L
Lab Code:	K1900836-005	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/08/19 18:21	2/8/19	
Bromobenzene	ND U	2.0	1	02/08/19 18:21	2/8/19	
n-Propylbenzene	ND U	2.0	1	02/08/19 18:21	2/8/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/08/19 18:21	2/8/19	
2-Chlorotoluene	ND U	2.0	1	02/08/19 18:21	2/8/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/08/19 18:21	2/8/19	
4-Chlorotoluene	ND U	2.0	1	02/08/19 18:21	2/8/19	
tert-Butylbenzene	ND U	2.0	1	02/08/19 18:21	2/8/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/08/19 18:21	2/8/19	
sec-Butylbenzene	ND U	2.0	1	02/08/19 18:21	2/8/19	
4-Isopropyltoluene	ND U	2.0	1	02/08/19 18:21	2/8/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/08/19 18:21	2/8/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/08/19 18:21	2/8/19	
n-Butylbenzene	ND U	2.0	1	02/08/19 18:21	2/8/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/08/19 18:21	2/8/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/08/19 18:21	2/8/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/08/19 18:21	2/8/19	
Hexachlorobutadiene	ND U	2.0	1	02/08/19 18:21	2/8/19	
Naphthalene	ND U	2.0	1	02/08/19 18:21	2/8/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/08/19 18:21	2/8/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	109	73 - 122	02/08/19 18:21	
Toluene-d8	114	65 - 144	02/08/19 18:21	
4-Bromofluorobenzene	103	68 - 117	02/08/19 18:21	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 15:05
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-09-DUP2	**Units:**	ug/L
Lab Code:	K1900836-006	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
Chloromethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
Bromomethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
Chloroethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
Trichlorofluoromethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
Acetone	ND U	20	1	02/08/19 18:47	2/8/19	
Carbon Disulfide	ND U	0.50	1	02/08/19 18:47	2/8/19	
Methylene chloride	ND U	2.0	1	02/08/19 18:47	2/8/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/08/19 18:47	2/8/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/08/19 18:47	2/8/19	
1,1-Dichloroethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
2,2-Dichloropropane	ND U	0.50	1	02/08/19 18:47	2/8/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/08/19 18:47	2/8/19	
2-Butanone (MEK)	ND U	20	1	02/08/19 18:47	2/8/19	
Bromochloromethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
Chloroform	ND U	0.50	1	02/08/19 18:47	2/8/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/08/19 18:47	2/8/19	
Carbon Tetrachloride	ND U	0.50	1	02/08/19 18:47	2/8/19	
1,1-Dichloropropene	ND U	0.50	1	02/08/19 18:47	2/8/19	
Benzene	ND U	0.50	1	02/08/19 18:47	2/8/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/08/19 18:47	2/8/19	
Trichloroethene (TCE)	ND U	0.50	1	02/08/19 18:47	2/8/19	
1,2-Dichloropropane	ND U	0.50	1	02/08/19 18:47	2/8/19	
Dibromomethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
Bromodichloromethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/08/19 18:47	2/8/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/08/19 18:47	2/8/19	
Toluene	ND U	0.50	1	02/08/19 18:47	2/8/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/08/19 18:47	2/8/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/08/19 18:47	2/8/19	
2-Hexanone	ND U	20	1	02/08/19 18:47	2/8/19	
1,3-Dichloropropane	ND U	0.50	1	02/08/19 18:47	2/8/19	
Dibromochloromethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/08/19 18:47	2/8/19	
Chlorobenzene	ND U	0.50	1	02/08/19 18:47	2/8/19	
Ethylbenzene	ND U	0.50	1	02/08/19 18:47	2/8/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
m,p-Xylenes	ND U	0.50	1	02/08/19 18:47	2/8/19	
o-Xylene	ND U	0.50	1	02/08/19 18:47	2/8/19	
Styrene	ND U	0.50	1	02/08/19 18:47	2/8/19	
Bromoform	ND U	0.50	1	02/08/19 18:47	2/8/19	
Isopropylbenzene	ND U	2.0	1	02/08/19 18:47	2/8/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 15:05
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-09-DUP2	**Units:**	ug/L
Lab Code:	K1900836-006	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/08/19 18:47	2/8/19	
Bromobenzene	ND U	2.0	1	02/08/19 18:47	2/8/19	
n-Propylbenzene	ND U	2.0	1	02/08/19 18:47	2/8/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/08/19 18:47	2/8/19	
2-Chlorotoluene	ND U	2.0	1	02/08/19 18:47	2/8/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/08/19 18:47	2/8/19	
4-Chlorotoluene	ND U	2.0	1	02/08/19 18:47	2/8/19	
tert-Butylbenzene	ND U	2.0	1	02/08/19 18:47	2/8/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/08/19 18:47	2/8/19	
sec-Butylbenzene	ND U	2.0	1	02/08/19 18:47	2/8/19	
4-Isopropyltoluene	ND U	2.0	1	02/08/19 18:47	2/8/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/08/19 18:47	2/8/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/08/19 18:47	2/8/19	
n-Butylbenzene	ND U	2.0	1	02/08/19 18:47	2/8/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/08/19 18:47	2/8/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/08/19 18:47	2/8/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/08/19 18:47	2/8/19	
Hexachlorobutadiene	ND U	2.0	1	02/08/19 18:47	2/8/19	
Naphthalene	ND U	2.0	1	02/08/19 18:47	2/8/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/08/19 18:47	2/8/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	108	73 - 122	02/08/19 18:47	
Toluene-d8	115	65 - 144	02/08/19 18:47	
4-Bromofluorobenzene	103	68 - 117	02/08/19 18:47	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 09:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-01-17D	**Units:**	ug/L
Lab Code:	K1900836-007	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
Chloromethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
Bromomethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
Chloroethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
Trichlorofluoromethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
Acetone	ND U	20	1	02/08/19 19:13	2/8/19	
Carbon Disulfide	ND U	0.50	1	02/08/19 19:13	2/8/19	
Methylene chloride	ND U	2.0	1	02/08/19 19:13	2/8/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/08/19 19:13	2/8/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/08/19 19:13	2/8/19	
1,1-Dichloroethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
2,2-Dichloropropane	ND U	0.50	1	02/08/19 19:13	2/8/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/08/19 19:13	2/8/19	
2-Butanone (MEK)	ND U	20	1	02/08/19 19:13	2/8/19	
Bromochloromethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
Chloroform	ND U	0.50	1	02/08/19 19:13	2/8/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/08/19 19:13	2/8/19	
Carbon Tetrachloride	ND U	0.50	1	02/08/19 19:13	2/8/19	
1,1-Dichloropropene	ND U	0.50	1	02/08/19 19:13	2/8/19	
Benzene	ND U	0.50	1	02/08/19 19:13	2/8/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/08/19 19:13	2/8/19	
Trichloroethene (TCE)	ND U	0.50	1	02/08/19 19:13	2/8/19	
1,2-Dichloropropane	ND U	0.50	1	02/08/19 19:13	2/8/19	
Dibromomethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
Bromodichloromethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/08/19 19:13	2/8/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/08/19 19:13	2/8/19	
Toluene	ND U	0.50	1	02/08/19 19:13	2/8/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/08/19 19:13	2/8/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/08/19 19:13	2/8/19	
2-Hexanone	ND U	20	1	02/08/19 19:13	2/8/19	
1,3-Dichloropropane	ND U	0.50	1	02/08/19 19:13	2/8/19	
Dibromochloromethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/08/19 19:13	2/8/19	
Chlorobenzene	ND U	0.50	1	02/08/19 19:13	2/8/19	
Ethylbenzene	ND U	0.50	1	02/08/19 19:13	2/8/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
m,p-Xylenes	ND U	0.50	1	02/08/19 19:13	2/8/19	
o-Xylene	ND U	0.50	1	02/08/19 19:13	2/8/19	
Styrene	ND U	0.50	1	02/08/19 19:13	2/8/19	
Bromoform	ND U	0.50	1	02/08/19 19:13	2/8/19	
Isopropylbenzene	ND U	2.0	1	02/08/19 19:13	2/8/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 09:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-01-17D	**Units:**	ug/L
Lab Code:	K1900836-007	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/08/19 19:13	2/8/19	
Bromobenzene	ND U	2.0	1	02/08/19 19:13	2/8/19	
n-Propylbenzene	ND U	2.0	1	02/08/19 19:13	2/8/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/08/19 19:13	2/8/19	
2-Chlorotoluene	ND U	2.0	1	02/08/19 19:13	2/8/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/08/19 19:13	2/8/19	
4-Chlorotoluene	ND U	2.0	1	02/08/19 19:13	2/8/19	
tert-Butylbenzene	ND U	2.0	1	02/08/19 19:13	2/8/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/08/19 19:13	2/8/19	
sec-Butylbenzene	ND U	2.0	1	02/08/19 19:13	2/8/19	
4-Isopropyltoluene	ND U	2.0	1	02/08/19 19:13	2/8/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/08/19 19:13	2/8/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/08/19 19:13	2/8/19	
n-Butylbenzene	ND U	2.0	1	02/08/19 19:13	2/8/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/08/19 19:13	2/8/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/08/19 19:13	2/8/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/08/19 19:13	2/8/19	
Hexachlorobutadiene	ND U	2.0	1	02/08/19 19:13	2/8/19	
Naphthalene	ND U	2.0	1	02/08/19 19:13	2/8/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/08/19 19:13	2/8/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	108	73 - 122	02/08/19 19:13	
Toluene-d8	114	65 - 144	02/08/19 19:13	
4-Bromofluorobenzene	101	68 - 117	02/08/19 19:13	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 14:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-07-17I	**Units:**	ug/L
Lab Code:	K1900836-008	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
Chloromethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
Bromomethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
Chloroethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
Trichlorofluoromethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
Acetone	ND U	20	1	02/08/19 19:39	2/8/19	
Carbon Disulfide	ND U	0.50	1	02/08/19 19:39	2/8/19	
Methylene chloride	ND U	2.0	1	02/08/19 19:39	2/8/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/08/19 19:39	2/8/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/08/19 19:39	2/8/19	
1,1-Dichloroethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
2,2-Dichloropropane	ND U	0.50	1	02/08/19 19:39	2/8/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/08/19 19:39	2/8/19	
2-Butanone (MEK)	ND U	20	1	02/08/19 19:39	2/8/19	
Bromochloromethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
Chloroform	ND U	0.50	1	02/08/19 19:39	2/8/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/08/19 19:39	2/8/19	
Carbon Tetrachloride	ND U	0.50	1	02/08/19 19:39	2/8/19	
1,1-Dichloropropene	ND U	0.50	1	02/08/19 19:39	2/8/19	
Benzene	ND U	0.50	1	02/08/19 19:39	2/8/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/08/19 19:39	2/8/19	
Trichloroethene (TCE)	ND U	0.50	1	02/08/19 19:39	2/8/19	
1,2-Dichloropropane	ND U	0.50	1	02/08/19 19:39	2/8/19	
Dibromomethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
Bromodichloromethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/08/19 19:39	2/8/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/08/19 19:39	2/8/19	
Toluene	ND U	0.50	1	02/08/19 19:39	2/8/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/08/19 19:39	2/8/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/08/19 19:39	2/8/19	
2-Hexanone	ND U	20	1	02/08/19 19:39	2/8/19	
1,3-Dichloropropane	ND U	0.50	1	02/08/19 19:39	2/8/19	
Dibromochloromethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/08/19 19:39	2/8/19	
Chlorobenzene	ND U	0.50	1	02/08/19 19:39	2/8/19	
Ethylbenzene	ND U	0.50	1	02/08/19 19:39	2/8/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
m,p-Xylenes	ND U	0.50	1	02/08/19 19:39	2/8/19	
o-Xylene	ND U	0.50	1	02/08/19 19:39	2/8/19	
Styrene	ND U	0.50	1	02/08/19 19:39	2/8/19	
Bromoform	ND U	0.50	1	02/08/19 19:39	2/8/19	
Isopropylbenzene	ND U	2.0	1	02/08/19 19:39	2/8/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 14:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-07-17I	**Units:**	ug/L
Lab Code:	K1900836-008	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/08/19 19:39	2/8/19	
Bromobenzene	ND U	2.0	1	02/08/19 19:39	2/8/19	
n-Propylbenzene	ND U	2.0	1	02/08/19 19:39	2/8/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/08/19 19:39	2/8/19	
2-Chlorotoluene	ND U	2.0	1	02/08/19 19:39	2/8/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/08/19 19:39	2/8/19	
4-Chlorotoluene	ND U	2.0	1	02/08/19 19:39	2/8/19	
tert-Butylbenzene	ND U	2.0	1	02/08/19 19:39	2/8/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/08/19 19:39	2/8/19	
sec-Butylbenzene	ND U	2.0	1	02/08/19 19:39	2/8/19	
4-Isopropyltoluene	ND U	2.0	1	02/08/19 19:39	2/8/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/08/19 19:39	2/8/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/08/19 19:39	2/8/19	
n-Butylbenzene	ND U	2.0	1	02/08/19 19:39	2/8/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/08/19 19:39	2/8/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/08/19 19:39	2/8/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/08/19 19:39	2/8/19	
Hexachlorobutadiene	ND U	2.0	1	02/08/19 19:39	2/8/19	
Naphthalene	ND U	2.0	1	02/08/19 19:39	2/8/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/08/19 19:39	2/8/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	109	73 - 122	02/08/19 19:39	
Toluene-d8	113	65 - 144	02/08/19 19:39	
4-Bromofluorobenzene	102	68 - 117	02/08/19 19:39	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 12:00
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-05-20S	**Units:**	ug/L
Lab Code:	K1900836-009	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
Chloromethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
Bromomethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
Chloroethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
Trichlorofluoromethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
Acetone	ND U	20	1	02/08/19 20:05	2/8/19	
Carbon Disulfide	ND U	0.50	1	02/08/19 20:05	2/8/19	
Methylene chloride	ND U	2.0	1	02/08/19 20:05	2/8/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/08/19 20:05	2/8/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/08/19 20:05	2/8/19	
1,1-Dichloroethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
2,2-Dichloropropane	ND U	0.50	1	02/08/19 20:05	2/8/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/08/19 20:05	2/8/19	
2-Butanone (MEK)	ND U	20	1	02/08/19 20:05	2/8/19	
Bromochloromethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
Chloroform	ND U	0.50	1	02/08/19 20:05	2/8/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/08/19 20:05	2/8/19	
Carbon Tetrachloride	ND U	0.50	1	02/08/19 20:05	2/8/19	
1,1-Dichloropropene	ND U	0.50	1	02/08/19 20:05	2/8/19	
Benzene	ND U	0.50	1	02/08/19 20:05	2/8/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/08/19 20:05	2/8/19	
Trichloroethene (TCE)	ND U	0.50	1	02/08/19 20:05	2/8/19	
1,2-Dichloropropane	ND U	0.50	1	02/08/19 20:05	2/8/19	
Dibromomethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
Bromodichloromethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/08/19 20:05	2/8/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/08/19 20:05	2/8/19	
Toluene	ND U	0.50	1	02/08/19 20:05	2/8/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/08/19 20:05	2/8/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/08/19 20:05	2/8/19	
2-Hexanone	ND U	20	1	02/08/19 20:05	2/8/19	
1,3-Dichloropropane	ND U	0.50	1	02/08/19 20:05	2/8/19	
Dibromochloromethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/08/19 20:05	2/8/19	
Chlorobenzene	ND U	0.50	1	02/08/19 20:05	2/8/19	
Ethylbenzene	ND U	0.50	1	02/08/19 20:05	2/8/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
m,p-Xylenes	ND U	0.50	1	02/08/19 20:05	2/8/19	
o-Xylene	ND U	0.50	1	02/08/19 20:05	2/8/19	
Styrene	ND U	0.50	1	02/08/19 20:05	2/8/19	
Bromoform	ND U	0.50	1	02/08/19 20:05	2/8/19	
Isopropylbenzene	ND U	2.0	1	02/08/19 20:05	2/8/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 12:00
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-05-20S	**Units:**	ug/L
Lab Code:	K1900836-009	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/08/19 20:05	2/8/19	
Bromobenzene	ND U	2.0	1	02/08/19 20:05	2/8/19	
n-Propylbenzene	ND U	2.0	1	02/08/19 20:05	2/8/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/08/19 20:05	2/8/19	
2-Chlorotoluene	ND U	2.0	1	02/08/19 20:05	2/8/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/08/19 20:05	2/8/19	
4-Chlorotoluene	ND U	2.0	1	02/08/19 20:05	2/8/19	
tert-Butylbenzene	ND U	2.0	1	02/08/19 20:05	2/8/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/08/19 20:05	2/8/19	
sec-Butylbenzene	ND U	2.0	1	02/08/19 20:05	2/8/19	
4-Isopropyltoluene	ND U	2.0	1	02/08/19 20:05	2/8/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/08/19 20:05	2/8/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/08/19 20:05	2/8/19	
n-Butylbenzene	ND U	2.0	1	02/08/19 20:05	2/8/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/08/19 20:05	2/8/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/08/19 20:05	2/8/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/08/19 20:05	2/8/19	
Hexachlorobutadiene	ND U	2.0	1	02/08/19 20:05	2/8/19	
Naphthalene	ND U	2.0	1	02/08/19 20:05	2/8/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/08/19 20:05	2/8/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	111	73 - 122	02/08/19 20:05	
Toluene-d8	115	65 - 144	02/08/19 20:05	
4-Bromofluorobenzene	102	68 - 117	02/08/19 20:05	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	K1900836-010	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
Chloromethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
Bromomethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
Chloroethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
Trichlorofluoromethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
Acetone	ND U	20	1	02/08/19 13:34	2/8/19	
Carbon Disulfide	ND U	0.50	1	02/08/19 13:34	2/8/19	
Methylene chloride	ND U	2.0	1	02/08/19 13:34	2/8/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/08/19 13:34	2/8/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/08/19 13:34	2/8/19	
1,1-Dichloroethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
2,2-Dichloropropane	ND U	0.50	1	02/08/19 13:34	2/8/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/08/19 13:34	2/8/19	
2-Butanone (MEK)	ND U	20	1	02/08/19 13:34	2/8/19	
Bromochloromethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
Chloroform	ND U	0.50	1	02/08/19 13:34	2/8/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/08/19 13:34	2/8/19	
Carbon Tetrachloride	ND U	0.50	1	02/08/19 13:34	2/8/19	
1,1-Dichloropropene	ND U	0.50	1	02/08/19 13:34	2/8/19	
Benzene	ND U	0.50	1	02/08/19 13:34	2/8/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/08/19 13:34	2/8/19	
Trichloroethene (TCE)	ND U	0.50	1	02/08/19 13:34	2/8/19	
1,2-Dichloropropane	ND U	0.50	1	02/08/19 13:34	2/8/19	
Dibromomethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
Bromodichloromethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/08/19 13:34	2/8/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/08/19 13:34	2/8/19	
Toluene	ND U	0.50	1	02/08/19 13:34	2/8/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/08/19 13:34	2/8/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/08/19 13:34	2/8/19	
2-Hexanone	ND U	20	1	02/08/19 13:34	2/8/19	
1,3-Dichloropropane	ND U	0.50	1	02/08/19 13:34	2/8/19	
Dibromochloromethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/08/19 13:34	2/8/19	
Chlorobenzene	ND U	0.50	1	02/08/19 13:34	2/8/19	
Ethylbenzene	ND U	0.50	1	02/08/19 13:34	2/8/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
m,p-Xylenes	ND U	0.50	1	02/08/19 13:34	2/8/19	
o-Xylene	ND U	0.50	1	02/08/19 13:34	2/8/19	
Styrene	ND U	0.50	1	02/08/19 13:34	2/8/19	
Bromoform	ND U	0.50	1	02/08/19 13:34	2/8/19	
Isopropylbenzene	ND U	2.0	1	02/08/19 13:34	2/8/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	K1900836-010	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/08/19 13:34	2/8/19	
Bromobenzene	ND U	2.0	1	02/08/19 13:34	2/8/19	
n-Propylbenzene	ND U	2.0	1	02/08/19 13:34	2/8/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/08/19 13:34	2/8/19	
2-Chlorotoluene	ND U	2.0	1	02/08/19 13:34	2/8/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/08/19 13:34	2/8/19	
4-Chlorotoluene	ND U	2.0	1	02/08/19 13:34	2/8/19	
tert-Butylbenzene	ND U	2.0	1	02/08/19 13:34	2/8/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/08/19 13:34	2/8/19	
sec-Butylbenzene	ND U	2.0	1	02/08/19 13:34	2/8/19	
4-Isopropyltoluene	ND U	2.0	1	02/08/19 13:34	2/8/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/08/19 13:34	2/8/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/08/19 13:34	2/8/19	
n-Butylbenzene	ND U	2.0	1	02/08/19 13:34	2/8/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/08/19 13:34	2/8/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/08/19 13:34	2/8/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/08/19 13:34	2/8/19	
Hexachlorobutadiene	ND U	2.0	1	02/08/19 13:34	2/8/19	
Naphthalene	ND U	2.0	1	02/08/19 13:34	2/8/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/08/19 13:34	2/8/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	108	73 - 122	02/08/19 13:34	
Toluene-d8	113	65 - 144	02/08/19 13:34	
4-Bromofluorobenzene	106	68 - 117	02/08/19 13:34	

Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-02-1D	**Basis:**	NA
Lab Code:	K1900836-001		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/04/19 10:50	02/01/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/04/19 10:50	02/01/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:55
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-03-1S	**Basis:**	NA
Lab Code:	K1900836-002		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/04/19 11:00	02/01/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/04/19 11:00	02/01/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:05
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-04-FB1	**Basis:**	NA
Lab Code:	K1900836-003		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/04/19 11:26	02/01/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/04/19 11:26	02/01/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 13:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-06-5S	**Basis:**	NA
Lab Code:	K1900836-004		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/04/19 11:29	02/01/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/04/19 11:29	02/01/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 15:00
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-08-6S	**Basis:**	NA
Lab Code:	K1900836-005		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/04/19 11:31	02/01/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/04/19 11:31	02/01/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 15:05
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-09-DUP2	**Basis:**	NA
Lab Code:	K1900836-006		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/04/19 11:34	02/01/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/04/19 11:34	02/01/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 09:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-01-17D	**Basis:**	NA
Lab Code:	K1900836-007		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	**110**	ug/L	21	1	02/04/19 11:37	02/01/19	
Manganese	6010C	**4100**	ug/L	1.1	1	02/04/19 11:37	02/01/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 14:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-07-17I	**Basis:**	NA
Lab Code:	K1900836-008		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	**7940**	ug/L	21	1	02/04/19 11:40	02/01/19	
Manganese	6010C	**1340**	ug/L	1.1	1	02/04/19 11:40	02/01/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 12:00
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-05-20S	**Basis:**	NA
Lab Code:	K1900836-009		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	**154**	ug/L	21	1	02/04/19 11:42	02/01/19	
Manganese	6010C	**1060**	ug/L	1.1	1	02/04/19 11:42	02/01/19	

General Chemistry

ALS Environmental—Kelso Laboratory
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Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-02-1D	**Basis:**	NA
Lab Code:	K1900836-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**6.43**	mg/L	0.20	2	01/30/19 16:32	
Nitrate as Nitrogen	300.0	**5.86**	mg/L	0.10	2	01/30/19 16:32	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-02-1D	**Basis:**	NA
Lab Code:	K1900836-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**118**	mg/L	5.0	1	02/04/19 09:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:55
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-03-1S	**Basis:**	NA
Lab Code:	K1900836-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**10.2**	mg/L	0.20	2	01/30/19 17:31	
Nitrate as Nitrogen	300.0	**5.31**	mg/L	0.10	2	01/30/19 17:31	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:55
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-03-1S	**Basis:**	NA
Lab Code:	K1900836-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**145**	mg/L	5.0	1	02/04/19 09:10	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:05
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-04-FB1	**Basis:**	NA
Lab Code:	K1900836-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.20	2	01/30/19 17:41	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	2	01/30/19 17:41	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 10:05
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-04-FB1	**Basis:**	NA
Lab Code:	K1900836-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**8.0**	mg/L	5.0	1	02/04/19 09:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 13:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-06-5S	**Basis:**	NA
Lab Code:	K1900836-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**3.33**	mg/L	0.20	2	01/30/19 18:12	
Nitrate as Nitrogen	300.0	**3.74**	mg/L	0.10	2	01/30/19 18:12	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 13:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-06-5S	**Basis:**	NA
Lab Code:	K1900836-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**95.5**	mg/L	5.0	1	02/04/19 09:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 15:00
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-08-6S	**Basis:**	NA
Lab Code:	K1900836-005		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**3.95**	mg/L	0.20	2	01/30/19 18:22	
Nitrate as Nitrogen	300.0	**1.29**	mg/L	0.10	2	01/30/19 18:22	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 15:00
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-08-6S	**Basis:**	NA
Lab Code:	K1900836-005		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**89.5**	mg/L	5.0	1	02/04/19 09:10	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 15:05
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-09-DUP2	**Basis:**	NA
Lab Code:	K1900836-006		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**3.92**	mg/L	0.20	2	01/30/19 18:32	
Nitrate as Nitrogen	300.0	**1.28**	mg/L	0.10	2	01/30/19 18:32	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 15:05
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-09-DUP2	**Basis:**	NA
Lab Code:	K1900836-006		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**94.3**	mg/L	5.0	1	02/04/19 09:10	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 09:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-01-17D	**Basis:**	NA
Lab Code:	K1900836-007		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**9.49**	mg/L	0.20	2	01/30/19 18:42	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	2	01/30/19 18:42	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 09:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-01-17D	**Basis:**	NA
Lab Code:	K1900836-007		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**152**	mg/L	5.0	1	02/04/19 09:10	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 14:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-07-17I	**Basis:**	NA
Lab Code:	K1900836-008		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**10.1**	mg/L	0.20	2	01/30/19 18:52	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	2	01/30/19 18:52	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 14:10
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-07-17I	**Basis:**	NA
Lab Code:	K1900836-008		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**148**	mg/L	5.0	1	02/04/19 09:10	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 12:00
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-05-20S	**Basis:**	NA
Lab Code:	K1900836-009		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**3.39**	mg/L	0.20	2	01/30/19 19:02	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	2	01/30/19 19:02	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19 12:00
Sample Matrix:	Ground Water	**Date Received:**	01/30/19 10:30
Sample Name:	LB-012919-05-20S	**Basis:**	NA
Lab Code:	K1900836-009		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**152**	mg/L	5.0	1	02/04/19 09:10	

QC Summary Forms

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Volatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: SCS Engineers **Service Request:** K1900836
Project: Leichner Landfill/04219030.13
Sample Matrix: Ground Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds

Analysis Method: 8260C
Extraction Method: EPA 5030B

Sample Name	Lab Code	4-Bromofluorobenzene 68 - 117	Dibromofluoromethane 73 - 122	Toluene-d8 65 - 144
LB-012919-02-1D	K1900836-001	103	109	114
LB-012919-03-1S	K1900836-002	105	108	115
LB-012919-04-FB1	K1900836-003	107	108	113
LB-012919-06-5S	K1900836-004	104	110	116
LB-012919-08-6S	K1900836-005	103	109	114
LB-012919-09-DUP2	K1900836-006	103	108	115
LB-012919-01-17D	K1900836-007	101	108	114
LB-012919-07-17I	K1900836-008	102	109	113
LB-012919-05-20S	K1900836-009	102	111	115
Trip Blank	K1900836-010	106	108	113
LB-012919-03-1S MS	KWG1900707-1	106	108	118
LB-012919-03-1S DMS	KWG1900707-2	106	108	120
Lab Control Sample	KWG1900707-3	104	106	116
Duplicate Lab Control Sample	KWG1900707-4	108	109	117
Method Blank	KWG1900707-5	103	110	113

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19
Sample Matrix:	Ground Water	**Date Received:**	01/30/19
		Date Analyzed:	02/8/19
		Date Extracted:	02/8/19

Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	LB-012919-03-1S	**Units:**	ug/L
Lab Code:	K1900836-002	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030B		

		Matrix Spike			Duplicate Matrix Spike					
		KWG1900707-1			KWG1900707-2					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloroform	ND U	10.4	10.0	104	10.3	10.0	103	64-133	1	30
Carbon Tetrachloride	ND U	11.3	10.0	113	10.7	10.0	107	53-161	6	30
Benzene	ND U	10.6	10.0	106	10.4	10.0	104	63-144	2	30
Trichloroethene (TCE)	ND U	10.8	10.0	108	10.4	10.0	104	53-139	3	30
Bromodichloromethane	ND U	9.89	10.0	99	10.0	10.0	100	61-134	1	30
Toluene	ND U	10.4	10.0	104	10.3	10.0	103	71-136	<1	30
1,1,2-Trichloroethane	ND U	10.3	10.0	103	10.2	10.0	102	74-124	1	30
2-Hexanone	ND U	51.8	50.0	104	54.9	50.0	110	53-132	6	30
Chlorobenzene	ND U	10.0	10.0	100	9.77	10.0	98	69-126	3	30
Ethylbenzene	ND U	10.6	10.0	106	10.3	10.0	103	66-136	3	30
1,2,3-Trichloropropane	ND U	9.89	10.0	99	10.0	10.0	100	71-127	1	30
2-Chlorotoluene	ND U	10.2	10.0	102	9.88	10.0	99	55-139	3	30
1,2-Dichlorobenzene	ND U	9.73	10.0	97	9.49	10.0	95	72-119	2	30
Naphthalene	ND U	8.52	10.0	85	8.70	10.0	87	52-147	2	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1900707-5	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
Chloromethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
Bromomethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
Chloroethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
Trichlorofluoromethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
Acetone	ND U	20	1	02/08/19 13:07	2/8/19	
Carbon Disulfide	ND U	0.50	1	02/08/19 13:07	2/8/19	
Methylene chloride	ND U	2.0	1	02/08/19 13:07	2/8/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/08/19 13:07	2/8/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/08/19 13:07	2/8/19	
1,1-Dichloroethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
2,2-Dichloropropane	ND U	0.50	1	02/08/19 13:07	2/8/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/08/19 13:07	2/8/19	
2-Butanone (MEK)	ND U	20	1	02/08/19 13:07	2/8/19	
Bromochloromethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
Chloroform	ND U	0.50	1	02/08/19 13:07	2/8/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/08/19 13:07	2/8/19	
Carbon Tetrachloride	ND U	0.50	1	02/08/19 13:07	2/8/19	
1,1-Dichloropropene	ND U	0.50	1	02/08/19 13:07	2/8/19	
Benzene	ND U	0.50	1	02/08/19 13:07	2/8/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/08/19 13:07	2/8/19	
Trichloroethene (TCE)	ND U	0.50	1	02/08/19 13:07	2/8/19	
1,2-Dichloropropane	ND U	0.50	1	02/08/19 13:07	2/8/19	
Dibromomethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
Bromodichloromethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/08/19 13:07	2/8/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/08/19 13:07	2/8/19	
Toluene	ND U	0.50	1	02/08/19 13:07	2/8/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/08/19 13:07	2/8/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/08/19 13:07	2/8/19	
2-Hexanone	ND U	20	1	02/08/19 13:07	2/8/19	
1,3-Dichloropropane	ND U	0.50	1	02/08/19 13:07	2/8/19	
Dibromochloromethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/08/19 13:07	2/8/19	
Chlorobenzene	ND U	0.50	1	02/08/19 13:07	2/8/19	
Ethylbenzene	ND U	0.50	1	02/08/19 13:07	2/8/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
m,p-Xylenes	ND U	0.50	1	02/08/19 13:07	2/8/19	
o-Xylene	ND U	0.50	1	02/08/19 13:07	2/8/19	
Styrene	ND U	0.50	1	02/08/19 13:07	2/8/19	
Bromoform	ND U	0.50	1	02/08/19 13:07	2/8/19	
Isopropylbenzene	ND U	2.0	1	02/08/19 13:07	2/8/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1900707-5	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/08/19 13:07	2/8/19	
Bromobenzene	ND U	2.0	1	02/08/19 13:07	2/8/19	
n-Propylbenzene	ND U	2.0	1	02/08/19 13:07	2/8/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/08/19 13:07	2/8/19	
2-Chlorotoluene	ND U	2.0	1	02/08/19 13:07	2/8/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/08/19 13:07	2/8/19	
4-Chlorotoluene	ND U	2.0	1	02/08/19 13:07	2/8/19	
tert-Butylbenzene	ND U	2.0	1	02/08/19 13:07	2/8/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/08/19 13:07	2/8/19	
sec-Butylbenzene	ND U	2.0	1	02/08/19 13:07	2/8/19	
4-Isopropyltoluene	ND U	2.0	1	02/08/19 13:07	2/8/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/08/19 13:07	2/8/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/08/19 13:07	2/8/19	
n-Butylbenzene	ND U	2.0	1	02/08/19 13:07	2/8/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/08/19 13:07	2/8/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/08/19 13:07	2/8/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/08/19 13:07	2/8/19	
Hexachlorobutadiene	ND U	2.0	1	02/08/19 13:07	2/8/19	
Naphthalene	ND U	2.0	1	02/08/19 13:07	2/8/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/08/19 13:07	2/8/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	110	73 - 122	02/08/19 13:07	
Toluene-d8	113	65 - 144	02/08/19 13:07	
4-Bromofluorobenzene	103	68 - 117	02/08/19 13:07	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Analyzed:**	02/08/19
Sample Matrix:	Ground Water	**Date Extracted:**	02/08/19

Duplicate Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	EPA 5030B	**Basis:**	NA
		Analysis Lot:	KWG1900706

	Lab Control Sample KWG1900707-3			Duplicate Lab Control Sample KWG1900707-4					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	9.78	10.0	98	9.61	10.0	96	66-124	2	30
1,1,1-Trichloroethane (TCA)	10.5	10.0	105	9.54	10.0	95	59-136	10	30
1,1,2,2-Tetrachloroethane	9.68	10.0	97	10.0	10.0	100	70-127	3	30
1,1,2-Trichloroethane	9.53	10.0	95	10.0	10.0	100	74-118	5	30
1,1-Dichloroethane	11.0	10.0	110	10.1	10.0	101	68-132	9	30
1,1-Dichloropropene	10.8	10.0	108	10.1	10.0	101	59-134	6	30
1,2,3-Trichlorobenzene	8.36	10.0	84	8.58	10.0	86	68-120	3	30
1,2,3-Trichloropropane	9.83	10.0	98	9.59	10.0	96	69-123	2	30
1,2,4-Trichlorobenzene	8.92	10.0	89	8.77	10.0	88	58-126	2	30
1,2,4-Trimethylbenzene	10.2	10.0	102	9.72	10.0	97	63-122	5	30
1,2-Dibromo-3-chloropropane	7.86	10.0	79	8.25	10.0	83	55-132	5	30
1,2-Dibromoethane (EDB)	9.43	10.0	94	9.96	10.0	100	74-118	5	30
1,2-Dichlorobenzene	9.43	10.0	94	9.08	10.0	91	72-115	4	30
1,2-Dichloroethane (EDC)	10.5	10.0	105	10.1	10.0	101	56-142	4	30
1,2-Dichloropropane	10.5	10.0	105	9.79	10.0	98	67-126	7	30
1,3,5-Trimethylbenzene	9.97	10.0	100	9.43	10.0	94	62-126	6	30
1,3-Dichlorobenzene	9.85	10.0	99	9.22	10.0	92	70-116	7	30
1,3-Dichloropropane	9.52	10.0	95	9.98	10.0	100	75-116	5	30
1,4-Dichlorobenzene	9.53	10.0	95	9.10	10.0	91	73-115	5	30
2,2-Dichloropropane	10.5	10.0	105	9.64	10.0	96	37-145	9	30
2-Butanone (MEK)	49.9	50.0	100	48.1	50.0	96	71-149	4	30
2-Chlorotoluene	10.0	10.0	100	9.50	10.0	95	55-131	5	30
2-Hexanone	48.6	50.0	97	53.1	50.0	106	59-131	9	30
4-Chlorotoluene	10.0	10.0	100	9.59	10.0	96	66-121	4	30
4-Isopropyltoluene	10.4	10.0	104	9.64	10.0	96	61-128	7	30
4-Methyl-2-pentanone (MIBK)	50.8	50.0	102	52.4	50.0	105	64-134	3	30
Acetone	49.4	50.0	99	52.5	50.0	105	68-135	6	30
Benzene	10.5	10.0	105	9.79	10.0	98	69-124	7	30
Bromobenzene	9.95	10.0	100	9.43	10.0	94	72-116	5	30
Bromochloromethane	10.4	10.0	104	9.81	10.0	98	75-131	6	30
Bromodichloromethane	10.1	10.0	101	9.78	10.0	98	63-129	3	30
Bromoform	9.06	10.0	91	9.37	10.0	94	52-144	3	30
Bromomethane	7.81	10.0	78	7.21	10.0	72	35-113	8	30
Carbon Disulfide	18.1	20.0	91	16.7	20.0	84	46-144	8	30
Carbon Tetrachloride	10.6	10.0	106	10.0	10.0	100	55-140	6	30
Chlorobenzene	9.82	10.0	98	9.51	10.0	95	72-116	3	30
Chloroethane	10.3	10.0	103	9.69	10.0	97	58-134	6	30
Chloroform	10.4	10.0	104	9.71	10.0	97	70-129	6	30
Chloromethane	10.1	10.0	101	9.26	10.0	93	34-130	9	30
cis-1,2-Dichloroethene	10.2	10.0	102	9.32	10.0	93	71-118	9	30
cis-1,3-Dichloropropene	10.2	10.0	102	9.74	10.0	97	62-132	5	30

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Analyzed:**	02/08/19
Sample Matrix:	Ground Water	**Date Extracted:**	02/08/19

Duplicate Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	EPA 5030B	**Basis:**	NA
		Analysis Lot:	KWG1900706

	Lab Control Sample KWG1900707-3			Duplicate Lab Control Sample KWG1900707-4					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Dibromochloromethane	9.11	10.0	91	9.39	10.0	94	67-126	3	30
Dibromomethane	9.60	10.0	96	9.41	10.0	94	69-128	2	30
Dichlorodifluoromethane	7.07	10.0	71	6.48	10.0	65	32-124	9	30
Ethylbenzene	10.2	10.0	102	9.88	10.0	99	67-121	3	30
Hexachlorobutadiene	9.25	10.0	93	8.80	10.0	88	57-119	5	30
Isopropylbenzene	9.99	10.0	100	9.56	10.0	96	67-129	4	30
m,p-Xylenes	20.1	20.0	100	19.3	20.0	97	69-121	4	30
Methyl tert-Butyl Ether	10.7	10.0	107	10.5	10.0	105	54-126	1	30
Methylene chloride	9.88	10.0	99	9.39	10.0	94	71-122	5	30
Naphthalene	8.15	10.0	82	8.72	10.0	87	64-126	7	30
n-Butylbenzene	10.1	10.0	101	9.31	10.0	93	55-130	8	30
n-Propylbenzene	10.2	10.0	102	9.67	10.0	97	61-124	5	30
o-Xylene	9.81	10.0	98	9.66	10.0	97	71-119	2	30
sec-Butylbenzene	10.2	10.0	102	9.47	10.0	95	59-128	8	30
Styrene	10.1	10.0	101	9.84	10.0	98	74-121	3	30
tert-Butylbenzene	9.99	10.0	100	9.38	10.0	94	61-127	6	30
Tetrachloroethene (PCE)	10.0	10.0	100	9.78	10.0	98	62-126	3	30
Toluene	10.2	10.0	102	9.58	10.0	96	69-124	6	30
trans-1,2-Dichloroethene	10.8	10.0	108	9.94	10.0	99	67-125	9	30
trans-1,3-Dichloropropene	8.92	10.0	89	9.39	10.0	94	59-125	5	30
Trichloroethene (TCE)	10.6	10.0	106	10.0	10.0	100	67-128	5	30
Trichlorofluoromethane	8.66	10.0	87	8.14	10.0	81	52-141	6	30

Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	KQ1901322-02		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/04/19 10:44	02/01/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/04/19 10:44	02/01/19	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19
Sample Matrix:	Ground Water	**Date Received:**	01/30/19
		Date Analyzed:	02/4/19
		Date Extracted:	02/1/19

Matrix Spike Summary
Dissolved Metals

Sample Name:	LB-012919-02-1D	**Units:**	ug/L
Lab Code:	K1900836-001	**Basis:**	NA
Analysis Method:	6010C		
Prep Method:	EPA CLP ILM04.0		

Matrix Spike
KQ1901322-04

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Iron	ND U	906	1000	91	75-125
Manganese	ND U	446	500	89	75-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	SCS Engineers	**Service Request:**	K1900836
Project	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19
Sample Matrix:	Ground Water	**Date Received:**	01/30/19
		Date Analyzed:	02/04/19

Replicate Sample Summary
Dissolved Metals

Sample Name:	LB-012919-02-1D	**Units:**	ug/L
Lab Code:	K1900836-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample KQ1901322-03 Result	Average	RPD	RPD Limit
Iron	6010C	21	ND U	ND U	ND	-	20
Manganese	6010C	1.1	ND U	ND U	ND	-	20

Results flagged with an asterisk (*) indicate values outside control criteria.

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Client: SCS Engineers
Project: Leichner Landfill/04219030.13
Sample Matrix: Ground Water

Service Request: K1900836
Date Analyzed: 02/04/19

Lab Control Sample Summary
Dissolved Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ1901322-01

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron	6010C	2320	2500	93	80-120
Manganese	6010C	1140	1250	91	80-120

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1900836-MB1		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	1	01/30/19 10:14	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.050	1	01/30/19 10:14	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1900836-MB1		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	02/04/19 09:10	

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1900836-MB2		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**0.11**	mg/L	0.10	1	01/30/19 20:24	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.050	1	01/30/19 20:24	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1900836-MB2		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	02/04/19 09:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1900836-MB3		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	02/04/19 09:10	

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QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04219030.13
Sample Matrix: Ground Water

Service Request:K1900836
Date Collected:01/29/19
Date Received:01/30/19
Date Analyzed:1/30/19

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name: LB-012919-02-1D
Lab Code: K1900836-001

Units:mg/L
Basis:NA

			Matrix Spike K1900836-001MS			Duplicate Matrix Spike K1900836-001DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloride	300.0	6.43	14.2	8.00	97	14.1	8.00	96	90-110	<1	20
Nitrate as Nitrogen	300.0	5.86	13.9	8.00	101	13.9	8.00	100	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client:	SCS Engineers	**Service Request:**	K1900836
Project	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19
Sample Matrix:	Ground Water	**Date Received:**	01/30/19
		Date Analyzed:	01/30/19 - 02/04/19

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	LB-012919-02-1D	**Units:**	mg/L
Lab Code:	K1900836-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample K1900836-001DUP Result	Average	RPD	RPD Limit
Chloride	300.0	0.20	6.43	6.37	6.40	1	20
Nitrate as Nitrogen	300.0	0.10	5.86	5.84	5.85	<1	20
Solids, Total Dissolved	SM 2540 C	5.0	118	114	116	3	5

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	SCS Engineers	**Service Request:**	K1900836
Project	Leichner Landfill/04219030.13	**Date Collected:**	01/29/19
Sample Matrix:	Ground Water	**Date Received:**	01/30/19
		Date Analyzed:	02/04/19

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	LB-012919-03-1S	**Units:**	mg/L
Lab Code:	K1900836-002	**Basis:**	NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample K1900836-002DUP Result	Average	RPD	RPD Limit
Solids, Total Dissolved	SM 2540 C	5.0	145	142	143	2	5

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: SCS Engineers
Project: Leichner Landfill/04219030.13
Sample Matrix: Ground Water

Service Request: K1900836
Date Analyzed: 01/30/19 - 02/04/19

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
K1900836-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.81	5.00	96	90-110
Nitrate as Nitrogen	300.0	2.40	2.50	96	90-110
Solids, Total Dissolved	SM 2540 C	501	523	96	85-115

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QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04219030.13
Sample Matrix: Ground Water

Service Request: K1900836
Date Analyzed: 01/30/19

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
K1900836-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.65	5.00	93	90-110
Nitrate as Nitrogen	300.0	2.31	2.50	92	90-110

February 19, 2019 Service Request No:K1900890

David Lamadrid
SCS Engineers
15940 SW 72nd Ave
Portland, OR 97224

Laboratory Results for: Leichner Landfill

Dear David,

Enclosed are the results of the sample(s) submitted to our laboratory January 31, 2019
For your reference, these analyses have been assigned our service request number **K1900890.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

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ALS Group USA, Corp.
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Narrative Documents

ALS Environmental—Kelso Laboratory
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Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: SCS Engineers
Project: Leichner Landfill
Sample Matrix: Ground Water

Service Request: K1900890
Date Received: 01/31/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier II data deliverables. When appropriate to the method, method blank results have been reported with each analytical test. Surrogate recoveries have been reported for all applicable organic analyses. Additional quality control analyses reported herein include: Laboratory Duplicate (DUP), Matrix Spike (MS), Matrix/Duplicate Matrix Spike (MS/DMS), Laboratory Control Sample (LCS), and Laboratory/Duplicate Laboratory Control Sample (LCS/DLCS).

Sample Receipt:

Five ground water samples were received for analysis at ALS Environmental on 01/31/2019. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4ºC upon receipt at the laboratory.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

EPA 8260, 2/7/19: The following analyte was flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS46\0207F005.D: 1,2-Dibromo-3-chloropropane, and Naphthalene. In accordance with the EPA Method, 80% or more of the CCV analytes must pass within 20% of the true value. The ALS SOP allows for 40% difference for the remaining analytes. The CCV met these criteria. The quality of the sample data was not significantly affected. No further corrective action was required.

EPA 8260, 2/7/19: The advisory criterion was exceeded for Trichlorofluoromethane in Laboratory Control Sample (LCS) KWG1900682-3. As per the ALS/Kelso Standard Operating Procedure (SOP) for this method, this compound is not included in the subset of analytes used to control the analysis. The recovery information reported for these analytes is for advisory purposes only (i.e. to provide additional detail related to the performance of each individual compound). No further corrective action was required.

Approved by  Date 02/19/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-013019-04-3S			Lab ID: K1900890-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	106			5.0	mg/L	SM 2540 C
Chloride	3.48			0.20	mg/L	300.0

CLIENT ID: LB-013019-02-13I			Lab ID: K1900890-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	152			5.0	mg/L	SM 2540 C
Chloride	9.91			0.20	mg/L	300.0
Nitrate as Nitrogen	2.88			0.10	mg/L	300.0
Manganese, Dissolved	4.0			1.1	ug/L	6010C

CLIENT ID: LB-013019-01-26I			Lab ID: K1900890-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	143			5.0	mg/L	SM 2540 C
Chloride	7.86			0.20	mg/L	300.0
Nitrate as Nitrogen	3.69			0.10	mg/L	300.0
Manganese, Dissolved	1.2			1.1	ug/L	6010C

CLIENT ID: LB-013019-03-27I			Lab ID: K1900890-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	267			5.0	mg/L	SM 2540 C
Chloride	27.7			0.50	mg/L	300.0
Manganese, Dissolved	232			1.1	ug/L	6010C

Sample Receipt Information

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Client: SCS Engineers **Service Request:**K1900890
Project: Leichner Landfill/04219030.13

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1900890-001	LB-013019-04-3S	1/30/2019	1250
K1900890-002	LB-013019-02-13I	1/30/2019	1045
K1900890-003	LB-013019-01-26I	1/30/2019	0950
K1900890-004	LB-013019-03-27I	1/30/2019	1140

CHAIN OF CUSTODY

SR# K1900390

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PAGE 1 OF 1 COC#

PROJECT NAME: Leichner Landfill
PROJECT NUMBER: 042190330.13
PROJECT MANAGER: David Lamadrid
COMPANY NAME: SCS Engineers
ADDRESS: 15940 SW 72nd Ave
CITY/STATE/ZIP: Portland OR, 97224
E-MAIL ADDRESS: DLamadrid@scsengineers.com
PHONE #: 503-639-9736 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270L☐ SIM PAH☐	Volatile Organics 624☐ 8260☒	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐ 8021☐ BTEX☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics - 8151M Tri☐ Tetra☐ PCP☐	Metals, Total or Dissolved (See List below)	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity ☐ CO_3☐ HCO_3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO_2☐ RSK 175☐ Methane☐ Ethane☐ Ethene☐	REMARKS
LB-013019-04-3S	1/30/19	1250		W	5		X					X		X							
LB-013019-02-13I	1/30/19	1045		W	5		X					X		X							
LB-013019-01-26I	1/30/19	0950		W	5		X					X		X							
LB-013019-03-27I	1/30/19	1140		W	5		X					X		X							
Trip Blanks	—	—		W	3		X														

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 day
___ Standard (15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS: cc: Tiffany Andrews TAndrews@scsengineers.com
Metals are field filtered

Container Supply Number

96317

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature	Signature	Signature	Signature
Date/Time	Date/Time 1/31/19 0954	Date/Time 1/31/19 1000	Date/Time 1/31/19 1200
Printed Name F. Williams	Printed Name	Printed Name	Printed Name Cody Graves
Firm	Firm	Firm	Firm ALS

PC 1/11

Cooler Receipt and Preservation Form

Client SCS Engineers Service Request K19 00890

Received: 1/31/19 Opened: 1/31/19 By: CG Unloaded: 1/31/19 By: CG

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID NA	Tracking Number (NA)	Filed
-0.7	-0.5	—	—	+0.2	323	96317		

4. Packing material: *Inserts* (*Baggies*) (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA (Y) N
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

SHORT HOLD TIME

Miscellaneous Forms

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Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Sample Results

ALS Environmental—Kelso Laboratory
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Volatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 12:50
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-04-3S	**Units:**	ug/L
Lab Code:	K1900890-001	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/07/19 17:45	2/7/19	
Chloromethane	ND U	0.50	1	02/07/19 17:45	2/7/19	
Bromomethane	ND U	0.50	1	02/07/19 17:45	2/7/19	
Chloroethane	ND U	0.50	1	02/07/19 17:45	2/7/19	
Trichlorofluoromethane	ND U	0.50	1	02/07/19 17:45	2/7/19	*
Acetone	ND U	20	1	02/07/19 17:45	2/7/19	
Carbon Disulfide	ND U	0.50	1	02/07/19 17:45	2/7/19	
Methylene chloride	ND U	2.0	1	02/07/19 17:45	2/7/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/07/19 17:45	2/7/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/07/19 17:45	2/7/19	
1,1-Dichloroethane	ND U	0.50	1	02/07/19 17:45	2/7/19	
2,2-Dichloropropane	ND U	0.50	1	02/07/19 17:45	2/7/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/07/19 17:45	2/7/19	
2-Butanone (MEK)	ND U	20	1	02/07/19 17:45	2/7/19	
Bromochloromethane	ND U	0.50	1	02/07/19 17:45	2/7/19	
Chloroform	ND U	0.50	1	02/07/19 17:45	2/7/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/07/19 17:45	2/7/19	
Carbon Tetrachloride	ND U	0.50	1	02/07/19 17:45	2/7/19	
1,1-Dichloropropene	ND U	0.50	1	02/07/19 17:45	2/7/19	
Benzene	ND U	0.50	1	02/07/19 17:45	2/7/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/07/19 17:45	2/7/19	
Trichloroethene (TCE)	ND U	0.50	1	02/07/19 17:45	2/7/19	
1,2-Dichloropropane	ND U	0.50	1	02/07/19 17:45	2/7/19	
Dibromomethane	ND U	0.50	1	02/07/19 17:45	2/7/19	
Bromodichloromethane	ND U	0.50	1	02/07/19 17:45	2/7/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/07/19 17:45	2/7/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/07/19 17:45	2/7/19	
Toluene	ND U	0.50	1	02/07/19 17:45	2/7/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/07/19 17:45	2/7/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/07/19 17:45	2/7/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/07/19 17:45	2/7/19	
2-Hexanone	ND U	20	1	02/07/19 17:45	2/7/19	
1,3-Dichloropropane	ND U	0.50	1	02/07/19 17:45	2/7/19	
Dibromochloromethane	ND U	0.50	1	02/07/19 17:45	2/7/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/07/19 17:45	2/7/19	
Chlorobenzene	ND U	0.50	1	02/07/19 17:45	2/7/19	
Ethylbenzene	ND U	0.50	1	02/07/19 17:45	2/7/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/07/19 17:45	2/7/19	
m,p-Xylenes	ND U	0.50	1	02/07/19 17:45	2/7/19	
o-Xylene	ND U	0.50	1	02/07/19 17:45	2/7/19	
Styrene	ND U	0.50	1	02/07/19 17:45	2/7/19	
Bromoform	ND U	0.50	1	02/07/19 17:45	2/7/19	
Isopropylbenzene	ND U	2.0	1	02/07/19 17:45	2/7/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 12:50
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-04-3S	**Units:**	ug/L
Lab Code:	K1900890-001	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/07/19 17:45	2/7/19	
Bromobenzene	ND U	2.0	1	02/07/19 17:45	2/7/19	
n-Propylbenzene	ND U	2.0	1	02/07/19 17:45	2/7/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/07/19 17:45	2/7/19	
2-Chlorotoluene	ND U	2.0	1	02/07/19 17:45	2/7/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/07/19 17:45	2/7/19	
4-Chlorotoluene	ND U	2.0	1	02/07/19 17:45	2/7/19	
tert-Butylbenzene	ND U	2.0	1	02/07/19 17:45	2/7/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/07/19 17:45	2/7/19	
sec-Butylbenzene	ND U	2.0	1	02/07/19 17:45	2/7/19	
4-Isopropyltoluene	ND U	2.0	1	02/07/19 17:45	2/7/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/07/19 17:45	2/7/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/07/19 17:45	2/7/19	
n-Butylbenzene	ND U	2.0	1	02/07/19 17:45	2/7/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/07/19 17:45	2/7/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/07/19 17:45	2/7/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/07/19 17:45	2/7/19	
Hexachlorobutadiene	ND U	2.0	1	02/07/19 17:45	2/7/19	
Naphthalene	ND U	2.0	1	02/07/19 17:45	2/7/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/07/19 17:45	2/7/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	108	73 - 122	02/07/19 17:45	
Toluene-d8	117	65 - 144	02/07/19 17:45	
4-Bromofluorobenzene	103	68 - 117	02/07/19 17:45	

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 10:45
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-02-13I	**Units:**	ug/L
Lab Code:	K1900890-002	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/07/19 18:11	2/7/19	
Chloromethane	ND U	0.50	1	02/07/19 18:11	2/7/19	
Bromomethane	ND U	0.50	1	02/07/19 18:11	2/7/19	
Chloroethane	ND U	0.50	1	02/07/19 18:11	2/7/19	
Trichlorofluoromethane	ND U	0.50	1	02/07/19 18:11	2/7/19	*
Acetone	ND U	20	1	02/07/19 18:11	2/7/19	
Carbon Disulfide	ND U	0.50	1	02/07/19 18:11	2/7/19	
Methylene chloride	ND U	2.0	1	02/07/19 18:11	2/7/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/07/19 18:11	2/7/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/07/19 18:11	2/7/19	
1,1-Dichloroethane	ND U	0.50	1	02/07/19 18:11	2/7/19	
2,2-Dichloropropane	ND U	0.50	1	02/07/19 18:11	2/7/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/07/19 18:11	2/7/19	
2-Butanone (MEK)	ND U	20	1	02/07/19 18:11	2/7/19	
Bromochloromethane	ND U	0.50	1	02/07/19 18:11	2/7/19	
Chloroform	ND U	0.50	1	02/07/19 18:11	2/7/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/07/19 18:11	2/7/19	
Carbon Tetrachloride	ND U	0.50	1	02/07/19 18:11	2/7/19	
1,1-Dichloropropene	ND U	0.50	1	02/07/19 18:11	2/7/19	
Benzene	ND U	0.50	1	02/07/19 18:11	2/7/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/07/19 18:11	2/7/19	
Trichloroethene (TCE)	ND U	0.50	1	02/07/19 18:11	2/7/19	
1,2-Dichloropropane	ND U	0.50	1	02/07/19 18:11	2/7/19	
Dibromomethane	ND U	0.50	1	02/07/19 18:11	2/7/19	
Bromodichloromethane	ND U	0.50	1	02/07/19 18:11	2/7/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/07/19 18:11	2/7/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/07/19 18:11	2/7/19	
Toluene	ND U	0.50	1	02/07/19 18:11	2/7/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/07/19 18:11	2/7/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/07/19 18:11	2/7/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/07/19 18:11	2/7/19	
2-Hexanone	ND U	20	1	02/07/19 18:11	2/7/19	
1,3-Dichloropropane	ND U	0.50	1	02/07/19 18:11	2/7/19	
Dibromochloromethane	ND U	0.50	1	02/07/19 18:11	2/7/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/07/19 18:11	2/7/19	
Chlorobenzene	ND U	0.50	1	02/07/19 18:11	2/7/19	
Ethylbenzene	ND U	0.50	1	02/07/19 18:11	2/7/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/07/19 18:11	2/7/19	
m,p-Xylenes	ND U	0.50	1	02/07/19 18:11	2/7/19	
o-Xylene	ND U	0.50	1	02/07/19 18:11	2/7/19	
Styrene	ND U	0.50	1	02/07/19 18:11	2/7/19	
Bromoform	ND U	0.50	1	02/07/19 18:11	2/7/19	
Isopropylbenzene	ND U	2.0	1	02/07/19 18:11	2/7/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 10:45
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-02-13I	**Units:**	ug/L
Lab Code:	K1900890-002	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/07/19 18:11	2/7/19	
Bromobenzene	ND U	2.0	1	02/07/19 18:11	2/7/19	
n-Propylbenzene	ND U	2.0	1	02/07/19 18:11	2/7/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/07/19 18:11	2/7/19	
2-Chlorotoluene	ND U	2.0	1	02/07/19 18:11	2/7/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/07/19 18:11	2/7/19	
4-Chlorotoluene	ND U	2.0	1	02/07/19 18:11	2/7/19	
tert-Butylbenzene	ND U	2.0	1	02/07/19 18:11	2/7/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/07/19 18:11	2/7/19	
sec-Butylbenzene	ND U	2.0	1	02/07/19 18:11	2/7/19	
4-Isopropyltoluene	ND U	2.0	1	02/07/19 18:11	2/7/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/07/19 18:11	2/7/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/07/19 18:11	2/7/19	
n-Butylbenzene	ND U	2.0	1	02/07/19 18:11	2/7/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/07/19 18:11	2/7/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/07/19 18:11	2/7/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/07/19 18:11	2/7/19	
Hexachlorobutadiene	ND U	2.0	1	02/07/19 18:11	2/7/19	
Naphthalene	ND U	2.0	1	02/07/19 18:11	2/7/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/07/19 18:11	2/7/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	108	73 - 122	02/07/19 18:11	
Toluene-d8	113	65 - 144	02/07/19 18:11	
4-Bromofluorobenzene	103	68 - 117	02/07/19 18:11	

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 09:50
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-01-26I	**Units:**	ug/L
Lab Code:	K1900890-003	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/07/19 18:37	2/7/19	
Chloromethane	ND U	0.50	1	02/07/19 18:37	2/7/19	
Bromomethane	ND U	0.50	1	02/07/19 18:37	2/7/19	
Chloroethane	ND U	0.50	1	02/07/19 18:37	2/7/19	
Trichlorofluoromethane	ND U	0.50	1	02/07/19 18:37	2/7/19	*
Acetone	ND U	20	1	02/07/19 18:37	2/7/19	
Carbon Disulfide	ND U	0.50	1	02/07/19 18:37	2/7/19	
Methylene chloride	ND U	2.0	1	02/07/19 18:37	2/7/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/07/19 18:37	2/7/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/07/19 18:37	2/7/19	
1,1-Dichloroethane	ND U	0.50	1	02/07/19 18:37	2/7/19	
2,2-Dichloropropane	ND U	0.50	1	02/07/19 18:37	2/7/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/07/19 18:37	2/7/19	
2-Butanone (MEK)	ND U	20	1	02/07/19 18:37	2/7/19	
Bromochloromethane	ND U	0.50	1	02/07/19 18:37	2/7/19	
Chloroform	ND U	0.50	1	02/07/19 18:37	2/7/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/07/19 18:37	2/7/19	
Carbon Tetrachloride	ND U	0.50	1	02/07/19 18:37	2/7/19	
1,1-Dichloropropene	ND U	0.50	1	02/07/19 18:37	2/7/19	
Benzene	ND U	0.50	1	02/07/19 18:37	2/7/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/07/19 18:37	2/7/19	
Trichloroethene (TCE)	ND U	0.50	1	02/07/19 18:37	2/7/19	
1,2-Dichloropropane	ND U	0.50	1	02/07/19 18:37	2/7/19	
Dibromomethane	ND U	0.50	1	02/07/19 18:37	2/7/19	
Bromodichloromethane	ND U	0.50	1	02/07/19 18:37	2/7/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/07/19 18:37	2/7/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/07/19 18:37	2/7/19	
Toluene	ND U	0.50	1	02/07/19 18:37	2/7/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/07/19 18:37	2/7/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/07/19 18:37	2/7/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/07/19 18:37	2/7/19	
2-Hexanone	ND U	20	1	02/07/19 18:37	2/7/19	
1,3-Dichloropropane	ND U	0.50	1	02/07/19 18:37	2/7/19	
Dibromochloromethane	ND U	0.50	1	02/07/19 18:37	2/7/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/07/19 18:37	2/7/19	
Chlorobenzene	ND U	0.50	1	02/07/19 18:37	2/7/19	
Ethylbenzene	ND U	0.50	1	02/07/19 18:37	2/7/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/07/19 18:37	2/7/19	
m,p-Xylenes	ND U	0.50	1	02/07/19 18:37	2/7/19	
o-Xylene	ND U	0.50	1	02/07/19 18:37	2/7/19	
Styrene	ND U	0.50	1	02/07/19 18:37	2/7/19	
Bromoform	ND U	0.50	1	02/07/19 18:37	2/7/19	
Isopropylbenzene	ND U	2.0	1	02/07/19 18:37	2/7/19	

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 09:50
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-01-26I	**Units:**	ug/L
Lab Code:	K1900890-003	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/07/19 18:37	2/7/19	
Bromobenzene	ND U	2.0	1	02/07/19 18:37	2/7/19	
n-Propylbenzene	ND U	2.0	1	02/07/19 18:37	2/7/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/07/19 18:37	2/7/19	
2-Chlorotoluene	ND U	2.0	1	02/07/19 18:37	2/7/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/07/19 18:37	2/7/19	
4-Chlorotoluene	ND U	2.0	1	02/07/19 18:37	2/7/19	
tert-Butylbenzene	ND U	2.0	1	02/07/19 18:37	2/7/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/07/19 18:37	2/7/19	
sec-Butylbenzene	ND U	2.0	1	02/07/19 18:37	2/7/19	
4-Isopropyltoluene	ND U	2.0	1	02/07/19 18:37	2/7/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/07/19 18:37	2/7/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/07/19 18:37	2/7/19	
n-Butylbenzene	ND U	2.0	1	02/07/19 18:37	2/7/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/07/19 18:37	2/7/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/07/19 18:37	2/7/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/07/19 18:37	2/7/19	
Hexachlorobutadiene	ND U	2.0	1	02/07/19 18:37	2/7/19	
Naphthalene	ND U	2.0	1	02/07/19 18:37	2/7/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/07/19 18:37	2/7/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	110	73 - 122	02/07/19 18:37	
Toluene-d8	115	65 - 144	02/07/19 18:37	
4-Bromofluorobenzene	104	68 - 117	02/07/19 18:37	

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 11:40
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-03-27I	**Units:**	ug/L
Lab Code:	K1900890-004	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/07/19 19:03	2/7/19	
Chloromethane	ND U	0.50	1	02/07/19 19:03	2/7/19	
Bromomethane	ND U	0.50	1	02/07/19 19:03	2/7/19	
Chloroethane	ND U	0.50	1	02/07/19 19:03	2/7/19	
Trichlorofluoromethane	ND U	0.50	1	02/07/19 19:03	2/7/19	*
Acetone	ND U	20	1	02/07/19 19:03	2/7/19	
Carbon Disulfide	ND U	0.50	1	02/07/19 19:03	2/7/19	
Methylene chloride	ND U	2.0	1	02/07/19 19:03	2/7/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/07/19 19:03	2/7/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/07/19 19:03	2/7/19	
1,1-Dichloroethane	ND U	0.50	1	02/07/19 19:03	2/7/19	
2,2-Dichloropropane	ND U	0.50	1	02/07/19 19:03	2/7/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/07/19 19:03	2/7/19	
2-Butanone (MEK)	ND U	20	1	02/07/19 19:03	2/7/19	
Bromochloromethane	ND U	0.50	1	02/07/19 19:03	2/7/19	
Chloroform	ND U	0.50	1	02/07/19 19:03	2/7/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/07/19 19:03	2/7/19	
Carbon Tetrachloride	ND U	0.50	1	02/07/19 19:03	2/7/19	
1,1-Dichloropropene	ND U	0.50	1	02/07/19 19:03	2/7/19	
Benzene	ND U	0.50	1	02/07/19 19:03	2/7/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/07/19 19:03	2/7/19	
Trichloroethene (TCE)	ND U	0.50	1	02/07/19 19:03	2/7/19	
1,2-Dichloropropane	ND U	0.50	1	02/07/19 19:03	2/7/19	
Dibromomethane	ND U	0.50	1	02/07/19 19:03	2/7/19	
Bromodichloromethane	ND U	0.50	1	02/07/19 19:03	2/7/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/07/19 19:03	2/7/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/07/19 19:03	2/7/19	
Toluene	ND U	0.50	1	02/07/19 19:03	2/7/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/07/19 19:03	2/7/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/07/19 19:03	2/7/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/07/19 19:03	2/7/19	
2-Hexanone	ND U	20	1	02/07/19 19:03	2/7/19	
1,3-Dichloropropane	ND U	0.50	1	02/07/19 19:03	2/7/19	
Dibromochloromethane	ND U	0.50	1	02/07/19 19:03	2/7/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/07/19 19:03	2/7/19	
Chlorobenzene	ND U	0.50	1	02/07/19 19:03	2/7/19	
Ethylbenzene	ND U	0.50	1	02/07/19 19:03	2/7/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/07/19 19:03	2/7/19	
m,p-Xylenes	ND U	0.50	1	02/07/19 19:03	2/7/19	
o-Xylene	ND U	0.50	1	02/07/19 19:03	2/7/19	
Styrene	ND U	0.50	1	02/07/19 19:03	2/7/19	
Bromoform	ND U	0.50	1	02/07/19 19:03	2/7/19	
Isopropylbenzene	ND U	2.0	1	02/07/19 19:03	2/7/19	

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 11:40
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-03-27I	**Units:**	ug/L
Lab Code:	K1900890-004	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/07/19 19:03	2/7/19	
Bromobenzene	ND U	2.0	1	02/07/19 19:03	2/7/19	
n-Propylbenzene	ND U	2.0	1	02/07/19 19:03	2/7/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/07/19 19:03	2/7/19	
2-Chlorotoluene	ND U	2.0	1	02/07/19 19:03	2/7/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/07/19 19:03	2/7/19	
4-Chlorotoluene	ND U	2.0	1	02/07/19 19:03	2/7/19	
tert-Butylbenzene	ND U	2.0	1	02/07/19 19:03	2/7/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/07/19 19:03	2/7/19	
sec-Butylbenzene	ND U	2.0	1	02/07/19 19:03	2/7/19	
4-Isopropyltoluene	ND U	2.0	1	02/07/19 19:03	2/7/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/07/19 19:03	2/7/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/07/19 19:03	2/7/19	
n-Butylbenzene	ND U	2.0	1	02/07/19 19:03	2/7/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/07/19 19:03	2/7/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/07/19 19:03	2/7/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/07/19 19:03	2/7/19	
Hexachlorobutadiene	ND U	2.0	1	02/07/19 19:03	2/7/19	
Naphthalene	ND U	2.0	1	02/07/19 19:03	2/7/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/07/19 19:03	2/7/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	110	73 - 122	02/07/19 19:03	
Toluene-d8	115	65 - 144	02/07/19 19:03	
4-Bromofluorobenzene	104	68 - 117	02/07/19 19:03	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	K1900890-005	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/07/19 17:19	2/7/19	
Chloromethane	ND U	0.50	1	02/07/19 17:19	2/7/19	
Bromomethane	ND U	0.50	1	02/07/19 17:19	2/7/19	
Chloroethane	ND U	0.50	1	02/07/19 17:19	2/7/19	
Trichlorofluoromethane	ND U	0.50	1	02/07/19 17:19	2/7/19	*
Acetone	ND U	20	1	02/07/19 17:19	2/7/19	
Carbon Disulfide	ND U	0.50	1	02/07/19 17:19	2/7/19	
Methylene chloride	ND U	2.0	1	02/07/19 17:19	2/7/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/07/19 17:19	2/7/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/07/19 17:19	2/7/19	
1,1-Dichloroethane	ND U	0.50	1	02/07/19 17:19	2/7/19	
2,2-Dichloropropane	ND U	0.50	1	02/07/19 17:19	2/7/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/07/19 17:19	2/7/19	
2-Butanone (MEK)	ND U	20	1	02/07/19 17:19	2/7/19	
Bromochloromethane	ND U	0.50	1	02/07/19 17:19	2/7/19	
Chloroform	ND U	0.50	1	02/07/19 17:19	2/7/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/07/19 17:19	2/7/19	
Carbon Tetrachloride	ND U	0.50	1	02/07/19 17:19	2/7/19	
1,1-Dichloropropene	ND U	0.50	1	02/07/19 17:19	2/7/19	
Benzene	ND U	0.50	1	02/07/19 17:19	2/7/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/07/19 17:19	2/7/19	
Trichloroethene (TCE)	ND U	0.50	1	02/07/19 17:19	2/7/19	
1,2-Dichloropropane	ND U	0.50	1	02/07/19 17:19	2/7/19	
Dibromomethane	ND U	0.50	1	02/07/19 17:19	2/7/19	
Bromodichloromethane	ND U	0.50	1	02/07/19 17:19	2/7/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/07/19 17:19	2/7/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/07/19 17:19	2/7/19	
Toluene	ND U	0.50	1	02/07/19 17:19	2/7/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/07/19 17:19	2/7/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/07/19 17:19	2/7/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/07/19 17:19	2/7/19	
2-Hexanone	ND U	20	1	02/07/19 17:19	2/7/19	
1,3-Dichloropropane	ND U	0.50	1	02/07/19 17:19	2/7/19	
Dibromochloromethane	ND U	0.50	1	02/07/19 17:19	2/7/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/07/19 17:19	2/7/19	
Chlorobenzene	ND U	0.50	1	02/07/19 17:19	2/7/19	
Ethylbenzene	ND U	0.50	1	02/07/19 17:19	2/7/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/07/19 17:19	2/7/19	
m,p-Xylenes	ND U	0.50	1	02/07/19 17:19	2/7/19	
o-Xylene	ND U	0.50	1	02/07/19 17:19	2/7/19	
Styrene	ND U	0.50	1	02/07/19 17:19	2/7/19	
Bromoform	ND U	0.50	1	02/07/19 17:19	2/7/19	
Isopropylbenzene	ND U	2.0	1	02/07/19 17:19	2/7/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	Trip Blank	**Units:**	ug/L
Lab Code:	K1900890-005	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/07/19 17:19	2/7/19	
Bromobenzene	ND U	2.0	1	02/07/19 17:19	2/7/19	
n-Propylbenzene	ND U	2.0	1	02/07/19 17:19	2/7/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/07/19 17:19	2/7/19	
2-Chlorotoluene	ND U	2.0	1	02/07/19 17:19	2/7/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/07/19 17:19	2/7/19	
4-Chlorotoluene	ND U	2.0	1	02/07/19 17:19	2/7/19	
tert-Butylbenzene	ND U	2.0	1	02/07/19 17:19	2/7/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/07/19 17:19	2/7/19	
sec-Butylbenzene	ND U	2.0	1	02/07/19 17:19	2/7/19	
4-Isopropyltoluene	ND U	2.0	1	02/07/19 17:19	2/7/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/07/19 17:19	2/7/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/07/19 17:19	2/7/19	
n-Butylbenzene	ND U	2.0	1	02/07/19 17:19	2/7/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/07/19 17:19	2/7/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/07/19 17:19	2/7/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/07/19 17:19	2/7/19	
Hexachlorobutadiene	ND U	2.0	1	02/07/19 17:19	2/7/19	
Naphthalene	ND U	2.0	1	02/07/19 17:19	2/7/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/07/19 17:19	2/7/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	109	73 - 122	02/07/19 17:19	
Toluene-d8	112	65 - 144	02/07/19 17:19	
4-Bromofluorobenzene	104	68 - 117	02/07/19 17:19	

Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 12:50
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-04-3S	**Basis:**	NA
Lab Code:	K1900890-001		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/04/19 11:45	02/01/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/04/19 11:45	02/01/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 10:45
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-02-13I	**Basis:**	NA
Lab Code:	K1900890-002		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/04/19 12:09	02/01/19	
Manganese	6010C	**4.0**	ug/L	1.1	1	02/04/19 12:09	02/01/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 09:50
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-01-26I	**Basis:**	NA
Lab Code:	K1900890-003		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/04/19 12:12	02/01/19	
Manganese	6010C	**1.2**	ug/L	1.1	1	02/04/19 12:12	02/01/19	

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 11:40
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-03-27I	**Basis:**	NA
Lab Code:	K1900890-004		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/04/19 12:14	02/01/19	
Manganese	6010C	**232**	ug/L	1.1	1	02/04/19 12:14	02/01/19	

General Chemistry

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Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 12:50
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-04-3S	**Basis:**	NA
Lab Code:	K1900890-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**3.48**	mg/L	0.20	2	01/31/19 14:19	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	2	01/31/19 14:19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 12:50
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-04-3S	**Basis:**	NA
Lab Code:	K1900890-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**106**	mg/L	5.0	1	02/04/19 09:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 10:45
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-02-13I	**Basis:**	NA
Lab Code:	K1900890-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**9.91**	mg/L	0.20	2	01/31/19 14:29	
Nitrate as Nitrogen	300.0	**2.88**	mg/L	0.10	2	01/31/19 14:29	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 10:45
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-02-13I	**Basis:**	NA
Lab Code:	K1900890-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**152**	mg/L	5.0	1	02/04/19 09:10	

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 09:50
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-01-26I	**Basis:**	NA
Lab Code:	K1900890-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**7.86**	mg/L	0.20	2	01/31/19 14:39	
Nitrate as Nitrogen	300.0	**3.69**	mg/L	0.10	2	01/31/19 14:39	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 09:50
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-01-26I	**Basis:**	NA
Lab Code:	K1900890-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**143**	mg/L	5.0	1	02/04/19 09:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 11:40
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-03-27I	**Basis:**	NA
Lab Code:	K1900890-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**27.7**	mg/L	0.50	5	01/31/19 16:30	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	2	01/31/19 14:50	

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19 11:40
Sample Matrix:	Ground Water	**Date Received:**	01/31/19 12:00
Sample Name:	LB-013019-03-27I	**Basis:**	NA
Lab Code:	K1900890-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**267**	mg/L	5.0	1	02/04/19 09:10	

QC Summary Forms

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Volatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: SCS Engineers **Service Request:** K1900890
Project: Leichner Landfill/04219030.13
Sample Matrix: Ground Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds

Analysis Method: 8260C
Extraction Method: EPA 5030B

Sample Name	Lab Code	4-Bromofluorobenzene 68 - 117	Dibromofluoromethane 73 - 122	Toluene-d8 65 - 144
LB-013019-04-3S	K1900890-001	103	108	117
LB-013019-02-13I	K1900890-002	103	108	113
LB-013019-01-26I	K1900890-003	104	110	115
LB-013019-03-27I	K1900890-004	104	110	115
Trip Blank	K1900890-005	104	109	112
LB-013019-02-13I MS	KWG1900682-1	108	111	118
LB-013019-02-13I DMS	KWG1900682-2	106	109	116
Lab Control Sample	KWG1900682-3	107	107	119
Method Blank	KWG1900682-4	107	110	115

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	01/30/19
Sample Matrix:	Ground Water	**Date Received:**	01/31/19
		Date Analyzed:	02/7/19
		Date Extracted:	02/7/19

Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name:	LB-013019-02-13I	**Units:**	ug/L
Lab Code:	K1900890-002	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	EPA 5030B		

		Matrix Spike KWG1900682-1			Duplicate Matrix Spike KWG1900682-2					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloroform	ND U	11.3	10.0	113	10.6	10.0	106	64-133	6	30
Carbon Tetrachloride	ND U	11.9	10.0	119	11.1	10.0	111	53-161	7	30
Benzene	ND U	11.4	10.0	114	10.7	10.0	107	63-144	7	30
Trichloroethene (TCE)	ND U	11.7	10.0	117	10.7	10.0	107	53-139	9	30
Bromodichloromethane	ND U	10.8	10.0	108	10.3	10.0	103	61-134	5	30
Toluene	ND U	11.2	10.0	112	10.3	10.0	103	71-136	9	30
1,1,2-Trichloroethane	ND U	10.7	10.0	107	10.4	10.0	104	74-124	3	30
2-Hexanone	ND U	57.5	50.0	115	58.4	50.0	117	53-132	1	30
Chlorobenzene	ND U	10.5	10.0	105	10.2	10.0	102	69-126	4	30
Ethylbenzene	ND U	11.2	10.0	112	10.7	10.0	107	66-136	5	30
1,2,3-Trichloropropane	ND U	10.6	10.0	106	10.6	10.0	106	71-127	<1	30
2-Chlorotoluene	ND U	11.1	10.0	111	10.4	10.0	104	55-139	6	30
1,2-Dichlorobenzene	ND U	10.4	10.0	104	9.74	10.0	97	72-119	6	30
Naphthalene	ND U	9.78	10.0	98	9.76	10.0	98	52-147	<1	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1900682-4	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	02/07/19 16:01	2/7/19	
Chloromethane	ND U	0.50	1	02/07/19 16:01	2/7/19	
Bromomethane	ND U	0.50	1	02/07/19 16:01	2/7/19	
Chloroethane	ND U	0.50	1	02/07/19 16:01	2/7/19	
Trichlorofluoromethane	ND U	0.50	1	02/07/19 16:01	2/7/19	*
Acetone	ND U	20	1	02/07/19 16:01	2/7/19	
Carbon Disulfide	ND U	0.50	1	02/07/19 16:01	2/7/19	
Methylene chloride	ND U	2.0	1	02/07/19 16:01	2/7/19	
Methyl tert-Butyl Ether	ND U	0.50	1	02/07/19 16:01	2/7/19	
trans-1,2-Dichloroethene	ND U	0.50	1	02/07/19 16:01	2/7/19	
1,1-Dichloroethane	ND U	0.50	1	02/07/19 16:01	2/7/19	
2,2-Dichloropropane	ND U	0.50	1	02/07/19 16:01	2/7/19	
cis-1,2-Dichloroethene	ND U	0.50	1	02/07/19 16:01	2/7/19	
2-Butanone (MEK)	ND U	20	1	02/07/19 16:01	2/7/19	
Bromochloromethane	ND U	0.50	1	02/07/19 16:01	2/7/19	
Chloroform	ND U	0.50	1	02/07/19 16:01	2/7/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	02/07/19 16:01	2/7/19	
Carbon Tetrachloride	ND U	0.50	1	02/07/19 16:01	2/7/19	
1,1-Dichloropropene	ND U	0.50	1	02/07/19 16:01	2/7/19	
Benzene	ND U	0.50	1	02/07/19 16:01	2/7/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	02/07/19 16:01	2/7/19	
Trichloroethene (TCE)	ND U	0.50	1	02/07/19 16:01	2/7/19	
1,2-Dichloropropane	ND U	0.50	1	02/07/19 16:01	2/7/19	
Dibromomethane	ND U	0.50	1	02/07/19 16:01	2/7/19	
Bromodichloromethane	ND U	0.50	1	02/07/19 16:01	2/7/19	
cis-1,3-Dichloropropene	ND U	0.50	1	02/07/19 16:01	2/7/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	02/07/19 16:01	2/7/19	
Toluene	ND U	0.50	1	02/07/19 16:01	2/7/19	
trans-1,3-Dichloropropene	ND U	0.50	1	02/07/19 16:01	2/7/19	
1,1,2-Trichloroethane	ND U	0.50	1	02/07/19 16:01	2/7/19	
Tetrachloroethene (PCE)	ND U	0.50	1	02/07/19 16:01	2/7/19	
2-Hexanone	ND U	20	1	02/07/19 16:01	2/7/19	
1,3-Dichloropropane	ND U	0.50	1	02/07/19 16:01	2/7/19	
Dibromochloromethane	ND U	0.50	1	02/07/19 16:01	2/7/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	02/07/19 16:01	2/7/19	
Chlorobenzene	ND U	0.50	1	02/07/19 16:01	2/7/19	
Ethylbenzene	ND U	0.50	1	02/07/19 16:01	2/7/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	02/07/19 16:01	2/7/19	
m,p-Xylenes	ND U	0.50	1	02/07/19 16:01	2/7/19	
o-Xylene	ND U	0.50	1	02/07/19 16:01	2/7/19	
Styrene	ND U	0.50	1	02/07/19 16:01	2/7/19	
Bromoform	ND U	0.50	1	02/07/19 16:01	2/7/19	
Isopropylbenzene	ND U	2.0	1	02/07/19 16:01	2/7/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1900682-4	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	02/07/19 16:01	2/7/19	
Bromobenzene	ND U	2.0	1	02/07/19 16:01	2/7/19	
n-Propylbenzene	ND U	2.0	1	02/07/19 16:01	2/7/19	
1,2,3-Trichloropropane	ND U	0.50	1	02/07/19 16:01	2/7/19	
2-Chlorotoluene	ND U	2.0	1	02/07/19 16:01	2/7/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	02/07/19 16:01	2/7/19	
4-Chlorotoluene	ND U	2.0	1	02/07/19 16:01	2/7/19	
tert-Butylbenzene	ND U	2.0	1	02/07/19 16:01	2/7/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	02/07/19 16:01	2/7/19	
sec-Butylbenzene	ND U	2.0	1	02/07/19 16:01	2/7/19	
4-Isopropyltoluene	ND U	2.0	1	02/07/19 16:01	2/7/19	
1,3-Dichlorobenzene	ND U	0.50	1	02/07/19 16:01	2/7/19	
1,4-Dichlorobenzene	ND U	0.50	1	02/07/19 16:01	2/7/19	
n-Butylbenzene	ND U	2.0	1	02/07/19 16:01	2/7/19	
1,2-Dichlorobenzene	ND U	0.50	1	02/07/19 16:01	2/7/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	02/07/19 16:01	2/7/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	02/07/19 16:01	2/7/19	
Hexachlorobutadiene	ND U	2.0	1	02/07/19 16:01	2/7/19	
Naphthalene	ND U	2.0	1	02/07/19 16:01	2/7/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	02/07/19 16:01	2/7/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	110	73 - 122	02/07/19 16:01	
Toluene-d8	115	65 - 144	02/07/19 16:01	
4-Bromofluorobenzene	107	68 - 117	02/07/19 16:01	

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Analyzed:**	02/07/19
Sample Matrix:	Ground Water	**Date Extracted:**	02/07/19

Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	EPA 5030B	**Basis:**	NA
		Analysis Lot:	KWG1900681

Lab Control Sample
KWG1900682-3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	8.65	10.0	87	66-124
1,1,1-Trichloroethane (TCA)	6.77	10.0	68	59-136
1,1,2,2-Tetrachloroethane	8.78	10.0	88	70-127
1,1,2-Trichloroethane	9.07	10.0	91	74-118
1,1-Dichloroethane	8.57	10.0	86	68-132
1,1-Dichloropropene	7.01	10.0	70	59-134
1,2,3-Trichlorobenzene	7.62	10.0	76	68-120
1,2,3-Trichloropropane	8.75	10.0	88	69-123
1,2,4-Trichlorobenzene	8.00	10.0	80	58-126
1,2,4-Trimethylbenzene	8.19	10.0	82	63-122
1,2-Dibromo-3-chloropropane	7.42	10.0	74	55-132
1,2-Dibromoethane (EDB)	8.95	10.0	90	74-118
1,2-Dichlorobenzene	8.54	10.0	85	72-115
1,2-Dichloroethane (EDC)	9.03	10.0	90	56-142
1,2-Dichloropropane	9.07	10.0	91	67-126
1,3,5-Trimethylbenzene	7.74	10.0	77	62-126
1,3-Dichlorobenzene	8.39	10.0	84	70-116
1,3-Dichloropropane	9.10	10.0	91	75-116
1,4-Dichlorobenzene	8.34	10.0	83	73-115
2,2-Dichloropropane	7.08	10.0	71	37-145
2-Butanone (MEK)	46.6	50.0	93	71-149
2-Chlorotoluene	8.08	10.0	81	55-131
2-Hexanone	46.0	50.0	92	59-131
4-Chlorotoluene	8.28	10.0	83	66-121
4-Isopropyltoluene	7.67	10.0	77	61-128
4-Methyl-2-pentanone (MIBK)	46.5	50.0	93	64-134
Acetone	46.9	50.0	94	68-135
Benzene	8.07	10.0	81	69-124
Bromobenzene	8.72	10.0	87	72-116
Bromochloromethane	9.33	10.0	93	75-131
Bromodichloromethane	9.06	10.0	91	63-129
Bromoform	8.35	10.0	84	52-144
Bromomethane	6.50	10.0	65	35-113
Carbon Disulfide	12.3	20.0	62	46-144
Carbon Tetrachloride	6.65	10.0	67	55-140
Chlorobenzene	8.45	10.0	85	72-116
Chloroethane	7.21	10.0	72	58-134
Chloroform	8.51	10.0	85	70-129
Chloromethane	7.48	10.0	75	34-130
cis-1,2-Dichloroethene	8.26	10.0	83	71-118
cis-1,3-Dichloropropene	9.16	10.0	92	62-132

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Analyzed:**	02/07/19
Sample Matrix:	Ground Water	**Date Extracted:**	02/07/19

Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	EPA 5030B	**Basis:**	NA
		Analysis Lot:	KWG1900681

Lab Control Sample
KWG1900682-3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Dibromochloromethane	8.60	10.0	86	67-126
Dibromomethane	9.02	10.0	90	69-128
Dichlorodifluoromethane	4.43	10.0	44	32-124
Ethylbenzene	7.87	10.0	79	67-121
Hexachlorobutadiene	7.19	10.0	72	57-119
Isopropylbenzene	7.29	10.0	73	67-129
m,p-Xylenes	15.5	20.0	78	69-121
Methyl tert-Butyl Ether	9.74	10.0	97	54-126
Methylene chloride	8.96	10.0	90	71-122
Naphthalene	7.42	10.0	74	64-126
n-Butylbenzene	7.51	10.0	75	55-130
n-Propylbenzene	7.51	10.0	75	61-124
o-Xylene	8.15	10.0	82	71-119
sec-Butylbenzene	7.36	10.0	74	59-128
Styrene	8.72	10.0	87	74-121
tert-Butylbenzene	7.35	10.0	74	61-127
Tetrachloroethene (PCE)	7.16	10.0	72	62-126
Toluene	8.04	10.0	80	69-124
trans-1,2-Dichloroethene	7.82	10.0	78	67-125
trans-1,3-Dichloropropene	8.67	10.0	87	59-125
Trichloroethene (TCE)	7.72	10.0	77	67-128
Trichlorofluoromethane	5.04	10.0	50 *	52-141

Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	KQ1901322-02		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	02/04/19 10:44	02/01/19	
Manganese	6010C	ND U	ug/L	1.1	1	02/04/19 10:44	02/01/19	

Client: SCS Engineers
Project: Leichner Landfill/04219030.13
Sample Matrix: Ground Water

Service Request: K1900890
Date Analyzed: 02/04/19

Lab Control Sample Summary
Dissolved Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ1901322-01

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron	6010C	2320	2500	93	80-120
Manganese	6010C	1140	1250	91	80-120

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1900890-MB1		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	1	01/31/19 10:02	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.050	1	01/31/19 10:02	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1900890-MB1		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	02/04/19 09:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1900890-MB2		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	02/04/19 09:10	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1900890
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1900890-MB3		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	02/04/19 09:10	

Client: SCS Engineers
Project: Leichner Landfill/04219030.13
Sample Matrix: Ground Water

Service Request: K1900890
Date Analyzed: 01/31/19 - 02/04/19

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
K1900890-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.83	5.00	97	90-110
Nitrate as Nitrogen	300.0	2.45	2.50	98	90-110
Solids, Total Dissolved	SM 2540 C	501	523	96	85-115

Third Quarter (July) 2019 Laboratory Reports

August 06, 2019 Service Request No:K1906741

Tiffany Andrews
SCS Engineers
15940 SW 72nd Ave
Portland, OR 97224

Laboratory Results for: Leichner Landfill

Dear Tiffany,

Enclosed are the results of the sample(s) submitted to our laboratory July 23, 2019
For your reference, these analyses have been assigned our service request number **K1906741.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
PHONE +1 360 577 7222 | FAX +1 360 636 1068
ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: SCS Engineers
Project: Leichner Landfill
Sample Matrix: Water

Service Request: K1906741
Date Received: 07/23/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Six water samples were received for analysis at ALS Environmental on 07/23/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

No significant anomalies were noted with this analysis.

Approved by  Date 08/06/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: LB072219-01-1S			Lab ID: K1906741-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	205			5.0	mg/L	SM 2540 C
Chloride	12.2			0.20	mg/L	300.0
Nitrate as Nitrogen	4.49			0.10	mg/L	300.0

CLIENT ID: LB072219-02-5S			Lab ID: K1906741-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	168			5.0	mg/L	SM 2540 C
Chloride	4.34			0.20	mg/L	300.0
Nitrate as Nitrogen	5.58			0.10	mg/L	300.0

CLIENT ID: LB072219-03-DUP			Lab ID: K1906741-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	156			5.0	mg/L	SM 2540 C
Chloride	4.30			0.20	mg/L	300.0
Nitrate as Nitrogen	5.58			0.10	mg/L	300.0

CLIENT ID: LB072219-05-13I			Lab ID: K1906741-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	207			5.0	mg/L	SM 2540 C
Chloride	10.1			0.20	mg/L	300.0
Nitrate as Nitrogen	3.75			0.10	mg/L	300.0
Manganese, Dissolved	4.5			1.1	ug/L	6010C

CLIENT ID: LB072219-04-27I			Lab ID: K1906741-005			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	380			5.0	mg/L	SM 2540 C
Chloride	20.5			0.50	mg/L	300.0
Nitrate as Nitrogen	0.49			0.10	mg/L	300.0
Manganese, Dissolved	347			1.1	ug/L	6010C

Sample Receipt Information

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client: SCS Engineers **Service Request:**K1906741

Project: Leichner Landfill/04219030.13

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1906741-001	LB072219-01-1S	7/22/2019	1115
K1906741-002	LB072219-02-5S	7/22/2019	1220
K1906741-003	LB072219-03-DUP	7/22/2019	1225
K1906741-004	LB072219-05-13I	7/22/2019	1450
K1906741-005	LB072219-04-27I	7/22/2019	1355

CHAIN OF CUSTODY

SR# K1906741

1317 South 13th Ave., Kelso, WA 98626 | +1 360 577 7222 | +1 800 695 7222 | +1 360 636 1068 (fax)

PAGE _____ OF _____ COC# _____

PROJECT NAME: Leichner Landfill
PROJECT NUMBER: 042190030.13
PROJECT MANAGER: Tiffany Andrews
COMPANY NAME: SCS Engineers
ADDRESS: 15940 SW 72nd Ave
CITY/STATE/ZIP: Portland, OR 97224
E-MAIL ADDRESS: TAndrews@scsengineers.com
PHONE #: 503 639 9601 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☐	Hydrocarbons (*see below) Gas☐ 8021☐ BTEX☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics Tri☐ Tetra☐	Metals, Total or Dissolved (See List below)	PCP☐	Cyanide☐	Hex-Chrom☐	(circle) pH, Cond, Cl, SO_4, PO_4, F, NO_2, NO_3, BOD, TSS, TDS, Turb.	(circle) NH_3-N, COD, TKN, TOC, DOC, NO_2+NO_3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity ☐ CO_3 ☐ HCO_3 ☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases CO_2☐ RSK 175☐ Methane☐ Ethane☐ Ethene☐	REMARKS
LB-07219-01-1S	7/22	1115		W	5		X						X		X								
LB-07219-02-5S	7/22	1220		W	5		X						X		X								
LB-07219-03-DUP	7/22	1225		W	5		X						X		X								
LB-07219-05-TB	7/22	1450		W	5		X						X		X								
LB-07219-04-2I	7/22	1355		W	5		X						X		X								
Trip Blanks	—	—		W			X																

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
___ V. EDD

INVOICE INFORMATION

P.O. # _____
Bill To: _____

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 day
✓ Standard (15 working days)
___ Provide FAX Results

Requested Report Date _____

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:
Samples are field-filtered for metals

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:		RECEIVED BY:		RELINQUISHED BY:		RECEIVED BY:	
Signature	Date/Time 7/23/19	Signature	Date/Time 7/23/19	Signature	Date/Time	Signature	Date/Time
Printed Name	Firm SCS	Printed Name	Firm ALS 0915	Printed Name	Firm	Printed Name	Firm

PC 1111

Cooler Receipt and Preservation Form

Client SCS Service Request *K19* 1906741

Received: 7/23/19 Opened: 7/23/19 By: AM Unloaded: 7/23/19 By: AL

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number (NA)	Filed
-0.3	-0.5	—	—	-0.2	325			

4. Packing material: *Inserts* (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y (N)
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
TripBlanks	(4) VOAs		X							

Notes, Discrepancies, & Resolutions: _____

SHORT HOLD TIME

Miscellaneous Forms

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1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Sample Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
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www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 11:15
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-01-1S	**Units:**	ug/L
Lab Code:	K1906741-001	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
Chloromethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
Bromomethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
Chloroethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
Trichlorofluoromethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
Acetone	ND U	20	1	07/27/19 23:35	7/27/19	
Carbon Disulfide	ND U	0.50	1	07/27/19 23:35	7/27/19	
Methylene chloride	ND U	2.0	1	07/27/19 23:35	7/27/19	
Methyl tert-Butyl Ether	ND U	0.50	1	07/27/19 23:35	7/27/19	
trans-1,2-Dichloroethene	ND U	0.50	1	07/27/19 23:35	7/27/19	
1,1-Dichloroethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
2,2-Dichloropropane	ND U	0.50	1	07/27/19 23:35	7/27/19	
cis-1,2-Dichloroethene	ND U	0.50	1	07/27/19 23:35	7/27/19	
2-Butanone (MEK)	ND U	20	1	07/27/19 23:35	7/27/19	
Bromochloromethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
Chloroform	ND U	0.50	1	07/27/19 23:35	7/27/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/27/19 23:35	7/27/19	
Carbon Tetrachloride	ND U	0.50	1	07/27/19 23:35	7/27/19	
1,1-Dichloropropene	ND U	0.50	1	07/27/19 23:35	7/27/19	
Benzene	ND U	0.50	1	07/27/19 23:35	7/27/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/27/19 23:35	7/27/19	
Trichloroethene (TCE)	ND U	0.50	1	07/27/19 23:35	7/27/19	
1,2-Dichloropropane	ND U	0.50	1	07/27/19 23:35	7/27/19	
Dibromomethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
Bromodichloromethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
cis-1,3-Dichloropropene	ND U	0.50	1	07/27/19 23:35	7/27/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/27/19 23:35	7/27/19	
Toluene	ND U	0.50	1	07/27/19 23:35	7/27/19	
trans-1,3-Dichloropropene	ND U	0.50	1	07/27/19 23:35	7/27/19	
1,1,2-Trichloroethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
Tetrachloroethene (PCE)	ND U	0.50	1	07/27/19 23:35	7/27/19	
2-Hexanone	ND U	20	1	07/27/19 23:35	7/27/19	
1,3-Dichloropropane	ND U	0.50	1	07/27/19 23:35	7/27/19	
Dibromochloromethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/27/19 23:35	7/27/19	
Chlorobenzene	ND U	0.50	1	07/27/19 23:35	7/27/19	
Ethylbenzene	ND U	0.50	1	07/27/19 23:35	7/27/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
m,p-Xylenes	ND U	0.50	1	07/27/19 23:35	7/27/19	
o-Xylene	ND U	0.50	1	07/27/19 23:35	7/27/19	
Styrene	ND U	0.50	1	07/27/19 23:35	7/27/19	
Bromoform	ND U	0.50	1	07/27/19 23:35	7/27/19	
Isopropylbenzene	ND U	2.0	1	07/27/19 23:35	7/27/19	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 11:15
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-01-1S	**Units:**	ug/L
Lab Code:	K1906741-001	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/27/19 23:35	7/27/19	
Bromobenzene	ND U	2.0	1	07/27/19 23:35	7/27/19	
n-Propylbenzene	ND U	2.0	1	07/27/19 23:35	7/27/19	
1,2,3-Trichloropropane	ND U	0.50	1	07/27/19 23:35	7/27/19	
2-Chlorotoluene	ND U	2.0	1	07/27/19 23:35	7/27/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/27/19 23:35	7/27/19	
4-Chlorotoluene	ND U	2.0	1	07/27/19 23:35	7/27/19	
tert-Butylbenzene	ND U	2.0	1	07/27/19 23:35	7/27/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/27/19 23:35	7/27/19	
sec-Butylbenzene	ND U	2.0	1	07/27/19 23:35	7/27/19	
4-Isopropyltoluene	ND U	2.0	1	07/27/19 23:35	7/27/19	
1,3-Dichlorobenzene	ND U	0.50	1	07/27/19 23:35	7/27/19	
1,4-Dichlorobenzene	ND U	0.50	1	07/27/19 23:35	7/27/19	
n-Butylbenzene	ND U	2.0	1	07/27/19 23:35	7/27/19	
1,2-Dichlorobenzene	ND U	0.50	1	07/27/19 23:35	7/27/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/27/19 23:35	7/27/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/27/19 23:35	7/27/19	
Hexachlorobutadiene	ND U	2.0	1	07/27/19 23:35	7/27/19	
Naphthalene	ND U	2.0	1	07/27/19 23:35	7/27/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/27/19 23:35	7/27/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	90	73 - 122	07/27/19 23:35	
Toluene-d8	99	65 - 144	07/27/19 23:35	
4-Bromofluorobenzene	91	68 - 117	07/27/19 23:35	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 12:20
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-02-5S	**Units:**	ug/L
Lab Code:	K1906741-002	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
Chloromethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
Bromomethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
Chloroethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
Trichlorofluoromethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
Acetone	ND U	20	1	07/28/19 00:02	7/27/19	
Carbon Disulfide	ND U	0.50	1	07/28/19 00:02	7/27/19	
Methylene chloride	ND U	2.0	1	07/28/19 00:02	7/27/19	
Methyl tert-Butyl Ether	ND U	0.50	1	07/28/19 00:02	7/27/19	
trans-1,2-Dichloroethene	ND U	0.50	1	07/28/19 00:02	7/27/19	
1,1-Dichloroethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
2,2-Dichloropropane	ND U	0.50	1	07/28/19 00:02	7/27/19	
cis-1,2-Dichloroethene	ND U	0.50	1	07/28/19 00:02	7/27/19	
2-Butanone (MEK)	ND U	20	1	07/28/19 00:02	7/27/19	
Bromochloromethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
Chloroform	ND U	0.50	1	07/28/19 00:02	7/27/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/28/19 00:02	7/27/19	
Carbon Tetrachloride	ND U	0.50	1	07/28/19 00:02	7/27/19	
1,1-Dichloropropene	ND U	0.50	1	07/28/19 00:02	7/27/19	
Benzene	ND U	0.50	1	07/28/19 00:02	7/27/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/28/19 00:02	7/27/19	
Trichloroethene (TCE)	ND U	0.50	1	07/28/19 00:02	7/27/19	
1,2-Dichloropropane	ND U	0.50	1	07/28/19 00:02	7/27/19	
Dibromomethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
Bromodichloromethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
cis-1,3-Dichloropropene	ND U	0.50	1	07/28/19 00:02	7/27/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/28/19 00:02	7/27/19	
Toluene	ND U	0.50	1	07/28/19 00:02	7/27/19	
trans-1,3-Dichloropropene	ND U	0.50	1	07/28/19 00:02	7/27/19	
1,1,2-Trichloroethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
Tetrachloroethene (PCE)	ND U	0.50	1	07/28/19 00:02	7/27/19	
2-Hexanone	ND U	20	1	07/28/19 00:02	7/27/19	
1,3-Dichloropropane	ND U	0.50	1	07/28/19 00:02	7/27/19	
Dibromochloromethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/28/19 00:02	7/27/19	
Chlorobenzene	ND U	0.50	1	07/28/19 00:02	7/27/19	
Ethylbenzene	ND U	0.50	1	07/28/19 00:02	7/27/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
m,p-Xylenes	ND U	0.50	1	07/28/19 00:02	7/27/19	
o-Xylene	ND U	0.50	1	07/28/19 00:02	7/27/19	
Styrene	ND U	0.50	1	07/28/19 00:02	7/27/19	
Bromoform	ND U	0.50	1	07/28/19 00:02	7/27/19	
Isopropylbenzene	ND U	2.0	1	07/28/19 00:02	7/27/19	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 12:20
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-02-5S	**Units:**	ug/L
Lab Code:	K1906741-002	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/28/19 00:02	7/27/19	
Bromobenzene	ND U	2.0	1	07/28/19 00:02	7/27/19	
n-Propylbenzene	ND U	2.0	1	07/28/19 00:02	7/27/19	
1,2,3-Trichloropropane	ND U	0.50	1	07/28/19 00:02	7/27/19	
2-Chlorotoluene	ND U	2.0	1	07/28/19 00:02	7/27/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/28/19 00:02	7/27/19	
4-Chlorotoluene	ND U	2.0	1	07/28/19 00:02	7/27/19	
tert-Butylbenzene	ND U	2.0	1	07/28/19 00:02	7/27/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/28/19 00:02	7/27/19	
sec-Butylbenzene	ND U	2.0	1	07/28/19 00:02	7/27/19	
4-Isopropyltoluene	ND U	2.0	1	07/28/19 00:02	7/27/19	
1,3-Dichlorobenzene	ND U	0.50	1	07/28/19 00:02	7/27/19	
1,4-Dichlorobenzene	ND U	0.50	1	07/28/19 00:02	7/27/19	
n-Butylbenzene	ND U	2.0	1	07/28/19 00:02	7/27/19	
1,2-Dichlorobenzene	ND U	0.50	1	07/28/19 00:02	7/27/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/28/19 00:02	7/27/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/28/19 00:02	7/27/19	
Hexachlorobutadiene	ND U	2.0	1	07/28/19 00:02	7/27/19	
Naphthalene	ND U	2.0	1	07/28/19 00:02	7/27/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/28/19 00:02	7/27/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	90	73 - 122	07/28/19 00:02	
Toluene-d8	101	65 - 144	07/28/19 00:02	
4-Bromofluorobenzene	91	68 - 117	07/28/19 00:02	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 12:25
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-03-DUP	**Units:**	ug/L
Lab Code:	K1906741-003	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
Chloromethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
Bromomethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
Chloroethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
Trichlorofluoromethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
Acetone	ND U	20	1	07/28/19 00:28	7/27/19	
Carbon Disulfide	ND U	0.50	1	07/28/19 00:28	7/27/19	
Methylene chloride	ND U	2.0	1	07/28/19 00:28	7/27/19	
Methyl tert-Butyl Ether	ND U	0.50	1	07/28/19 00:28	7/27/19	
trans-1,2-Dichloroethene	ND U	0.50	1	07/28/19 00:28	7/27/19	
1,1-Dichloroethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
2,2-Dichloropropane	ND U	0.50	1	07/28/19 00:28	7/27/19	
cis-1,2-Dichloroethene	ND U	0.50	1	07/28/19 00:28	7/27/19	
2-Butanone (MEK)	ND U	20	1	07/28/19 00:28	7/27/19	
Bromochloromethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
Chloroform	ND U	0.50	1	07/28/19 00:28	7/27/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/28/19 00:28	7/27/19	
Carbon Tetrachloride	ND U	0.50	1	07/28/19 00:28	7/27/19	
1,1-Dichloropropene	ND U	0.50	1	07/28/19 00:28	7/27/19	
Benzene	ND U	0.50	1	07/28/19 00:28	7/27/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/28/19 00:28	7/27/19	
Trichloroethene (TCE)	ND U	0.50	1	07/28/19 00:28	7/27/19	
1,2-Dichloropropane	ND U	0.50	1	07/28/19 00:28	7/27/19	
Dibromomethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
Bromodichloromethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
cis-1,3-Dichloropropene	ND U	0.50	1	07/28/19 00:28	7/27/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/28/19 00:28	7/27/19	
Toluene	ND U	0.50	1	07/28/19 00:28	7/27/19	
trans-1,3-Dichloropropene	ND U	0.50	1	07/28/19 00:28	7/27/19	
1,1,2-Trichloroethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
Tetrachloroethene (PCE)	ND U	0.50	1	07/28/19 00:28	7/27/19	
2-Hexanone	ND U	20	1	07/28/19 00:28	7/27/19	
1,3-Dichloropropane	ND U	0.50	1	07/28/19 00:28	7/27/19	
Dibromochloromethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/28/19 00:28	7/27/19	
Chlorobenzene	ND U	0.50	1	07/28/19 00:28	7/27/19	
Ethylbenzene	ND U	0.50	1	07/28/19 00:28	7/27/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
m,p-Xylenes	ND U	0.50	1	07/28/19 00:28	7/27/19	
o-Xylene	ND U	0.50	1	07/28/19 00:28	7/27/19	
Styrene	ND U	0.50	1	07/28/19 00:28	7/27/19	
Bromoform	ND U	0.50	1	07/28/19 00:28	7/27/19	
Isopropylbenzene	ND U	2.0	1	07/28/19 00:28	7/27/19	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 12:25
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-03-DUP	**Units:**	ug/L
Lab Code:	K1906741-003	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/28/19 00:28	7/27/19	
Bromobenzene	ND U	2.0	1	07/28/19 00:28	7/27/19	
n-Propylbenzene	ND U	2.0	1	07/28/19 00:28	7/27/19	
1,2,3-Trichloropropane	ND U	0.50	1	07/28/19 00:28	7/27/19	
2-Chlorotoluene	ND U	2.0	1	07/28/19 00:28	7/27/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/28/19 00:28	7/27/19	
4-Chlorotoluene	ND U	2.0	1	07/28/19 00:28	7/27/19	
tert-Butylbenzene	ND U	2.0	1	07/28/19 00:28	7/27/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/28/19 00:28	7/27/19	
sec-Butylbenzene	ND U	2.0	1	07/28/19 00:28	7/27/19	
4-Isopropyltoluene	ND U	2.0	1	07/28/19 00:28	7/27/19	
1,3-Dichlorobenzene	ND U	0.50	1	07/28/19 00:28	7/27/19	
1,4-Dichlorobenzene	ND U	0.50	1	07/28/19 00:28	7/27/19	
n-Butylbenzene	ND U	2.0	1	07/28/19 00:28	7/27/19	
1,2-Dichlorobenzene	ND U	0.50	1	07/28/19 00:28	7/27/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/28/19 00:28	7/27/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/28/19 00:28	7/27/19	
Hexachlorobutadiene	ND U	2.0	1	07/28/19 00:28	7/27/19	
Naphthalene	ND U	2.0	1	07/28/19 00:28	7/27/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/28/19 00:28	7/27/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	90	73 - 122	07/28/19 00:28	
Toluene-d8	102	65 - 144	07/28/19 00:28	
4-Bromofluorobenzene	92	68 - 117	07/28/19 00:28	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 14:50
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-05-13I	**Units:**	ug/L
Lab Code:	K1906741-004	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
Chloromethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
Bromomethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
Chloroethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
Trichlorofluoromethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
Acetone	ND U	20	1	07/28/19 00:55	7/27/19	
Carbon Disulfide	ND U	0.50	1	07/28/19 00:55	7/27/19	
Methylene chloride	ND U	2.0	1	07/28/19 00:55	7/27/19	
Methyl tert-Butyl Ether	ND U	0.50	1	07/28/19 00:55	7/27/19	
trans-1,2-Dichloroethene	ND U	0.50	1	07/28/19 00:55	7/27/19	
1,1-Dichloroethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
2,2-Dichloropropane	ND U	0.50	1	07/28/19 00:55	7/27/19	
cis-1,2-Dichloroethene	ND U	0.50	1	07/28/19 00:55	7/27/19	
2-Butanone (MEK)	ND U	20	1	07/28/19 00:55	7/27/19	
Bromochloromethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
Chloroform	ND U	0.50	1	07/28/19 00:55	7/27/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/28/19 00:55	7/27/19	
Carbon Tetrachloride	ND U	0.50	1	07/28/19 00:55	7/27/19	
1,1-Dichloropropene	ND U	0.50	1	07/28/19 00:55	7/27/19	
Benzene	ND U	0.50	1	07/28/19 00:55	7/27/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/28/19 00:55	7/27/19	
Trichloroethene (TCE)	ND U	0.50	1	07/28/19 00:55	7/27/19	
1,2-Dichloropropane	ND U	0.50	1	07/28/19 00:55	7/27/19	
Dibromomethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
Bromodichloromethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
cis-1,3-Dichloropropene	ND U	0.50	1	07/28/19 00:55	7/27/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/28/19 00:55	7/27/19	
Toluene	ND U	0.50	1	07/28/19 00:55	7/27/19	
trans-1,3-Dichloropropene	ND U	0.50	1	07/28/19 00:55	7/27/19	
1,1,2-Trichloroethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
Tetrachloroethene (PCE)	ND U	0.50	1	07/28/19 00:55	7/27/19	
2-Hexanone	ND U	20	1	07/28/19 00:55	7/27/19	
1,3-Dichloropropane	ND U	0.50	1	07/28/19 00:55	7/27/19	
Dibromochloromethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/28/19 00:55	7/27/19	
Chlorobenzene	ND U	0.50	1	07/28/19 00:55	7/27/19	
Ethylbenzene	ND U	0.50	1	07/28/19 00:55	7/27/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
m,p-Xylenes	ND U	0.50	1	07/28/19 00:55	7/27/19	
o-Xylene	ND U	0.50	1	07/28/19 00:55	7/27/19	
Styrene	ND U	0.50	1	07/28/19 00:55	7/27/19	
Bromoform	ND U	0.50	1	07/28/19 00:55	7/27/19	
Isopropylbenzene	ND U	2.0	1	07/28/19 00:55	7/27/19	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 14:50
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-05-13I	**Units:**	ug/L
Lab Code:	K1906741-004	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/28/19 00:55	7/27/19	
Bromobenzene	ND U	2.0	1	07/28/19 00:55	7/27/19	
n-Propylbenzene	ND U	2.0	1	07/28/19 00:55	7/27/19	
1,2,3-Trichloropropane	ND U	0.50	1	07/28/19 00:55	7/27/19	
2-Chlorotoluene	ND U	2.0	1	07/28/19 00:55	7/27/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/28/19 00:55	7/27/19	
4-Chlorotoluene	ND U	2.0	1	07/28/19 00:55	7/27/19	
tert-Butylbenzene	ND U	2.0	1	07/28/19 00:55	7/27/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/28/19 00:55	7/27/19	
sec-Butylbenzene	ND U	2.0	1	07/28/19 00:55	7/27/19	
4-Isopropyltoluene	ND U	2.0	1	07/28/19 00:55	7/27/19	
1,3-Dichlorobenzene	ND U	0.50	1	07/28/19 00:55	7/27/19	
1,4-Dichlorobenzene	ND U	0.50	1	07/28/19 00:55	7/27/19	
n-Butylbenzene	ND U	2.0	1	07/28/19 00:55	7/27/19	
1,2-Dichlorobenzene	ND U	0.50	1	07/28/19 00:55	7/27/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/28/19 00:55	7/27/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/28/19 00:55	7/27/19	
Hexachlorobutadiene	ND U	2.0	1	07/28/19 00:55	7/27/19	
Naphthalene	ND U	2.0	1	07/28/19 00:55	7/27/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/28/19 00:55	7/27/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	88	73 - 122	07/28/19 00:55	
Toluene-d8	103	65 - 144	07/28/19 00:55	
4-Bromofluorobenzene	89	68 - 117	07/28/19 00:55	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 13:55
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-04-27I	**Units:**	ug/L
Lab Code:	K1906741-005	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
Chloromethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
Bromomethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
Chloroethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
Trichlorofluoromethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
Acetone	ND U	20	1	07/28/19 01:21	7/27/19	
Carbon Disulfide	ND U	0.50	1	07/28/19 01:21	7/27/19	
Methylene chloride	ND U	2.0	1	07/28/19 01:21	7/27/19	
Methyl tert-Butyl Ether	ND U	0.50	1	07/28/19 01:21	7/27/19	
trans-1,2-Dichloroethene	ND U	0.50	1	07/28/19 01:21	7/27/19	
1,1-Dichloroethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
2,2-Dichloropropane	ND U	0.50	1	07/28/19 01:21	7/27/19	
cis-1,2-Dichloroethene	ND U	0.50	1	07/28/19 01:21	7/27/19	
2-Butanone (MEK)	ND U	20	1	07/28/19 01:21	7/27/19	
Bromochloromethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
Chloroform	ND U	0.50	1	07/28/19 01:21	7/27/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/28/19 01:21	7/27/19	
Carbon Tetrachloride	ND U	0.50	1	07/28/19 01:21	7/27/19	
1,1-Dichloropropene	ND U	0.50	1	07/28/19 01:21	7/27/19	
Benzene	ND U	0.50	1	07/28/19 01:21	7/27/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/28/19 01:21	7/27/19	
Trichloroethene (TCE)	ND U	0.50	1	07/28/19 01:21	7/27/19	
1,2-Dichloropropane	ND U	0.50	1	07/28/19 01:21	7/27/19	
Dibromomethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
Bromodichloromethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
cis-1,3-Dichloropropene	ND U	0.50	1	07/28/19 01:21	7/27/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/28/19 01:21	7/27/19	
Toluene	ND U	0.50	1	07/28/19 01:21	7/27/19	
trans-1,3-Dichloropropene	ND U	0.50	1	07/28/19 01:21	7/27/19	
1,1,2-Trichloroethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
Tetrachloroethene (PCE)	ND U	0.50	1	07/28/19 01:21	7/27/19	
2-Hexanone	ND U	20	1	07/28/19 01:21	7/27/19	
1,3-Dichloropropane	ND U	0.50	1	07/28/19 01:21	7/27/19	
Dibromochloromethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/28/19 01:21	7/27/19	
Chlorobenzene	ND U	0.50	1	07/28/19 01:21	7/27/19	
Ethylbenzene	ND U	0.50	1	07/28/19 01:21	7/27/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
m,p-Xylenes	ND U	0.50	1	07/28/19 01:21	7/27/19	
o-Xylene	ND U	0.50	1	07/28/19 01:21	7/27/19	
Styrene	ND U	0.50	1	07/28/19 01:21	7/27/19	
Bromoform	ND U	0.50	1	07/28/19 01:21	7/27/19	
Isopropylbenzene	ND U	2.0	1	07/28/19 01:21	7/27/19	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 13:55
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-04-27I	**Units:**	ug/L
Lab Code:	K1906741-005	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/28/19 01:21	7/27/19	
Bromobenzene	ND U	2.0	1	07/28/19 01:21	7/27/19	
n-Propylbenzene	ND U	2.0	1	07/28/19 01:21	7/27/19	
1,2,3-Trichloropropane	ND U	0.50	1	07/28/19 01:21	7/27/19	
2-Chlorotoluene	ND U	2.0	1	07/28/19 01:21	7/27/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/28/19 01:21	7/27/19	
4-Chlorotoluene	ND U	2.0	1	07/28/19 01:21	7/27/19	
tert-Butylbenzene	ND U	2.0	1	07/28/19 01:21	7/27/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/28/19 01:21	7/27/19	
sec-Butylbenzene	ND U	2.0	1	07/28/19 01:21	7/27/19	
4-Isopropyltoluene	ND U	2.0	1	07/28/19 01:21	7/27/19	
1,3-Dichlorobenzene	ND U	0.50	1	07/28/19 01:21	7/27/19	
1,4-Dichlorobenzene	ND U	0.50	1	07/28/19 01:21	7/27/19	
n-Butylbenzene	ND U	2.0	1	07/28/19 01:21	7/27/19	
1,2-Dichlorobenzene	ND U	0.50	1	07/28/19 01:21	7/27/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/28/19 01:21	7/27/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/28/19 01:21	7/27/19	
Hexachlorobutadiene	ND U	2.0	1	07/28/19 01:21	7/27/19	
Naphthalene	ND U	2.0	1	07/28/19 01:21	7/27/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/28/19 01:21	7/27/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	93	73 - 122	07/28/19 01:21	
Toluene-d8	103	65 - 144	07/28/19 01:21	
4-Bromofluorobenzene	91	68 - 117	07/28/19 01:21	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	Trip Blanks	**Units:**	ug/L
Lab Code:	K1906741-006	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
Chloromethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
Bromomethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
Chloroethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
Trichlorofluoromethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
Acetone	ND U	20	1	07/28/19 01:48	7/27/19	
Carbon Disulfide	ND U	0.50	1	07/28/19 01:48	7/27/19	
Methylene chloride	ND U	2.0	1	07/28/19 01:48	7/27/19	
Methyl tert-Butyl Ether	ND U	0.50	1	07/28/19 01:48	7/27/19	
trans-1,2-Dichloroethene	ND U	0.50	1	07/28/19 01:48	7/27/19	
1,1-Dichloroethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
2,2-Dichloropropane	ND U	0.50	1	07/28/19 01:48	7/27/19	
cis-1,2-Dichloroethene	ND U	0.50	1	07/28/19 01:48	7/27/19	
2-Butanone (MEK)	ND U	20	1	07/28/19 01:48	7/27/19	
Bromochloromethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
Chloroform	ND U	0.50	1	07/28/19 01:48	7/27/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/28/19 01:48	7/27/19	
Carbon Tetrachloride	ND U	0.50	1	07/28/19 01:48	7/27/19	
1,1-Dichloropropene	ND U	0.50	1	07/28/19 01:48	7/27/19	
Benzene	ND U	0.50	1	07/28/19 01:48	7/27/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/28/19 01:48	7/27/19	
Trichloroethene (TCE)	ND U	0.50	1	07/28/19 01:48	7/27/19	
1,2-Dichloropropane	ND U	0.50	1	07/28/19 01:48	7/27/19	
Dibromomethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
Bromodichloromethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
cis-1,3-Dichloropropene	ND U	0.50	1	07/28/19 01:48	7/27/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/28/19 01:48	7/27/19	
Toluene	ND U	0.50	1	07/28/19 01:48	7/27/19	
trans-1,3-Dichloropropene	ND U	0.50	1	07/28/19 01:48	7/27/19	
1,1,2-Trichloroethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
Tetrachloroethene (PCE)	ND U	0.50	1	07/28/19 01:48	7/27/19	
2-Hexanone	ND U	20	1	07/28/19 01:48	7/27/19	
1,3-Dichloropropane	ND U	0.50	1	07/28/19 01:48	7/27/19	
Dibromochloromethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/28/19 01:48	7/27/19	
Chlorobenzene	ND U	0.50	1	07/28/19 01:48	7/27/19	
Ethylbenzene	ND U	0.50	1	07/28/19 01:48	7/27/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
m,p-Xylenes	ND U	0.50	1	07/28/19 01:48	7/27/19	
o-Xylene	ND U	0.50	1	07/28/19 01:48	7/27/19	
Styrene	ND U	0.50	1	07/28/19 01:48	7/27/19	
Bromoform	ND U	0.50	1	07/28/19 01:48	7/27/19	
Isopropylbenzene	ND U	2.0	1	07/28/19 01:48	7/27/19	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	Trip Blanks	**Units:**	ug/L
Lab Code:	K1906741-006	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/28/19 01:48	7/27/19	
Bromobenzene	ND U	2.0	1	07/28/19 01:48	7/27/19	
n-Propylbenzene	ND U	2.0	1	07/28/19 01:48	7/27/19	
1,2,3-Trichloropropane	ND U	0.50	1	07/28/19 01:48	7/27/19	
2-Chlorotoluene	ND U	2.0	1	07/28/19 01:48	7/27/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/28/19 01:48	7/27/19	
4-Chlorotoluene	ND U	2.0	1	07/28/19 01:48	7/27/19	
tert-Butylbenzene	ND U	2.0	1	07/28/19 01:48	7/27/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/28/19 01:48	7/27/19	
sec-Butylbenzene	ND U	2.0	1	07/28/19 01:48	7/27/19	
4-Isopropyltoluene	ND U	2.0	1	07/28/19 01:48	7/27/19	
1,3-Dichlorobenzene	ND U	0.50	1	07/28/19 01:48	7/27/19	
1,4-Dichlorobenzene	ND U	0.50	1	07/28/19 01:48	7/27/19	
n-Butylbenzene	ND U	2.0	1	07/28/19 01:48	7/27/19	
1,2-Dichlorobenzene	ND U	0.50	1	07/28/19 01:48	7/27/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/28/19 01:48	7/27/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/28/19 01:48	7/27/19	
Hexachlorobutadiene	ND U	2.0	1	07/28/19 01:48	7/27/19	
Naphthalene	ND U	2.0	1	07/28/19 01:48	7/27/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/28/19 01:48	7/27/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	88	73 - 122	07/28/19 01:48	
Toluene-d8	101	65 - 144	07/28/19 01:48	
4-Bromofluorobenzene	89	68 - 117	07/28/19 01:48	

Metals

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Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 11:15
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-01-1S	**Basis:**	NA
Lab Code:	K1906741-001		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	07/31/19 10:37	07/25/19	
Manganese	6010C	ND U	ug/L	1.1	1	07/31/19 10:37	07/25/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 12:20
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-02-5S	**Basis:**	NA
Lab Code:	K1906741-002		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	07/31/19 10:53	07/25/19	
Manganese	6010C	ND U	ug/L	1.1	1	07/31/19 10:53	07/25/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 12:25
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-03-DUP	**Basis:**	NA
Lab Code:	K1906741-003		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	07/31/19 10:56	07/25/19	
Manganese	6010C	ND U	ug/L	1.1	1	07/31/19 10:56	07/25/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 14:50
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-05-13I	**Basis:**	NA
Lab Code:	K1906741-004		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	07/31/19 11:17	07/25/19	
Manganese	6010C	**4.5**	ug/L	1.1	1	07/31/19 11:17	07/25/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 13:55
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-04-27I	**Basis:**	NA
Lab Code:	K1906741-005		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	07/31/19 11:20	07/25/19	
Manganese	6010C	**347**	ug/L	1.1	1	07/31/19 11:20	07/25/19	

General Chemistry

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Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 11:15
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-01-1S	**Basis:**	NA
Lab Code:	K1906741-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**12.2**	mg/L	0.20	2	07/23/19 12:30	
Nitrate as Nitrogen	300.0	**4.49**	mg/L	0.10	2	07/23/19 12:30	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 11:15
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-01-1S	**Basis:**	NA
Lab Code:	K1906741-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**205**	mg/L	5.0	1	07/25/19 09:15	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 12:20
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-02-5S	**Basis:**	NA
Lab Code:	K1906741-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**4.34**	mg/L	0.20	2	07/23/19 13:12	
Nitrate as Nitrogen	300.0	**5.58**	mg/L	0.10	2	07/23/19 13:12	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 12:20
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-02-5S	**Basis:**	NA
Lab Code:	K1906741-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**168**	mg/L	5.0	1	07/25/19 09:15	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 12:25
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-03-DUP	**Basis:**	NA
Lab Code:	K1906741-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**4.30**	mg/L	0.20	2	07/23/19 13:23	
Nitrate as Nitrogen	300.0	**5.58**	mg/L	0.10	2	07/23/19 13:23	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 12:25
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-03-DUP	**Basis:**	NA
Lab Code:	K1906741-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**156**	mg/L	5.0	1	07/25/19 09:15	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 14:50
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-05-13I	**Basis:**	NA
Lab Code:	K1906741-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**10.1**	mg/L	0.20	2	07/23/19 13:34	
Nitrate as Nitrogen	300.0	**3.75**	mg/L	0.10	2	07/23/19 13:34	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 14:50
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-05-13I	**Basis:**	NA
Lab Code:	K1906741-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**207**	mg/L	5.0	1	07/25/19 09:15	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 13:55
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-04-27I	**Basis:**	NA
Lab Code:	K1906741-005		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**20.5**	mg/L	0.50	5	07/23/19 14:37	
Nitrate as Nitrogen	300.0	**0.49**	mg/L	0.10	2	07/23/19 13:44	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19 13:55
Sample Matrix:	Water	**Date Received:**	07/23/19 09:15
Sample Name:	LB072219-04-27I	**Basis:**	NA
Lab Code:	K1906741-005		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**380**	mg/L	5.0	1	07/25/19 09:15	

QC Summary Forms

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Volatile Organic Compounds by GC/MS

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Client: SCS Engineers **Service Request:** K1906741
Project: Leichner Landfill/04219030.13
Sample Matrix: Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds

Analysis Method: 8260C
Extraction Method: EPA 5030B

Sample Name	Lab Code	4-Bromofluorobenzene 68 - 117	Dibromofluoromethane 73 - 122	Toluene-d8 65 - 144
LB072219-01-1S	K1906741-001	91	90	99
LB072219-02-5S	K1906741-002	91	90	101
LB072219-03-DUP	K1906741-003	92	90	102
LB072219-05-13I	K1906741-004	89	88	103
LB072219-04-27I	K1906741-005	91	93	103
Trip Blanks	K1906741-006	89	88	101
Lab Control Sample	KWG1903547-3	93	94	99
Duplicate Lab Control Sample	KWG1903547-4	93	98	99
Method Blank	KWG1903547-5	90	89	101

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1903547-5	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
Chloromethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
Bromomethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
Chloroethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
Trichlorofluoromethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
Acetone	ND U	20	1	07/27/19 16:31	7/27/19	
Carbon Disulfide	ND U	0.50	1	07/27/19 16:31	7/27/19	
Methylene chloride	ND U	2.0	1	07/27/19 16:31	7/27/19	
Methyl tert-Butyl Ether	ND U	0.50	1	07/27/19 16:31	7/27/19	
trans-1,2-Dichloroethene	ND U	0.50	1	07/27/19 16:31	7/27/19	
1,1-Dichloroethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
2,2-Dichloropropane	ND U	0.50	1	07/27/19 16:31	7/27/19	
cis-1,2-Dichloroethene	ND U	0.50	1	07/27/19 16:31	7/27/19	
2-Butanone (MEK)	ND U	20	1	07/27/19 16:31	7/27/19	
Bromochloromethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
Chloroform	ND U	0.50	1	07/27/19 16:31	7/27/19	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/27/19 16:31	7/27/19	
Carbon Tetrachloride	ND U	0.50	1	07/27/19 16:31	7/27/19	
1,1-Dichloropropene	ND U	0.50	1	07/27/19 16:31	7/27/19	
Benzene	ND U	0.50	1	07/27/19 16:31	7/27/19	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/27/19 16:31	7/27/19	
Trichloroethene (TCE)	ND U	0.50	1	07/27/19 16:31	7/27/19	
1,2-Dichloropropane	ND U	0.50	1	07/27/19 16:31	7/27/19	
Dibromomethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
Bromodichloromethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
cis-1,3-Dichloropropene	ND U	0.50	1	07/27/19 16:31	7/27/19	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/27/19 16:31	7/27/19	
Toluene	ND U	0.50	1	07/27/19 16:31	7/27/19	
trans-1,3-Dichloropropene	ND U	0.50	1	07/27/19 16:31	7/27/19	
1,1,2-Trichloroethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
Tetrachloroethene (PCE)	ND U	0.50	1	07/27/19 16:31	7/27/19	
2-Hexanone	ND U	20	1	07/27/19 16:31	7/27/19	
1,3-Dichloropropane	ND U	0.50	1	07/27/19 16:31	7/27/19	
Dibromochloromethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/27/19 16:31	7/27/19	
Chlorobenzene	ND U	0.50	1	07/27/19 16:31	7/27/19	
Ethylbenzene	ND U	0.50	1	07/27/19 16:31	7/27/19	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
m,p-Xylenes	ND U	0.50	1	07/27/19 16:31	7/27/19	
o-Xylene	ND U	0.50	1	07/27/19 16:31	7/27/19	
Styrene	ND U	0.50	1	07/27/19 16:31	7/27/19	
Bromoform	ND U	0.50	1	07/27/19 16:31	7/27/19	
Isopropylbenzene	ND U	2.0	1	07/27/19 16:31	7/27/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KWG1903547-5	**Basis:**	NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/27/19 16:31	7/27/19	
Bromobenzene	ND U	2.0	1	07/27/19 16:31	7/27/19	
n-Propylbenzene	ND U	2.0	1	07/27/19 16:31	7/27/19	
1,2,3-Trichloropropane	ND U	0.50	1	07/27/19 16:31	7/27/19	
2-Chlorotoluene	ND U	2.0	1	07/27/19 16:31	7/27/19	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/27/19 16:31	7/27/19	
4-Chlorotoluene	ND U	2.0	1	07/27/19 16:31	7/27/19	
tert-Butylbenzene	ND U	2.0	1	07/27/19 16:31	7/27/19	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/27/19 16:31	7/27/19	
sec-Butylbenzene	ND U	2.0	1	07/27/19 16:31	7/27/19	
4-Isopropyltoluene	ND U	2.0	1	07/27/19 16:31	7/27/19	
1,3-Dichlorobenzene	ND U	0.50	1	07/27/19 16:31	7/27/19	
1,4-Dichlorobenzene	ND U	0.50	1	07/27/19 16:31	7/27/19	
n-Butylbenzene	ND U	2.0	1	07/27/19 16:31	7/27/19	
1,2-Dichlorobenzene	ND U	0.50	1	07/27/19 16:31	7/27/19	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/27/19 16:31	7/27/19	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/27/19 16:31	7/27/19	
Hexachlorobutadiene	ND U	2.0	1	07/27/19 16:31	7/27/19	
Naphthalene	ND U	2.0	1	07/27/19 16:31	7/27/19	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/27/19 16:31	7/27/19	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	89	73 - 122	07/27/19 16:31	
Toluene-d8	101	65 - 144	07/27/19 16:31	
4-Bromofluorobenzene	90	68 - 117	07/27/19 16:31	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Analyzed:**	07/27/19
Sample Matrix:	Water	**Date Extracted:**	07/27/19

Duplicate Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	EPA 5030B	**Basis:**	NA
		Analysis Lot:	KWG1903546

	Lab Control Sample KWG1903547-3			Duplicate Lab Control Sample KWG1903547-4					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	8.79	10.0	88	8.83	10.0	88	66-124	<1	30
1,1,1-Trichloroethane (TCA)	9.03	10.0	90	9.21	10.0	92	59-136	2	30
1,1,2,2-Tetrachloroethane	8.92	10.0	89	8.91	10.0	89	70-127	<1	30
1,1,2-Trichloroethane	8.86	10.0	89	8.96	10.0	90	74-118	1	30
1,1-Dichloroethane	9.25	10.0	93	9.51	10.0	95	68-132	3	30
1,1-Dichloropropene	9.03	10.0	90	9.52	10.0	95	59-134	5	30
1,2,3-Trichlorobenzene	8.91	10.0	89	9.36	10.0	94	68-120	5	30
1,2,3-Trichloropropane	9.61	10.0	96	9.04	10.0	90	69-123	6	30
1,2,4-Trichlorobenzene	8.86	10.0	89	9.06	10.0	91	58-126	2	30
1,2,4-Trimethylbenzene	9.04	10.0	90	9.56	10.0	96	63-122	6	30
1,2-Dibromo-3-chloropropane	7.61	10.0	76	8.92	10.0	89	55-132	16	30
1,2-Dibromoethane (EDB)	8.63	10.0	86	8.93	10.0	89	74-118	3	30
1,2-Dichlorobenzene	9.14	10.0	91	9.64	10.0	96	72-115	5	30
1,2-Dichloroethane (EDC)	8.59	10.0	86	8.93	10.0	89	56-142	4	30
1,2-Dichloropropane	8.59	10.0	86	8.86	10.0	89	67-126	3	30
1,3,5-Trimethylbenzene	9.01	10.0	90	9.37	10.0	94	62-126	4	30
1,3-Dichlorobenzene	8.89	10.0	89	9.05	10.0	91	70-116	2	30
1,3-Dichloropropane	8.77	10.0	88	8.99	10.0	90	75-116	2	30
1,4-Dichlorobenzene	8.59	10.0	86	9.12	10.0	91	73-115	6	30
2,2-Dichloropropane	8.66	10.0	87	8.96	10.0	90	37-145	3	30
2-Butanone (MEK)	56.1	50.0	112	55.0	50.0	110	71-149	2	30
2-Chlorotoluene	8.81	10.0	88	9.12	10.0	91	55-131	3	30
2-Hexanone	51.2	50.0	102	48.9	50.0	98	59-131	5	30
4-Chlorotoluene	8.95	10.0	90	9.28	10.0	93	66-121	4	30
4-Isopropyltoluene	9.50	10.0	95	9.86	10.0	99	61-128	4	30
4-Methyl-2-pentanone (MIBK)	48.4	50.0	97	50.3	50.0	101	64-134	4	30
Acetone	56.8	50.0	114	54.6	50.0	109	68-135	4	30
Benzene	8.76	10.0	88	8.99	10.0	90	69-124	3	30
Bromobenzene	8.97	10.0	90	9.35	10.0	94	72-116	4	30
Bromochloromethane	9.08	10.0	91	9.33	10.0	93	75-131	3	30
Bromodichloromethane	8.58	10.0	86	8.90	10.0	89	63-129	4	30
Bromoform	8.59	10.0	86	8.03	10.0	80	52-144	7	30
Bromomethane	7.99	10.0	80	8.56	10.0	86	35-113	7	30
Carbon Disulfide	17.9	20.0	89	18.7	20.0	93	46-144	4	30
Carbon Tetrachloride	9.35	10.0	94	9.29	10.0	93	55-140	1	30
Chlorobenzene	8.88	10.0	89	8.97	10.0	90	72-116	1	30
Chloroethane	9.40	10.0	94	9.81	10.0	98	58-134	4	30
Chloroform	8.88	10.0	89	9.14	10.0	91	70-129	3	30
Chloromethane	8.04	10.0	80	8.48	10.0	85	34-130	5	30
cis-1,2-Dichloroethene	8.84	10.0	88	9.24	10.0	92	71-118	4	30
cis-1,3-Dichloropropene	8.98	10.0	90	9.35	10.0	94	62-132	4	30

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Analyzed:**	07/27/19
Sample Matrix:	Water	**Date Extracted:**	07/27/19

Duplicate Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	EPA 5030B	**Basis:**	NA
		Analysis Lot:	KWG1903546

	Lab Control Sample KWG1903547-3			Duplicate Lab Control Sample KWG1903547-4					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Dibromochloromethane	9.64	10.0	96	9.73	10.0	97	67-126	1	30
Dibromomethane	8.77	10.0	88	8.57	10.0	86	69-128	2	30
Dichlorodifluoromethane	8.40	10.0	84	8.80	10.0	88	32-124	5	30
Ethylbenzene	8.99	10.0	90	8.78	10.0	88	67-121	2	30
Hexachlorobutadiene	9.21	10.0	92	9.44	10.0	94	57-119	2	30
Isopropylbenzene	9.10	10.0	91	9.16	10.0	92	67-129	1	30
m,p-Xylenes	18.0	20.0	90	18.0	20.0	90	69-121	<1	30
Methyl tert-Butyl Ether	8.97	10.0	90	8.90	10.0	89	54-126	1	30
Methylene chloride	8.44	10.0	84	8.64	10.0	86	71-122	2	30
Naphthalene	9.17	10.0	92	9.54	10.0	95	64-126	4	30
n-Butylbenzene	9.09	10.0	91	9.37	10.0	94	55-130	3	30
n-Propylbenzene	9.09	10.0	91	9.53	10.0	95	61-124	5	30
o-Xylene	9.05	10.0	91	9.19	10.0	92	71-119	2	30
sec-Butylbenzene	9.27	10.0	93	9.79	10.0	98	59-128	5	30
Styrene	9.09	10.0	91	8.83	10.0	88	74-121	3	30
tert-Butylbenzene	9.25	10.0	93	9.58	10.0	96	61-127	4	30
Tetrachloroethene (PCE)	9.04	10.0	90	9.26	10.0	93	62-126	2	30
Toluene	8.94	10.0	89	9.13	10.0	91	69-124	2	30
trans-1,2-Dichloroethene	8.87	10.0	89	9.32	10.0	93	67-125	5	30
trans-1,3-Dichloropropene	8.99	10.0	90	8.87	10.0	89	59-125	1	30
Trichloroethene (TCE)	8.61	10.0	86	9.13	10.0	91	67-128	6	30
Trichlorofluoromethane	8.06	10.0	81	8.42	10.0	84	52-141	4	30

Metals

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www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	KQ1910389-03		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	07/31/19 10:29	07/25/19	
Manganese	6010C	ND U	ug/L	1.1	1	07/31/19 10:29	07/25/19	

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19
Sample Matrix:	Water	**Date Received:**	07/23/19
		Date Analyzed:	07/31/19
		Date Extracted:	07/25/19

Matrix Spike Summary
Dissolved Metals

Sample Name:	LB072219-01-1S	**Units:**	ug/L
Lab Code:	K1906741-001	**Basis:**	NA
Analysis Method:	6010C		
Prep Method:	EPA CLP ILM04.0		

Matrix Spike
KQ1910389-05

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Iron	ND U	966	1000	97	75-125
Manganese	ND U	478	500	96	75-125

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client:	SCS Engineers	**Service Request:**	K1906741
Project	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19
Sample Matrix:	Water	**Date Received:**	07/23/19
		Date Analyzed:	07/31/19

Replicate Sample Summary
Dissolved Metals

Sample Name:	LB072219-01-1S	**Units:**	ug/L
Lab Code:	K1906741-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample KQ1910389-04 Result	Average	RPD	RPD Limit
Iron	6010C	21	ND U	ND U	ND	-	20
Manganese	6010C	1.1	ND U	ND U	ND	-	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04219030.13
Sample Matrix: Water

Service Request: K1906741
Date Analyzed: 07/31/19

Lab Control Sample Summary
Dissolved Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ1910389-01

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron	6010C	2490	2500	100	80-120
Manganese	6010C	1230	1250	98	80-120

General Chemistry

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www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1906741-MB1		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	1	07/23/19 11:35	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.050	1	07/23/19 11:35	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1906741-MB1		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	07/25/19 09:15	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1906741-MB2		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	07/25/19 09:15	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04219030.13
Sample Matrix: Water

Service Request:K1906741
Date Collected:07/22/19
Date Received:07/23/19
Date Analyzed:7/23/19

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name: LB072219-01-1S
Lab Code: K1906741-001

Units:mg/L
Basis:NA

			Matrix Spike K1906741-001MS			Duplicate Matrix Spike K1906741-001DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloride	300.0	12.2	19.9	8.00	97	20.7	8.00	107	90-110	4	20
Nitrate as Nitrogen	300.0	4.49	12.6	8.00	101	12.8	8.00	103	90-110	1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Printed 8/6/2019 1:14:08 PM

Superset Reference:19-0000516365 rev 00

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	SCS Engineers	**Service Request:**	K1906741
Project	Leichner Landfill/04219030.13	**Date Collected:**	07/22/19
Sample Matrix:	Water	**Date Received:**	07/23/19
		Date Analyzed:	07/23/19

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	LB072219-01-1S	**Units:**	mg/L
Lab Code:	K1906741-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample K1906741-001DUP Result	Average	RPD	RPD Limit
Chloride	300.0	0.20	12.2	12.2	12.2	<1	20
Nitrate as Nitrogen	300.0	0.10	4.49	4.46	4.47	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04219030.13
Sample Matrix: Water

Service Request: K1906741
Date Analyzed: 07/23/19 - 07/25/19

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
K1906741-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.81	5.00	96	90-110
Nitrate as Nitrogen	300.0	2.42	2.50	97	90-110
Solids, Total Dissolved	SM 2540 C	913	922	99	85-115

August 12, 2019 Service Request No:K1906780

Tiffany Andrews
SCS Engineers
15940 SW 72nd Ave
Portland, OR 97224

Laboratory Results for: Leichner Landfill

Dear Tiffany,

Enclosed are the results of the sample(s) submitted to our laboratory July 24, 2019
For your reference, these analyses have been assigned our service request number **K1906780.**

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please contact me if you have any questions. My extension is 3364. You may also contact me via email at howard.holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Howard Holmes
Project Manager

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626
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ALS Group USA, Corp.
dba ALS Environmental

Narrative Documents

ALS Environmental—Kelso Laboratory
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Phone (360) 577-7222 Fax (360) 425-9096
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Client: SCS Engineers
Project: Leichner Landfill
Sample Matrix: Ground Water

Service Request: K1906780
Date Received: 07/24/2019

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Five ground water samples were received for analysis at ALS Environmental on 07/24/2019. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Volatiles by GC/MS:

Method 8260C, 7/30/19; The upper control criterion was exceeded for Acetone in Continuing Calibration Verification (CCV) MS13\0730F006.D. The target analyte was not detected above the Method Reporting Limit (MRL) in the associated samples. The error associated with an elevated recovery equated to a high bias. The quality of the sample data was not significantly affected. No further corrective action was appropriate.

Method 8260C, 7/30/19; The ALS control criterion for the following analytes was not met in CCV MS13\0730F006.D: Bromomethane, Chloromethane, and Dichlorodifluoromethane. A MRL check standard containing the analyte of concern was analyzed each day of analysis. The MRL check standard verifies instrument sensitivity was adequate to detect the analyte at the MRL on the day of analysis. Because the sensitivity was shown to be adequate to detect the compound in question, and the field samples analyzed in this sequence did not contain the analyte in question, the data quality has not been significantly affected. No further corrective action was taken.

Approved by _____ Date 08/12/2019

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-072319-02-6S			Lab ID: K1906780-001			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	154			5.0	mg/L	SM 2540 C
Chloride	3.56			0.20	mg/L	300.0
Nitrate as Nitrogen	1.14			0.10	mg/L	300.0

CLIENT ID: LB-072319-03-10SR			Lab ID: K1906780-002			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	258			5.0	mg/L	SM 2540 C
Chloride	4.08			0.20	mg/L	300.0
Nitrate as Nitrogen	10.4			0.25	mg/L	300.0
Manganese, Dissolved	1.1			1.1	ug/L	6010C

CLIENT ID: LB-072319-04-FB			Lab ID: K1906780-003			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	13.0			5.0	mg/L	SM 2540 C
Toluene	0.63			0.50	ug/L	8260C

CLIENT ID: LB-072319-01-26I			Lab ID: K1906780-004			
Analyte	**Results**	**Flag**	**MDL**	**MRL**	**Units**	**Method**
Solids, Total Dissolved	213			5.0	mg/L	SM 2540 C
Chloride	9.66			0.20	mg/L	300.0
Nitrate as Nitrogen	3.44			0.10	mg/L	300.0
Manganese, Dissolved	2.0			1.1	ug/L	6010C

Sample Receipt Information

ALS Environmental—Kelso Laboratory
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www.alsglobal.com

Client: SCS Engineers **Service Request:**K1906780
Project: Leichner Landfill/04219030.13

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K1906780-001	LB-072319-02-6S	7/23/2019	1020
K1906780-002	LB-072319-03-10SR	7/23/2019	1110
K1906780-003	LB-072319-04-FB	7/23/2019	1130
K1906780-004	LB-072319-01-26I	7/23/2019	0930
K1906780-005	Trip Blanks		

CHAIN OF CUSTODY

SR# K1906780

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PAGE 1 OF 1 COC#

PROJECT NAME: Leichner Landfill
PROJECT NUMBER: 042190030.13
PROJECT MANAGER: Tiffany Andrews
COMPANY NAME: SCS Engineers
ADDRESS: 15940 SW 72nd Ave
CITY/STATE/ZIP: Portland, OR 97224
E-MAIL ADDRESS: Tandrews@scsengineers.com
PHONE #: 503-639-9657 FAX #:
SAMPLER'S SIGNATURE:

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625☐ 8270☐ 8270LL☐ SIM PAH☐	Volatile Organics 624☐ 8260☒ 8021☐ BTEX☐	Hydrocarbons (*see below) Gas☐ Diesel☐ Oil☐	Oil & Grease/TRPH 1664 HEM☐ 1664 SGT☐	PCBs Aroclors☐ Congeners☐	Pesticides/Herbicides 608☐ 8081☐ 8141☐ 8151☐	Chlorophenolics Tri☐ Tetra☐ Metals, Total or Dissolved (See List below) PCP☐	Cyanide☐ Hex-Chrom☐	(circle) pH, Cond., (Cl, SO4, PO4, F, NO2, NO3) BOD, TSS, (CBOD), Turb.	(circle) NH3-N, COD, TKN, TOC, DOC, NO2+NO3, T-Phos	TOX 9020☐ AOX 1650☐ 506☐	Alkalinity ☐ CO3☐ HCO3☐	Dioxins/Furans 1613☐ 8290☐	Dissolved Gases RSK 175☐ CO2☐ Methane☐ Ethane☐ Ethene☐	REMARKS
LB-072319-02-69	7/23	1020		W	5	X						X	X							
LB-072319-03-105R	7/23	1110		W	5	X						X	X							
LB-072319-04-FB	7/23	1130		W	5	X						X	X							
LB-072319-01-26I	7/23	930		W	5	X						X	X							
Trip Blanks	–	–		W	4	X														

REPORT REQUIREMENTS

___ I. Routine Report: Method Blank, Surrogate, as required
___ II. Report Dup., MS, MSD as required
___ III. CLP Like Summary (no raw data)
___ IV. Data Validation Report
___ V. EDD

INVOICE INFORMATION

P.O. #
Bill To:

TURNAROUND REQUIREMENTS

___ 24 hr. ___ 48 hr.
___ 5 day
X Standard (15 working days)
___ Provide FAX Results

Requested Report Date

Circle which metals are to be analyzed:

Total Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu Fe Pb Mg Mn Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu (Fe) Pb Mg (Mn) Mo Ni K Ag Na Se Sr Tl Sn V Zn Hg

*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)

SPECIAL INSTRUCTIONS/COMMENTS:

Field filtered Metals

Container Supply Number

100800

☐ Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature:	Signature:	Signature:	Signature:
Printed Name: S Nilsson	Printed Name: L Morrow	Printed Name: R Morrow	Printed Name:
Date/Time: 7/24/19 0855	Date/Time: 7/24/19 0855	Date/Time: 7/24/19 1140	Date/Time:
Firm: SCS	Firm: ALS Courier	Firm: ALS Courier	Firm:

PC ###

Cooler Receipt and Preservation Form

Client SCS Engineers Service Request K19 06780

Received: 7.24.19 Opened: 7.24.19 By: NP Unloaded: 7.24.19 By: NP

1. Samples were received via? *USPS* *Fed Ex* *UPS* *DHL* *PDX* (*Courier*) *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 Front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Cooler Temp	Corrected Cooler Temp	Raw Temp Blank	Corrected Temp Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number (NA)	Filed
0.1	0.0	—	—	-0.1	376			

4. Packing material: (*Inserts*) (*Baggies*) *Bubble Wrap* *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
5. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
6. Were samples received in good condition (temperature, unbroken)? *Indicate in the table below.* NA (Y) N
   If applicable, tissue samples were received: *Frozen* *Partially Thawed* *Thawed*
7. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
8. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
9. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
10. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* NA (Y) N
11. Were VOA vials received without headspace? *Indicate in the table below.* NA Y (N)
12. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time
Trip blank	2 of 4 voa		X							

NOT HOLD TIME

Notes, Discrepancies, & Resolutions: _____

Miscellaneous Forms

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Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjlabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water-	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.
Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13		

Sample Name:	LB-072319-02-6S	**Date Collected:**	07/23/19
Lab Code:	K1906780-001	**Date Received:**	07/24/19
Sample Matrix:	Ground Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		MRODRIGUEZ
6010C	YZOOK	AMCKORNEY
8260C		JJAMES
SM 2540 C		JMADISON

Sample Name:	LB-072319-03-10SR	**Date Collected:**	07/23/19
Lab Code:	K1906780-002	**Date Received:**	07/24/19
Sample Matrix:	Ground Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		MRODRIGUEZ
6010C	YZOOK	AMCKORNEY
8260C		JJAMES
SM 2540 C		JMADISON

Sample Name:	LB-072319-04-FB	**Date Collected:**	07/23/19
Lab Code:	K1906780-003	**Date Received:**	07/24/19
Sample Matrix:	Ground Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		MRODRIGUEZ
6010C	YZOOK	AMCKORNEY
8260C		JJAMES
SM 2540 C		JMADISON

Sample Name:	LB-072319-01-26I	**Date Collected:**	07/23/19
Lab Code:	K1906780-004	**Date Received:**	07/24/19
Sample Matrix:	Ground Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		MRODRIGUEZ

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13		

Sample Name:	LB-072319-01-26I	**Date Collected:**	07/23/19
Lab Code:	K1906780-004	**Date Received:**	07/24/19
Sample Matrix:	Ground Water		

Analysis Method	Extracted/Digested By	Analyzed By
6010C	YZOOK	AMCKORNEY
8260C		JJAMES
SM 2540 C		JMADISON

Sample Name:	Trip Blanks	**Date Collected:**	NA
Lab Code:	K1906780-005	**Date Received:**	07/24/19
Sample Matrix:	Ground Water		

Analysis Method	Extracted/Digested By	Analyzed By
8260C		JJAMES

Sample Results

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Volatile Organic Compounds by GC/MS

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 10:20
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-02-6S	**Units:**	ug/L
Lab Code:	K1906780-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/30/19 17:29	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/30/19 17:29	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/30/19 17:29	
1,1,2-Trichloroethane	ND U	0.50	1	07/30/19 17:29	
1,1-Dichloroethane	ND U	0.50	1	07/30/19 17:29	
1,1-Dichloropropene	ND U	0.50	1	07/30/19 17:29	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/30/19 17:29	
1,2,3-Trichloropropane	ND U	0.50	1	07/30/19 17:29	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/30/19 17:29	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/30/19 17:29	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/30/19 17:29	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/30/19 17:29	
1,2-Dichlorobenzene	ND U	0.50	1	07/30/19 17:29	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/30/19 17:29	
1,2-Dichloropropane	ND U	0.50	1	07/30/19 17:29	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/30/19 17:29	
1,3-Dichlorobenzene	ND U	0.50	1	07/30/19 17:29	
1,3-Dichloropropane	ND U	0.50	1	07/30/19 17:29	
1,4-Dichlorobenzene	ND U	0.50	1	07/30/19 17:29	
2,2-Dichloropropane	ND U	0.50	1	07/30/19 17:29	
2-Butanone (MEK)	ND U	20	1	07/30/19 17:29	
2-Chlorotoluene	ND U	2.0	1	07/30/19 17:29	
2-Hexanone	ND U	20	1	07/30/19 17:29	
4-Chlorotoluene	ND U	2.0	1	07/30/19 17:29	
4-Isopropyltoluene	ND U	2.0	1	07/30/19 17:29	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/30/19 17:29	
Acetone	ND U	20	1	07/30/19 17:29	*
Benzene	ND U	0.50	1	07/30/19 17:29	
Bromobenzene	ND U	2.0	1	07/30/19 17:29	
Bromochloromethane	ND U	0.50	1	07/30/19 17:29	
Bromodichloromethane	ND U	0.50	1	07/30/19 17:29	
Bromoform	ND U	0.50	1	07/30/19 17:29	
Bromomethane	ND U	0.50	1	07/30/19 17:29	*
Carbon Disulfide	ND U	0.50	1	07/30/19 17:29	
Carbon Tetrachloride	ND U	0.50	1	07/30/19 17:29	
Chlorobenzene	ND U	0.50	1	07/30/19 17:29	
Chloroethane	ND U	0.50	1	07/30/19 17:29	
Chloroform	ND U	0.50	1	07/30/19 17:29	
Chloromethane	ND U	0.50	1	07/30/19 17:29	*
Dibromochloromethane	ND U	0.50	1	07/30/19 17:29	
Dibromomethane	ND U	0.50	1	07/30/19 17:29	
Dichlorodifluoromethane	ND U	0.50	1	07/30/19 17:29	*
Ethylbenzene	ND U	0.50	1	07/30/19 17:29	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 10:20
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-02-6S	**Units:**	ug/L
Lab Code:	K1906780-001	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Hexachlorobutadiene	ND U	2.0	1	07/30/19 17:29	
Isopropylbenzene	ND U	2.0	1	07/30/19 17:29	
Methyl tert-Butyl Ether	ND U	0.50	1	07/30/19 17:29	
Methylene Chloride	ND U	2.0	1	07/30/19 17:29	
Naphthalene	ND U	2.0	1	07/30/19 17:29	
Styrene	ND U	0.50	1	07/30/19 17:29	
Tetrachloroethene (PCE)	ND U	0.50	1	07/30/19 17:29	
Toluene	ND U	0.50	1	07/30/19 17:29	
Trichloroethene (TCE)	ND U	0.50	1	07/30/19 17:29	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	07/30/19 17:29	
cis-1,2-Dichloroethene	ND U	0.50	1	07/30/19 17:29	
cis-1,3-Dichloropropene	ND U	0.50	1	07/30/19 17:29	
m,p-Xylenes	ND U	0.50	1	07/30/19 17:29	
n-Butylbenzene	ND U	2.0	1	07/30/19 17:29	
n-Propylbenzene	ND U	2.0	1	07/30/19 17:29	
o-Xylene	ND U	0.50	1	07/30/19 17:29	
sec-Butylbenzene	ND U	2.0	1	07/30/19 17:29	
tert-Butylbenzene	ND U	2.0	1	07/30/19 17:29	
trans-1,2-Dichloroethene	ND U	0.50	1	07/30/19 17:29	
trans-1,3-Dichloropropene	ND U	0.50	1	07/30/19 17:29	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	68 - 117	07/30/19 17:29	
Dibromofluoromethane	91	73 - 122	07/30/19 17:29	
Toluene-d8	103	65 - 144	07/30/19 17:29	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 11:10
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-03-10SR	**Units:**	ug/L
Lab Code:	K1906780-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/30/19 17:56	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/30/19 17:56	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/30/19 17:56	
1,1,2-Trichloroethane	ND U	0.50	1	07/30/19 17:56	
1,1-Dichloroethane	ND U	0.50	1	07/30/19 17:56	
1,1-Dichloropropene	ND U	0.50	1	07/30/19 17:56	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/30/19 17:56	
1,2,3-Trichloropropane	ND U	0.50	1	07/30/19 17:56	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/30/19 17:56	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/30/19 17:56	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/30/19 17:56	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/30/19 17:56	
1,2-Dichlorobenzene	ND U	0.50	1	07/30/19 17:56	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/30/19 17:56	
1,2-Dichloropropane	ND U	0.50	1	07/30/19 17:56	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/30/19 17:56	
1,3-Dichlorobenzene	ND U	0.50	1	07/30/19 17:56	
1,3-Dichloropropane	ND U	0.50	1	07/30/19 17:56	
1,4-Dichlorobenzene	ND U	0.50	1	07/30/19 17:56	
2,2-Dichloropropane	ND U	0.50	1	07/30/19 17:56	
2-Butanone (MEK)	ND U	20	1	07/30/19 17:56	
2-Chlorotoluene	ND U	2.0	1	07/30/19 17:56	
2-Hexanone	ND U	20	1	07/30/19 17:56	
4-Chlorotoluene	ND U	2.0	1	07/30/19 17:56	
4-Isopropyltoluene	ND U	2.0	1	07/30/19 17:56	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/30/19 17:56	
Acetone	ND U	20	1	07/30/19 17:56	*
Benzene	ND U	0.50	1	07/30/19 17:56	
Bromobenzene	ND U	2.0	1	07/30/19 17:56	
Bromochloromethane	ND U	0.50	1	07/30/19 17:56	
Bromodichloromethane	ND U	0.50	1	07/30/19 17:56	
Bromoform	ND U	0.50	1	07/30/19 17:56	
Bromomethane	ND U	0.50	1	07/30/19 17:56	*
Carbon Disulfide	ND U	0.50	1	07/30/19 17:56	
Carbon Tetrachloride	ND U	0.50	1	07/30/19 17:56	
Chlorobenzene	ND U	0.50	1	07/30/19 17:56	
Chloroethane	ND U	0.50	1	07/30/19 17:56	
Chloroform	ND U	0.50	1	07/30/19 17:56	
Chloromethane	ND U	0.50	1	07/30/19 17:56	*
Dibromochloromethane	ND U	0.50	1	07/30/19 17:56	
Dibromomethane	ND U	0.50	1	07/30/19 17:56	
Dichlorodifluoromethane	ND U	0.50	1	07/30/19 17:56	*
Ethylbenzene	ND U	0.50	1	07/30/19 17:56	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 11:10
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-03-10SR	**Units:**	ug/L
Lab Code:	K1906780-002	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Hexachlorobutadiene	ND U	2.0	1	07/30/19 17:56	
Isopropylbenzene	ND U	2.0	1	07/30/19 17:56	
Methyl tert-Butyl Ether	ND U	0.50	1	07/30/19 17:56	
Methylene Chloride	ND U	2.0	1	07/30/19 17:56	
Naphthalene	ND U	2.0	1	07/30/19 17:56	
Styrene	ND U	0.50	1	07/30/19 17:56	
Tetrachloroethene (PCE)	ND U	0.50	1	07/30/19 17:56	
Toluene	ND U	0.50	1	07/30/19 17:56	
Trichloroethene (TCE)	ND U	0.50	1	07/30/19 17:56	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	07/30/19 17:56	
cis-1,2-Dichloroethene	ND U	0.50	1	07/30/19 17:56	
cis-1,3-Dichloropropene	ND U	0.50	1	07/30/19 17:56	
m,p-Xylenes	ND U	0.50	1	07/30/19 17:56	
n-Butylbenzene	ND U	2.0	1	07/30/19 17:56	
n-Propylbenzene	ND U	2.0	1	07/30/19 17:56	
o-Xylene	ND U	0.50	1	07/30/19 17:56	
sec-Butylbenzene	ND U	2.0	1	07/30/19 17:56	
tert-Butylbenzene	ND U	2.0	1	07/30/19 17:56	
trans-1,2-Dichloroethene	ND U	0.50	1	07/30/19 17:56	
trans-1,3-Dichloropropene	ND U	0.50	1	07/30/19 17:56	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	92	68 - 117	07/30/19 17:56	
Dibromofluoromethane	88	73 - 122	07/30/19 17:56	
Toluene-d8	101	65 - 144	07/30/19 17:56	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 11:30
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-04-FB	**Units:**	ug/L
Lab Code:	K1906780-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/30/19 18:22	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/30/19 18:22	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/30/19 18:22	
1,1,2-Trichloroethane	ND U	0.50	1	07/30/19 18:22	
1,1-Dichloroethane	ND U	0.50	1	07/30/19 18:22	
1,1-Dichloropropene	ND U	0.50	1	07/30/19 18:22	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/30/19 18:22	
1,2,3-Trichloropropane	ND U	0.50	1	07/30/19 18:22	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/30/19 18:22	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/30/19 18:22	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/30/19 18:22	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/30/19 18:22	
1,2-Dichlorobenzene	ND U	0.50	1	07/30/19 18:22	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/30/19 18:22	
1,2-Dichloropropane	ND U	0.50	1	07/30/19 18:22	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/30/19 18:22	
1,3-Dichlorobenzene	ND U	0.50	1	07/30/19 18:22	
1,3-Dichloropropane	ND U	0.50	1	07/30/19 18:22	
1,4-Dichlorobenzene	ND U	0.50	1	07/30/19 18:22	
2,2-Dichloropropane	ND U	0.50	1	07/30/19 18:22	
2-Butanone (MEK)	ND U	20	1	07/30/19 18:22	
2-Chlorotoluene	ND U	2.0	1	07/30/19 18:22	
2-Hexanone	ND U	20	1	07/30/19 18:22	
4-Chlorotoluene	ND U	2.0	1	07/30/19 18:22	
4-Isopropyltoluene	ND U	2.0	1	07/30/19 18:22	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/30/19 18:22	
Acetone	ND U	20	1	07/30/19 18:22	*
Benzene	ND U	0.50	1	07/30/19 18:22	
Bromobenzene	ND U	2.0	1	07/30/19 18:22	
Bromochloromethane	ND U	0.50	1	07/30/19 18:22	
Bromodichloromethane	ND U	0.50	1	07/30/19 18:22	
Bromoform	ND U	0.50	1	07/30/19 18:22	
Bromomethane	ND U	0.50	1	07/30/19 18:22	*
Carbon Disulfide	ND U	0.50	1	07/30/19 18:22	
Carbon Tetrachloride	ND U	0.50	1	07/30/19 18:22	
Chlorobenzene	ND U	0.50	1	07/30/19 18:22	
Chloroethane	ND U	0.50	1	07/30/19 18:22	
Chloroform	ND U	0.50	1	07/30/19 18:22	
Chloromethane	ND U	0.50	1	07/30/19 18:22	*
Dibromochloromethane	ND U	0.50	1	07/30/19 18:22	
Dibromomethane	ND U	0.50	1	07/30/19 18:22	
Dichlorodifluoromethane	ND U	0.50	1	07/30/19 18:22	*
Ethylbenzene	ND U	0.50	1	07/30/19 18:22	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 11:30
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-04-FB	**Units:**	ug/L
Lab Code:	K1906780-003	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Hexachlorobutadiene	ND U	2.0	1	07/30/19 18:22	
Isopropylbenzene	ND U	2.0	1	07/30/19 18:22	
Methyl tert-Butyl Ether	ND U	0.50	1	07/30/19 18:22	
Methylene Chloride	ND U	2.0	1	07/30/19 18:22	
Naphthalene	ND U	2.0	1	07/30/19 18:22	
Styrene	ND U	0.50	1	07/30/19 18:22	
Tetrachloroethene (PCE)	ND U	0.50	1	07/30/19 18:22	
Toluene	**0.63**	0.50	1	07/30/19 18:22	
Trichloroethene (TCE)	ND U	0.50	1	07/30/19 18:22	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	07/30/19 18:22	
cis-1,2-Dichloroethene	ND U	0.50	1	07/30/19 18:22	
cis-1,3-Dichloropropene	ND U	0.50	1	07/30/19 18:22	
m,p-Xylenes	ND U	0.50	1	07/30/19 18:22	
n-Butylbenzene	ND U	2.0	1	07/30/19 18:22	
n-Propylbenzene	ND U	2.0	1	07/30/19 18:22	
o-Xylene	ND U	0.50	1	07/30/19 18:22	
sec-Butylbenzene	ND U	2.0	1	07/30/19 18:22	
tert-Butylbenzene	ND U	2.0	1	07/30/19 18:22	
trans-1,2-Dichloroethene	ND U	0.50	1	07/30/19 18:22	
trans-1,3-Dichloropropene	ND U	0.50	1	07/30/19 18:22	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	89	68 - 117	07/30/19 18:22	
Dibromofluoromethane	91	73 - 122	07/30/19 18:22	
Toluene-d8	102	65 - 144	07/30/19 18:22	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 09:30
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-01-26I	**Units:**	ug/L
Lab Code:	K1906780-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/30/19 18:49	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/30/19 18:49	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/30/19 18:49	
1,1,2-Trichloroethane	ND U	0.50	1	07/30/19 18:49	
1,1-Dichloroethane	ND U	0.50	1	07/30/19 18:49	
1,1-Dichloropropene	ND U	0.50	1	07/30/19 18:49	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/30/19 18:49	
1,2,3-Trichloropropane	ND U	0.50	1	07/30/19 18:49	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/30/19 18:49	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/30/19 18:49	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/30/19 18:49	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/30/19 18:49	
1,2-Dichlorobenzene	ND U	0.50	1	07/30/19 18:49	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/30/19 18:49	
1,2-Dichloropropane	ND U	0.50	1	07/30/19 18:49	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/30/19 18:49	
1,3-Dichlorobenzene	ND U	0.50	1	07/30/19 18:49	
1,3-Dichloropropane	ND U	0.50	1	07/30/19 18:49	
1,4-Dichlorobenzene	ND U	0.50	1	07/30/19 18:49	
2,2-Dichloropropane	ND U	0.50	1	07/30/19 18:49	
2-Butanone (MEK)	ND U	20	1	07/30/19 18:49	
2-Chlorotoluene	ND U	2.0	1	07/30/19 18:49	
2-Hexanone	ND U	20	1	07/30/19 18:49	
4-Chlorotoluene	ND U	2.0	1	07/30/19 18:49	
4-Isopropyltoluene	ND U	2.0	1	07/30/19 18:49	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/30/19 18:49	
Acetone	ND U	20	1	07/30/19 18:49	*
Benzene	ND U	0.50	1	07/30/19 18:49	
Bromobenzene	ND U	2.0	1	07/30/19 18:49	
Bromochloromethane	ND U	0.50	1	07/30/19 18:49	
Bromodichloromethane	ND U	0.50	1	07/30/19 18:49	
Bromoform	ND U	0.50	1	07/30/19 18:49	
Bromomethane	ND U	0.50	1	07/30/19 18:49	*
Carbon Disulfide	ND U	0.50	1	07/30/19 18:49	
Carbon Tetrachloride	ND U	0.50	1	07/30/19 18:49	
Chlorobenzene	ND U	0.50	1	07/30/19 18:49	
Chloroethane	ND U	0.50	1	07/30/19 18:49	
Chloroform	ND U	0.50	1	07/30/19 18:49	
Chloromethane	ND U	0.50	1	07/30/19 18:49	*
Dibromochloromethane	ND U	0.50	1	07/30/19 18:49	
Dibromomethane	ND U	0.50	1	07/30/19 18:49	
Dichlorodifluoromethane	ND U	0.50	1	07/30/19 18:49	*
Ethylbenzene	ND U	0.50	1	07/30/19 18:49	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 09:30
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-01-26I	**Units:**	ug/L
Lab Code:	K1906780-004	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Hexachlorobutadiene	ND U	2.0	1	07/30/19 18:49	
Isopropylbenzene	ND U	2.0	1	07/30/19 18:49	
Methyl tert-Butyl Ether	ND U	0.50	1	07/30/19 18:49	
Methylene Chloride	ND U	2.0	1	07/30/19 18:49	
Naphthalene	ND U	2.0	1	07/30/19 18:49	
Styrene	ND U	0.50	1	07/30/19 18:49	
Tetrachloroethene (PCE)	ND U	0.50	1	07/30/19 18:49	
Toluene	ND U	0.50	1	07/30/19 18:49	
Trichloroethene (TCE)	ND U	0.50	1	07/30/19 18:49	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	07/30/19 18:49	
cis-1,2-Dichloroethene	ND U	0.50	1	07/30/19 18:49	
cis-1,3-Dichloropropene	ND U	0.50	1	07/30/19 18:49	
m,p-Xylenes	ND U	0.50	1	07/30/19 18:49	
n-Butylbenzene	ND U	2.0	1	07/30/19 18:49	
n-Propylbenzene	ND U	2.0	1	07/30/19 18:49	
o-Xylene	ND U	0.50	1	07/30/19 18:49	
sec-Butylbenzene	ND U	2.0	1	07/30/19 18:49	
tert-Butylbenzene	ND U	2.0	1	07/30/19 18:49	
trans-1,2-Dichloroethene	ND U	0.50	1	07/30/19 18:49	
trans-1,3-Dichloropropene	ND U	0.50	1	07/30/19 18:49	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	91	68 - 117	07/30/19 18:49	
Dibromofluoromethane	89	73 - 122	07/30/19 18:49	
Toluene-d8	103	65 - 144	07/30/19 18:49	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	Trip Blanks	**Units:**	ug/L
Lab Code:	K1906780-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/30/19 20:34	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/30/19 20:34	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/30/19 20:34	
1,1,2-Trichloroethane	ND U	0.50	1	07/30/19 20:34	
1,1-Dichloroethane	ND U	0.50	1	07/30/19 20:34	
1,1-Dichloropropene	ND U	0.50	1	07/30/19 20:34	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/30/19 20:34	
1,2,3-Trichloropropane	ND U	0.50	1	07/30/19 20:34	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/30/19 20:34	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/30/19 20:34	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/30/19 20:34	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/30/19 20:34	
1,2-Dichlorobenzene	ND U	0.50	1	07/30/19 20:34	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/30/19 20:34	
1,2-Dichloropropane	ND U	0.50	1	07/30/19 20:34	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/30/19 20:34	
1,3-Dichlorobenzene	ND U	0.50	1	07/30/19 20:34	
1,3-Dichloropropane	ND U	0.50	1	07/30/19 20:34	
1,4-Dichlorobenzene	ND U	0.50	1	07/30/19 20:34	
2,2-Dichloropropane	ND U	0.50	1	07/30/19 20:34	
2-Butanone (MEK)	ND U	20	1	07/30/19 20:34	
2-Chlorotoluene	ND U	2.0	1	07/30/19 20:34	
2-Hexanone	ND U	20	1	07/30/19 20:34	
4-Chlorotoluene	ND U	2.0	1	07/30/19 20:34	
4-Isopropyltoluene	ND U	2.0	1	07/30/19 20:34	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/30/19 20:34	
Acetone	ND U	20	1	07/30/19 20:34	*
Benzene	ND U	0.50	1	07/30/19 20:34	
Bromobenzene	ND U	2.0	1	07/30/19 20:34	
Bromochloromethane	ND U	0.50	1	07/30/19 20:34	
Bromodichloromethane	ND U	0.50	1	07/30/19 20:34	
Bromoform	ND U	0.50	1	07/30/19 20:34	
Bromomethane	ND U	0.50	1	07/30/19 20:34	*
Carbon Disulfide	ND U	0.50	1	07/30/19 20:34	
Carbon Tetrachloride	ND U	0.50	1	07/30/19 20:34	
Chlorobenzene	ND U	0.50	1	07/30/19 20:34	
Chloroethane	ND U	0.50	1	07/30/19 20:34	
Chloroform	ND U	0.50	1	07/30/19 20:34	
Chloromethane	ND U	0.50	1	07/30/19 20:34	*
Dibromochloromethane	ND U	0.50	1	07/30/19 20:34	
Dibromomethane	ND U	0.50	1	07/30/19 20:34	
Dichlorodifluoromethane	ND U	0.50	1	07/30/19 20:34	*
Ethylbenzene	ND U	0.50	1	07/30/19 20:34	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	Trip Blanks	**Units:**	ug/L
Lab Code:	K1906780-005	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Hexachlorobutadiene	ND U	2.0	1	07/30/19 20:34	
Isopropylbenzene	ND U	2.0	1	07/30/19 20:34	
Methyl tert-Butyl Ether	ND U	0.50	1	07/30/19 20:34	
Methylene Chloride	ND U	2.0	1	07/30/19 20:34	
Naphthalene	ND U	2.0	1	07/30/19 20:34	
Styrene	ND U	0.50	1	07/30/19 20:34	
Tetrachloroethene (PCE)	ND U	0.50	1	07/30/19 20:34	
Toluene	ND U	0.50	1	07/30/19 20:34	
Trichloroethene (TCE)	ND U	0.50	1	07/30/19 20:34	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	07/30/19 20:34	
cis-1,2-Dichloroethene	ND U	0.50	1	07/30/19 20:34	
cis-1,3-Dichloropropene	ND U	0.50	1	07/30/19 20:34	
m,p-Xylenes	ND U	0.50	1	07/30/19 20:34	
n-Butylbenzene	ND U	2.0	1	07/30/19 20:34	
n-Propylbenzene	ND U	2.0	1	07/30/19 20:34	
o-Xylene	ND U	0.50	1	07/30/19 20:34	
sec-Butylbenzene	ND U	2.0	1	07/30/19 20:34	
tert-Butylbenzene	ND U	2.0	1	07/30/19 20:34	
trans-1,2-Dichloroethene	ND U	0.50	1	07/30/19 20:34	
trans-1,3-Dichloropropene	ND U	0.50	1	07/30/19 20:34	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	90	68 - 117	07/30/19 20:34	
Dibromofluoromethane	88	73 - 122	07/30/19 20:34	
Toluene-d8	101	65 - 144	07/30/19 20:34	

Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 10:20
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-02-6S	**Basis:**	NA
Lab Code:	K1906780-001		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	07/31/19 11:24	07/25/19	
Manganese	6010C	ND U	ug/L	1.1	1	07/31/19 11:24	07/25/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 11:10
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-03-10SR	**Basis:**	NA
Lab Code:	K1906780-002		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	07/31/19 11:27	07/25/19	
Manganese	6010C	**1.1**	ug/L	1.1	1	07/31/19 11:27	07/25/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 11:30
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-04-FB	**Basis:**	NA
Lab Code:	K1906780-003		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	07/31/19 11:30	07/25/19	
Manganese	6010C	ND U	ug/L	1.1	1	07/31/19 11:30	07/25/19	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 09:30
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-01-26I	**Basis:**	NA
Lab Code:	K1906780-004		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	07/31/19 11:33	07/25/19	
Manganese	6010C	**2.0**	ug/L	1.1	1	07/31/19 11:33	07/25/19	

General Chemistry

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www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 10:20
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-02-6S	**Basis:**	NA
Lab Code:	K1906780-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**3.56**	mg/L	0.20	2	07/24/19 13:05	
Nitrate as Nitrogen	300.0	**1.14**	mg/L	0.10	2	07/24/19 13:05	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 10:20
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-02-6S	**Basis:**	NA
Lab Code:	K1906780-001		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**154**	mg/L	5.0	1	07/25/19 09:15	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 11:10
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-03-10SR	**Basis:**	NA
Lab Code:	K1906780-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**4.08**	mg/L	0.20	2	07/24/19 13:47	
Nitrate as Nitrogen	300.0	**10.4**	mg/L	0.25	5	07/24/19 14:51	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 11:10
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-03-10SR	**Basis:**	NA
Lab Code:	K1906780-002		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**258**	mg/L	5.0	1	07/25/19 09:15	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 11:30
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-04-FB	**Basis:**	NA
Lab Code:	K1906780-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.20	2	07/24/19 13:58	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	2	07/24/19 13:58	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 11:30
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-04-FB	**Basis:**	NA
Lab Code:	K1906780-003		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**13.0**	mg/L	5.0	1	07/25/19 09:15	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 09:30
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-01-26I	**Basis:**	NA
Lab Code:	K1906780-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	**9.66**	mg/L	0.20	2	07/24/19 14:08	
Nitrate as Nitrogen	300.0	**3.44**	mg/L	0.10	2	07/24/19 14:08	

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19 09:30
Sample Matrix:	Ground Water	**Date Received:**	07/24/19 11:40
Sample Name:	LB-072319-01-26I	**Basis:**	NA
Lab Code:	K1906780-004		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	**213**	mg/L	5.0	1	07/25/19 09:15	

QC Summary Forms

ALS Environmental—Kelso Laboratory
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Volatile Organic Compounds by GC/MS

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Client: SCS Engineers **Service Request:** K1906780

Project: Leichner Landfill/04219030.13

Sample Matrix: Ground Water

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds by GC/MS

Analysis Method: 8260C

Extraction Method: None

Sample Name	Lab Code	4-Bromofluorobenzene 68-117	Dibromofluoromethane 73-122	Toluene-d8 65-144
LB-072319-02-6S	K1906780-001	90	91	103
LB-072319-03-10SR	K1906780-002	92	88	101
LB-072319-04-FB	K1906780-003	89	91	102
LB-072319-01-26I	K1906780-004	91	89	103
Trip Blanks	K1906780-005	90	88	101
Method Blank	KQ1910610-06	93	89	102
Lab Control Sample	KQ1910610-04	95	96	102
Duplicate Lab Control Sample	KQ1910610-05	93	95	102
LB-072319-01-26I	KQ1910610-02	93	97	100
LB-072319-01-26I	KQ1910610-03	94	95	102

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19
Sample Matrix:	Ground Water	**Date Received:**	07/24/19
		Date Analyzed:	07/30/19
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	LB-072319-01-26I	**Units:**	ug/L
Lab Code:	K1906780-004	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	None		

		Matrix Spike KQ1910610-02			Duplicate Matrix Spike KQ1910610-03					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	ND U	9.51	10.0	95	9.32	10.0	93	67-127	2	30
1,1,1-Trichloroethane (TCA)	ND U	10.2	10.0	102	9.63	10.0	96	57-151	6	30
1,1,2,2-Tetrachloroethane	ND U	9.88	10.0	99	9.83	10.0	98	72-129	<1	30
1,1,2-Trichloroethane	ND U	9.99	10.0	100	9.78	10.0	98	74-124	2	30
1,1-Dichloroethane	ND U	10.7	10.0	107	9.79	10.0	98	69-141	9	30
1,1-Dichloropropene	ND U	10.5	10.0	105	9.66	10.0	97	61-148	9	30
1,2,3-Trichlorobenzene	ND U	9.52	10.0	95	9.69	10.0	97	57-137	2	30
1,2,3-Trichloropropane	ND U	10.7	10.0	107	10.3	10.0	103	71-127	4	30
1,2,4-Trimethylbenzene	ND U	10.4	10.0	104	9.84	10.0	98	61-132	5	30
1,2-Dibromo-3-chloropropane	ND U	7.86	10.0	79	8.76	10.0	88	59-133	11	30
1,2-Dibromoethane (EDB)	ND U	9.59	10.0	96	9.66	10.0	97	73-122	<1	30
1,2-Dichlorobenzene	ND U	10.2	10.0	102	10.0	10.0	100	72-119	2	30
1,2-Dichloroethane (EDC)	ND U	9.77	10.0	98	9.44	10.0	94	56-141	3	30
1,2-Dichloropropane	ND U	10.3	10.0	103	9.43	10.0	94	63-131	9	30
1,3,5-Trimethylbenzene	ND U	10.3	10.0	103	9.70	10.0	97	60-136	6	30
1,3-Dichlorobenzene	ND U	9.92	10.0	99	9.56	10.0	96	70-121	4	30
1,3-Dichloropropane	ND U	10.2	10.0	102	9.60	10.0	96	74-121	6	30
1,4-Dichlorobenzene	ND U	9.82	10.0	98	9.44	10.0	94	72-121	4	30
2,2-Dichloropropane	ND U	9.01	10.0	90	8.30	10.0	83	39-161	8	30
2-Butanone (MEK)	ND U	53.7	50.0	107	55.6	50.0	111	65-147	3	30
2-Chlorotoluene	ND U	10.4	10.0	104	9.67	10.0	97	55-139	7	30
2-Hexanone	ND U	52.7	50.0	105	53.0	50.0	106	53-132	<1	30
4-Chlorotoluene	ND U	10.2	10.0	102	9.59	10.0	96	57-138	6	30
4-Isopropyltoluene	ND U	10.8	10.0	108	10.1	10.0	101	57-141	7	30
4-Methyl-2-pentanone (MIBK)	ND U	55.3	50.0	111	54.6	50.0	109	64-139	1	30
Acetone	ND U	57.3	50.0	115	57.3	50.0	115	68-134	<1	30
Benzene	ND U	10.2	10.0	102	9.68	10.0	97	63-144	5	30
Bromobenzene	ND U	10.2	10.0	102	9.77	10.0	98	72-122	4	30
Bromochloromethane	ND U	10.4	10.0	104	9.76	10.0	98	73-135	6	30
Bromodichloromethane	ND U	9.51	10.0	95	9.33	10.0	93	61-134	2	30
Bromoform	ND U	8.70	10.0	87	8.13	10.0	81	54-140	7	30
Bromomethane	ND U	8.97	10.0	90	8.80	10.0	88	36-127	2	30
Carbon Disulfide	ND U	20.4	20.0	102	19.0	20.0	95	52-156	7	30
Carbon Tetrachloride	ND U	9.97	10.0	100	9.40	10.0	94	53-161	6	30
Chlorobenzene	ND U	10.2	10.0	102	9.62	10.0	96	69-126	6	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

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QA/QC Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19
Sample Matrix:	Ground Water	**Date Received:**	07/24/19
		Date Analyzed:	07/30/19
		Date Extracted:	NA

Duplicate Matrix Spike Summary
Volatile Organic Compounds by GC/MS

Sample Name:	LB-072319-01-26I	**Units:**	ug/L
Lab Code:	K1906780-004	**Basis:**	NA
Analysis Method:	8260C		
Prep Method:	None		

		Matrix Spike KQ1910610-02			**Duplicate Matrix Spike** KQ1910610-03					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloroethane	ND U	11.2	10.0	112	10.4	10.0	104	56-147	8	30
Chloroform	ND U	10.1	10.0	101	9.59	10.0	96	64-133	5	30
Chloromethane	ND U	9.48	10.0	95	8.95	10.0	90	49-127	6	30
Dibromochloromethane	ND U	9.89	10.0	99	9.98	10.0	100	68-125	<1	30
Dibromomethane	ND U	9.51	10.0	95	8.99	10.0	90	68-132	6	30
Dichlorodifluoromethane	ND U	9.31	10.0	93	8.43	10.0	84	29-133	10	30
Ethylbenzene	ND U	10.1	10.0	101	9.65	10.0	97	66-136	4	30
Hexachlorobutadiene	ND U	9.62	10.0	96	9.14	10.0	91	60-132	5	30
Isopropylbenzene	ND U	10.2	10.0	102	9.70	10.0	97	58-144	5	30
Methyl tert-Butyl Ether	ND U	9.91	10.0	99	9.48	10.0	95	54-126	4	30
Methylene Chloride	ND U	9.42	10.0	94	8.82	10.0	88	70-133	7	30
Styrene	ND U	9.46	10.0	95	9.22	10.0	92	66-131	3	30
Tetrachloroethene (PCE)	ND U	10.3	10.0	103	9.92	10.0	99	61-131	4	30
Toluene	ND U	10.3	10.0	103	9.79	10.0	98	71-136	5	30
Trichloroethene (TCE)	ND U	10.2	10.0	102	9.54	10.0	95	53-139	7	30
Trichlorofluoromethane (CFC 11)	ND U	9.43	10.0	94	8.55	10.0	86	45-124	10	30
cis-1,2-Dichloroethene	ND U	10.3	10.0	103	9.61	10.0	96	61-139	7	30
cis-1,3-Dichloropropene	ND U	9.87	10.0	99	9.44	10.0	94	66-134	4	30
m,p-Xylenes	ND U	20.4	20.0	102	19.1	20.0	95	67-135	7	30
n-Butylbenzene	ND U	10.1	10.0	101	9.48	10.0	95	52-144	6	30
n-Propylbenzene	ND U	10.5	10.0	105	9.79	10.0	98	55-144	7	30
o-Xylene	ND U	10.3	10.0	103	9.60	10.0	96	67-127	7	30
sec-Butylbenzene	ND U	10.5	10.0	105	9.96	10.0	100	56-142	6	30
tert-Butylbenzene	ND U	10.6	10.0	106	9.96	10.0	100	59-139	7	30
trans-1,2-Dichloroethene	ND U	10.3	10.0	103	9.60	10.0	96	65-143	7	30
trans-1,3-Dichloropropene	ND U	9.47	10.0	95	8.99	10.0	90	56-127	5	30

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ1910610-06	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
1,1,1,2-Tetrachloroethane	ND U	0.50	1	07/30/19 13:04	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	07/30/19 13:04	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	07/30/19 13:04	
1,1,2-Trichloroethane	ND U	0.50	1	07/30/19 13:04	
1,1-Dichloroethane	ND U	0.50	1	07/30/19 13:04	
1,1-Dichloropropene	ND U	0.50	1	07/30/19 13:04	
1,2,3-Trichlorobenzene	ND U	2.0	1	07/30/19 13:04	
1,2,3-Trichloropropane	ND U	0.50	1	07/30/19 13:04	
1,2,4-Trichlorobenzene	ND U	2.0	1	07/30/19 13:04	
1,2,4-Trimethylbenzene	ND U	2.0	1	07/30/19 13:04	
1,2-Dibromo-3-chloropropane	ND U	2.0	1	07/30/19 13:04	
1,2-Dibromoethane (EDB)	ND U	2.0	1	07/30/19 13:04	
1,2-Dichlorobenzene	ND U	0.50	1	07/30/19 13:04	
1,2-Dichloroethane (EDC)	ND U	0.50	1	07/30/19 13:04	
1,2-Dichloropropane	ND U	0.50	1	07/30/19 13:04	
1,3,5-Trimethylbenzene	ND U	2.0	1	07/30/19 13:04	
1,3-Dichlorobenzene	ND U	0.50	1	07/30/19 13:04	
1,3-Dichloropropane	ND U	0.50	1	07/30/19 13:04	
1,4-Dichlorobenzene	ND U	0.50	1	07/30/19 13:04	
2,2-Dichloropropane	ND U	0.50	1	07/30/19 13:04	
2-Butanone (MEK)	ND U	20	1	07/30/19 13:04	
2-Chlorotoluene	ND U	2.0	1	07/30/19 13:04	
2-Hexanone	ND U	20	1	07/30/19 13:04	
4-Chlorotoluene	ND U	2.0	1	07/30/19 13:04	
4-Isopropyltoluene	ND U	2.0	1	07/30/19 13:04	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	07/30/19 13:04	
Acetone	ND U	20	1	07/30/19 13:04	
Benzene	ND U	0.50	1	07/30/19 13:04	
Bromobenzene	ND U	2.0	1	07/30/19 13:04	
Bromochloromethane	ND U	0.50	1	07/30/19 13:04	
Bromodichloromethane	ND U	0.50	1	07/30/19 13:04	
Bromoform	ND U	0.50	1	07/30/19 13:04	
Bromomethane	ND U	0.50	1	07/30/19 13:04	
Carbon Disulfide	ND U	0.50	1	07/30/19 13:04	
Carbon Tetrachloride	ND U	0.50	1	07/30/19 13:04	
Chlorobenzene	ND U	0.50	1	07/30/19 13:04	
Chloroethane	ND U	0.50	1	07/30/19 13:04	
Chloroform	ND U	0.50	1	07/30/19 13:04	
Chloromethane	ND U	0.50	1	07/30/19 13:04	
Dibromochloromethane	ND U	0.50	1	07/30/19 13:04	
Dibromomethane	ND U	0.50	1	07/30/19 13:04	
Dichlorodifluoromethane	ND U	0.50	1	07/30/19 13:04	
Ethylbenzene	ND U	0.50	1	07/30/19 13:04	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Units:**	ug/L
Lab Code:	KQ1910610-06	**Basis:**	NA

Volatile Organic Compounds by GC/MS

Analysis Method: 8260C
Prep Method: None

Analyte Name	Result	MRL	Dil.	Date Analyzed	Q
Hexachlorobutadiene	ND U	2.0	1	07/30/19 13:04	
Isopropylbenzene	ND U	2.0	1	07/30/19 13:04	
Methyl tert-Butyl Ether	ND U	0.50	1	07/30/19 13:04	
Methylene Chloride	ND U	2.0	1	07/30/19 13:04	
Naphthalene	ND U	2.0	1	07/30/19 13:04	
Styrene	ND U	0.50	1	07/30/19 13:04	
Tetrachloroethene (PCE)	ND U	0.50	1	07/30/19 13:04	
Toluene	ND U	0.50	1	07/30/19 13:04	
Trichloroethene (TCE)	ND U	0.50	1	07/30/19 13:04	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	07/30/19 13:04	
cis-1,2-Dichloroethene	ND U	0.50	1	07/30/19 13:04	
cis-1,3-Dichloropropene	ND U	0.50	1	07/30/19 13:04	
m,p-Xylenes	ND U	0.50	1	07/30/19 13:04	
n-Butylbenzene	ND U	2.0	1	07/30/19 13:04	
n-Propylbenzene	ND U	2.0	1	07/30/19 13:04	
o-Xylene	ND U	0.50	1	07/30/19 13:04	
sec-Butylbenzene	ND U	2.0	1	07/30/19 13:04	
tert-Butylbenzene	ND U	2.0	1	07/30/19 13:04	
trans-1,2-Dichloroethene	ND U	0.50	1	07/30/19 13:04	
trans-1,3-Dichloropropene	ND U	0.50	1	07/30/19 13:04	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
4-Bromofluorobenzene	93	68 - 117	07/30/19 13:04	
Dibromofluoromethane	89	73 - 122	07/30/19 13:04	
Toluene-d8	102	65 - 144	07/30/19 13:04	

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QA/QC Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Analyzed:**	07/30/19
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	645146

	Lab Control Sample KQ1910610-04			Duplicate Lab Control Sample KQ1910610-05					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
1,1,1,2-Tetrachloroethane	8.10	10.0	81	8.51	10.0	85	66-124	5	30
1,1,1-Trichloroethane (TCA)	8.29	10.0	83	8.65	10.0	87	59-136	4	30
1,1,2,2-Tetrachloroethane	7.95	10.0	80	8.26	10.0	83	70-127	4	30
1,1,2-Trichloroethane	8.27	10.0	83	8.64	10.0	86	74-118	4	30
1,1-Dichloroethane	8.54	10.0	85	8.79	10.0	88	68-132	3	30
1,1-Dichloropropene	8.53	10.0	85	8.66	10.0	87	59-134	2	30
1,2,3-Trichlorobenzene	8.24	10.0	82	8.86	10.0	89	68-120	7	30
1,2,3-Trichloropropane	8.64	10.0	86	8.72	10.0	87	69-123	<1	30
1,2,4-Trimethylbenzene	8.34	10.0	83	8.85	10.0	89	63-122	6	30
1,2-Dibromo-3-chloropropane	7.93	10.0	79	7.97	10.0	80	55-132	<1	30
1,2-Dibromoethane (EDB)	8.12	10.0	81	8.46	10.0	85	74-118	4	30
1,2-Dichlorobenzene	8.33	10.0	83	8.74	10.0	87	72-115	5	30
1,2-Dichloroethane (EDC)	7.96	10.0	80	8.26	10.0	83	56-142	4	30
1,2-Dichloropropane	8.15	10.0	82	8.58	10.0	86	67-126	5	30
1,3,5-Trimethylbenzene	8.33	10.0	83	8.73	10.0	87	62-126	5	30
1,3-Dichlorobenzene	8.03	10.0	80	8.60	10.0	86	70-116	7	30
1,3-Dichloropropane	8.28	10.0	83	8.46	10.0	85	75-116	2	30
1,4-Dichlorobenzene	8.02	10.0	80	8.36	10.0	84	73-115	4	30
2,2-Dichloropropane	8.03	10.0	80	8.28	10.0	83	37-145	3	30
2-Butanone (MEK)	51.5	50.0	103	51.6	50.0	103	71-149	<1	30
2-Chlorotoluene	8.09	10.0	81	8.66	10.0	87	55-131	7	30
2-Hexanone	46.3	50.0	93	46.1	50.0	92	59-131	<1	30
4-Chlorotoluene	8.26	10.0	83	8.67	10.0	87	66-121	5	30
4-Isopropyltoluene	8.69	10.0	87	9.18	10.0	92	61-128	5	30
4-Methyl-2-pentanone (MIBK)	47.8	50.0	96	48.9	50.0	98	64-134	2	30
Acetone	51.8	50.0	104	51.1	50.0	102	68-135	1	30
Benzene	8.25	10.0	83	8.64	10.0	86	69-124	5	30
Bromobenzene	8.38	10.0	84	8.69	10.0	87	72-116	4	30
Bromochloromethane	8.49	10.0	85	8.94	10.0	89	75-131	5	30
Bromodichloromethane	8.15	10.0	82	8.29	10.0	83	63-129	2	30
Bromoform	8.08	10.0	81	8.01	10.0	80	52-144	<1	30
Bromomethane	7.51	10.0	75	8.06	10.0	81	35-113	7	30
Carbon Disulfide	16.6	20.0	83	17.6	20.0	88	46-144	6	30
Carbon Tetrachloride	8.57	10.0	86	8.81	10.0	88	55-140	3	30
Chlorobenzene	8.17	10.0	82	8.72	10.0	87	72-116	7	30
Chloroethane	8.68	10.0	87	9.27	10.0	93	58-134	7	30
Chloroform	8.13	10.0	81	8.46	10.0	85	70-129	4	30
Chloromethane	7.85	10.0	79	8.35	10.0	84	34-130	6	30
cis-1,2-Dichloroethene	8.37	10.0	84	8.65	10.0	87	71-118	3	30
cis-1,3-Dichloropropene	8.57	10.0	86	8.99	10.0	90	62-132	5	30
Dibromochloromethane	8.92	10.0	89	9.14	10.0	91	67-126	2	30

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Analyzed:**	07/30/19
Sample Matrix:	Ground Water	**Date Extracted:**	NA

Duplicate Lab Control Sample Summary
Volatile Organic Compounds by GC/MS

Analysis Method:	8260C	**Units:**	ug/L
Prep Method:	None	**Basis:**	NA
		Analysis Lot:	645146

	Lab Control Sample KQ1910610-04			Duplicate Lab Control Sample KQ1910610-05					
Analyte Name	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Dibromomethane	7.93	10.0	79	8.15	10.0	82	69-128	3	30
Dichlorodifluoromethane	7.36	10.0	74	7.63	10.0	76	32-124	4	30
Ethylbenzene	8.28	10.0	83	8.55	10.0	86	67-121	3	30
Hexachlorobutadiene	8.21	10.0	82	8.25	10.0	83	57-119	<1	30
Isopropylbenzene	8.35	10.0	84	8.90	10.0	89	67-129	6	30
m,p-Xylenes	16.4	20.0	82	17.3	20.0	87	69-121	6	30
Methyl tert-Butyl Ether	8.38	10.0	84	8.18	10.0	82	54-126	2	30
Methylene Chloride	7.87	10.0	79	8.21	10.0	82	71-122	4	30
n-Butylbenzene	8.18	10.0	82	8.72	10.0	87	55-130	6	30
n-Propylbenzene	8.31	10.0	83	8.77	10.0	88	61-124	5	30
o-Xylene	8.16	10.0	82	8.76	10.0	88	71-119	7	30
sec-Butylbenzene	8.36	10.0	84	8.83	10.0	88	59-128	5	30
Styrene	8.08	10.0	81	8.65	10.0	87	74-121	7	30
tert-Butylbenzene	8.32	10.0	83	8.74	10.0	87	61-127	5	30
Tetrachloroethene (PCE)	8.30	10.0	83	8.79	10.0	88	62-126	6	30
Toluene	8.36	10.0	84	8.86	10.0	89	69-124	6	30
trans-1,2-Dichloroethene	8.15	10.0	82	8.58	10.0	86	67-125	5	30
trans-1,3-Dichloropropene	8.15	10.0	82	8.54	10.0	85	59-125	5	30
Trichloroethene (TCE)	8.59	10.0	86	8.72	10.0	87	67-128	2	30
Trichlorofluoromethane (CFC 11)	7.41	10.0	74	7.81	10.0	78	52-141	5	30

Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	KQ1910389-03		

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	07/31/19 10:29	07/25/19	
Manganese	6010C	ND U	ug/L	1.1	1	07/31/19 10:29	07/25/19	

Client: SCS Engineers
Project: Leichner Landfill/04219030.13
Sample Matrix: Ground Water

Service Request: K1906780
Date Analyzed: 07/31/19

Lab Control Sample Summary
Dissolved Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ1910389-01

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron	6010C	2490	2500	100	80-120
Manganese	6010C	1230	1250	98	80-120

General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360) 577-7222 Fax (360) 425-9096
www.alsglobal.com

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1906780-MB1		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	1	07/24/19 12:32	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.050	1	07/24/19 12:32	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1906780-MB1		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	07/25/19 09:15	

Analytical Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project:	Leichner Landfill/04219030.13	**Date Collected:**	NA
Sample Matrix:	Ground Water	**Date Received:**	NA
Sample Name:	Method Blank	**Basis:**	NA
Lab Code:	K1906780-MB2		

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	07/25/19 09:15	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04219030.13
Sample Matrix: Ground Water

Service Request:K1906780
Date Collected:07/23/19
Date Received:07/24/19
Date Analyzed:7/24/19

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name: LB-072319-02-6S
Lab Code: K1906780-001

Units:mg/L
Basis:NA

			Matrix Spike K1906780-001MS			Duplicate Matrix Spike K1906780-001DMS					
Analyte Name	**Method**	**Sample Result**	**Result**	**Spike Amount**	**% Rec**	**Result**	**Spike Amount**	**% Rec**	**% Rec Limits**	**RPD**	**RPD Limit**
Chloride	300.0	3.56	11.1	8.00	94	11.2	8.00	95	90-110	<1	20
Nitrate as Nitrogen	300.0	1.14	8.92	8.00	97	8.95	8.00	98	90-110	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client:	SCS Engineers	**Service Request:**	K1906780
Project	Leichner Landfill/04219030.13	**Date Collected:**	07/23/19
Sample Matrix:	Ground Water	**Date Received:**	07/24/19
		Date Analyzed:	07/24/19

Replicate Sample Summary
General Chemistry Parameters

Sample Name:	LB-072319-02-6S	**Units:**	mg/L
Lab Code:	K1906780-001	**Basis:**	NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample K1906780-001DUP Result	Average	RPD	RPD Limit
Chloride	300.0	0.20	3.56	3.56	3.56	<1	20
Nitrate as Nitrogen	300.0	0.10	1.14	1.13	1.13	<1	20

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04219030.13
Sample Matrix: Ground Water

Service Request: K1906780
Date Analyzed: 07/24/19 - 07/25/19

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
K1906780-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.82	5.00	96	90-110
Nitrate as Nitrogen	300.0	2.42	2.50	97	90-110
Solids, Total Dissolved	SM 2540 C	913	922	99	85-115

APPENDIX D

2019 Groundwater Elevation Data and Groundwater Elevation Hydrographs

Table D-1
2019 Groundwater Elevation Data
Leichner Landfill

Monitoring Well	Date	Reference Elevation (feet, AMSL)	Depth to Groundwater (feet, BTOC)	Groundwater Elevation (feet, AMSL)
LB-R2	1/28/2019	222.27	48.49	173.78
LB-R2	7/22/2019	222.27	49.23	173.04
LB-1S	1/28/2019	210.12	36.24	173.88
LB-1S	7/22/2019	210.12	36.90	173.22
LB-1D	1/28/2019	209.74	38.35	171.39
LB-1D	7/22/2019	209.74	39.80	169.94
LB-3S	1/28/2019	218.25	41.64	176.61
LB-3S	7/22/2019	218.25	42.34	175.91
LB-3D	1/28/2019	219.29	42.64	176.65
LB-3D	7/22/2019	219.29	45.73	173.56
LB-5S	1/28/2019	206.89	16.80	190.09
LB-5S	7/22/2019	206.89	17.31	189.58
LB-5C	1/28/2019	206.70	35.81	170.89
LB-5C	7/22/2019	206.70	36.78	169.92
LB-5D	1/28/2019	207.56	40.05	167.51
LB-5D	7/22/2019	207.56	41.17	166.39
LB-6S	1/28/2019	202.80	30.03	172.77
LB-6S	7/22/2019	202.80	30.69	172.11
LB-9S(R)	1/28/2019	217.94	38.61	179.33
LB-9S(R)	7/22/2019	217.94	39.26	178.68
LB-10SR	1/28/2019	204.04	34.06	169.98
LB-10SR	7/22/2019	204.04	34.91	169.13
LB-10CR	1/28/2019	203.05	33.02	170.03
LB-10CR	7/22/2019	203.05	33.81	169.24
LB-10DR	1/28/2019	203.36	45.19	158.17
LB-10DR	7/22/2019	203.36	46.39	156.97
LB-13I	1/28/2019	202.36	30.63	171.73
LB-13I	7/22/2019	202.36	31.31	171.05
LB-13C	1/28/2019	202.68	31.02	171.66
LB-13C	7/22/2019	202.68	31.73	170.95
LB-13D	1/28/2019	202.96	31.44	171.52
LB-13D	7/22/2019	202.96	32.14	170.82

Table D-1
2019 Groundwater Elevation Data
Leichner Landfill

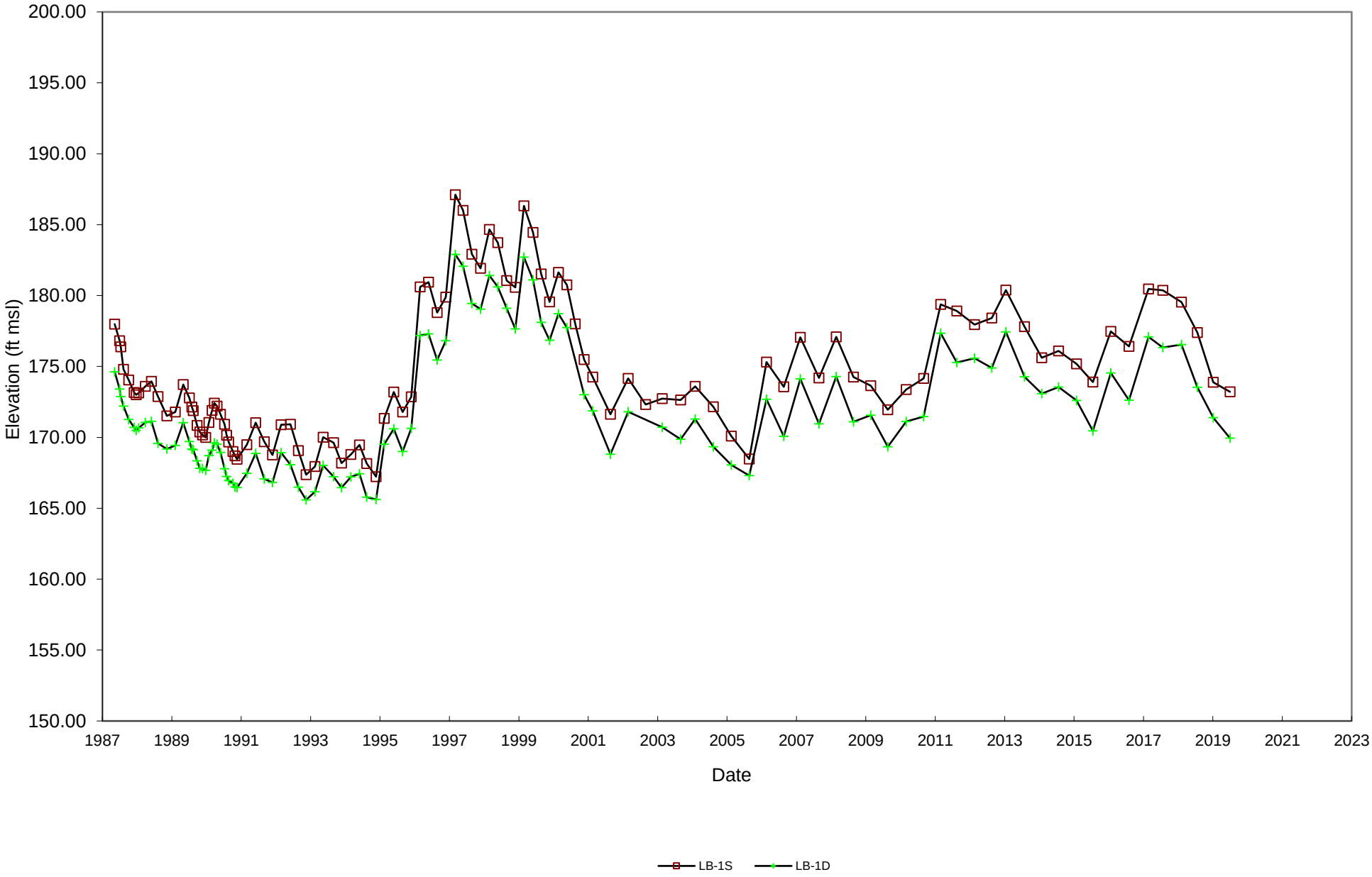
Monitoring Well	Date	Reference Elevation (feet, AMSL)	Depth to Groundwater (feet, BTOC)	Groundwater Elevation (feet, AMSL)
LB-17S	1/28/2019	208.18	34.27	173.91
LB-17S	7/22/2019	208.18	Dry	NA
LB-17I	1/28/2019	212.96	39.38	173.58
LB-17I	7/22/2019	212.96	40.09	172.87
LB-17C	1/28/2019	207.97	33.07	174.90
LB-17C	7/22/2019	207.97	33.79	174.18
LB-17D	1/28/2019	213.17	40.23	172.94
LB-17D	7/22/2019	213.17	41.00	172.17
LB-20S	1/28/2019	221.22	42.79	178.43
LB-20S	7/22/2019	221.22	43.51	177.71
LB-21S	1/28/2019	223.35	40.10	183.25
LB-21S	7/22/2019	223.35	41.03	182.32
LB-21C	1/28/2019	223.32	40.53	182.79
LB-21C	7/22/2019	223.32	41.46	181.86
LB-21D	1/28/2019	223.63	43.35	180.28
LB-21D	7/22/2019	223.63	44.55	179.08
LB-22S	1/28/2019	208.42	8.94	199.48
LB-22S	7/22/2019	208.42	10.16	198.26
LB-23S	1/28/2019	229.19	33.43	195.76
LB-23S	7/22/2019	229.19	34.19	195.00
LB-24S	1/28/2019	235.13	40.80	194.33
LB-24S	7/22/2019	235.13	41.29	193.84
LB-26I	1/28/2019	200.22	28.01	172.21
LB-26I	7/22/2019	200.22	28.70	171.52
LB-26D	1/28/2019	200.75	27.86	172.89
LB-26D	7/22/2019	200.75	28.58	172.17
LB-27I	1/28/2019	205.35	34.01	171.34
LB-27I	7/22/2019	205.35	34.71	170.64
LB-27D	1/28/2019	204.63	38.81	165.82
LB-27D	7/22/2019	204.63	41.29	163.34
MW-1 N	1/28/2019	216.58	Dry	NA
MW-1 N	7/22/2019	216.58	Dry	NA

Table D-1
2019 Groundwater Elevation Data
Leichner Landfill

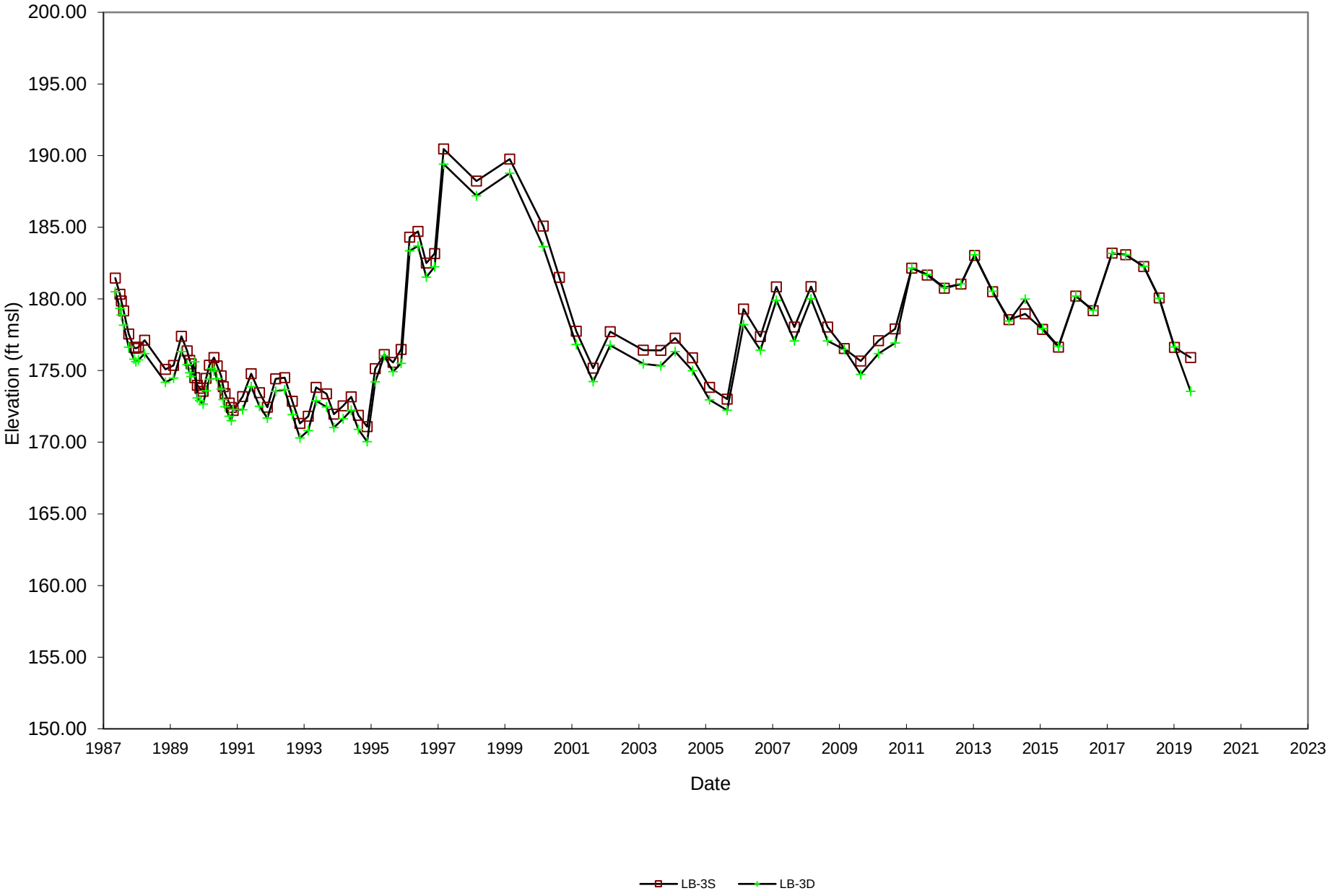
Monitoring Well	Date	Reference Elevation (feet, AMSL)	Depth to Groundwater (feet, BTOC)	Groundwater Elevation (feet, AMSL)
MW-1 S	1/28/2019	216.13	40.62	175.51
MW-1 S	7/22/2019	216.13	41.27	174.86
MW-1 E	1/28/2019	216.45	Dry	NA
MW-1 E	7/22/2019	216.45	Dry	NA
MW-NE	1/28/2019	220.06	16.65	203.41
MW-NE	7/22/2019	220.06	18.04	202.02

Notes:
AMSL = above mean sea level; BTOC = below top of casing; NA = not applicable.

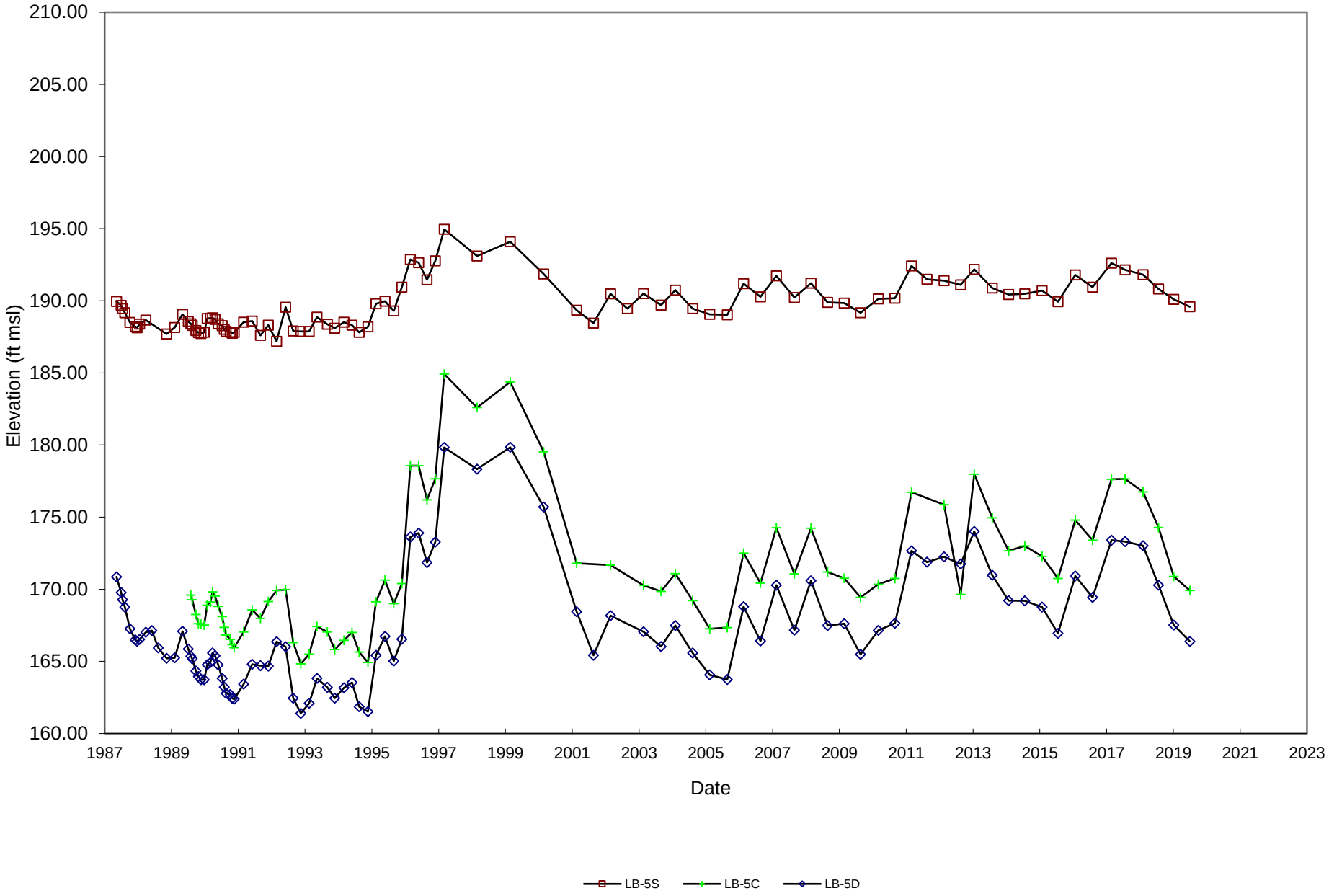
LB-1S and LB-1D Hydrographs
Leichner Landfill



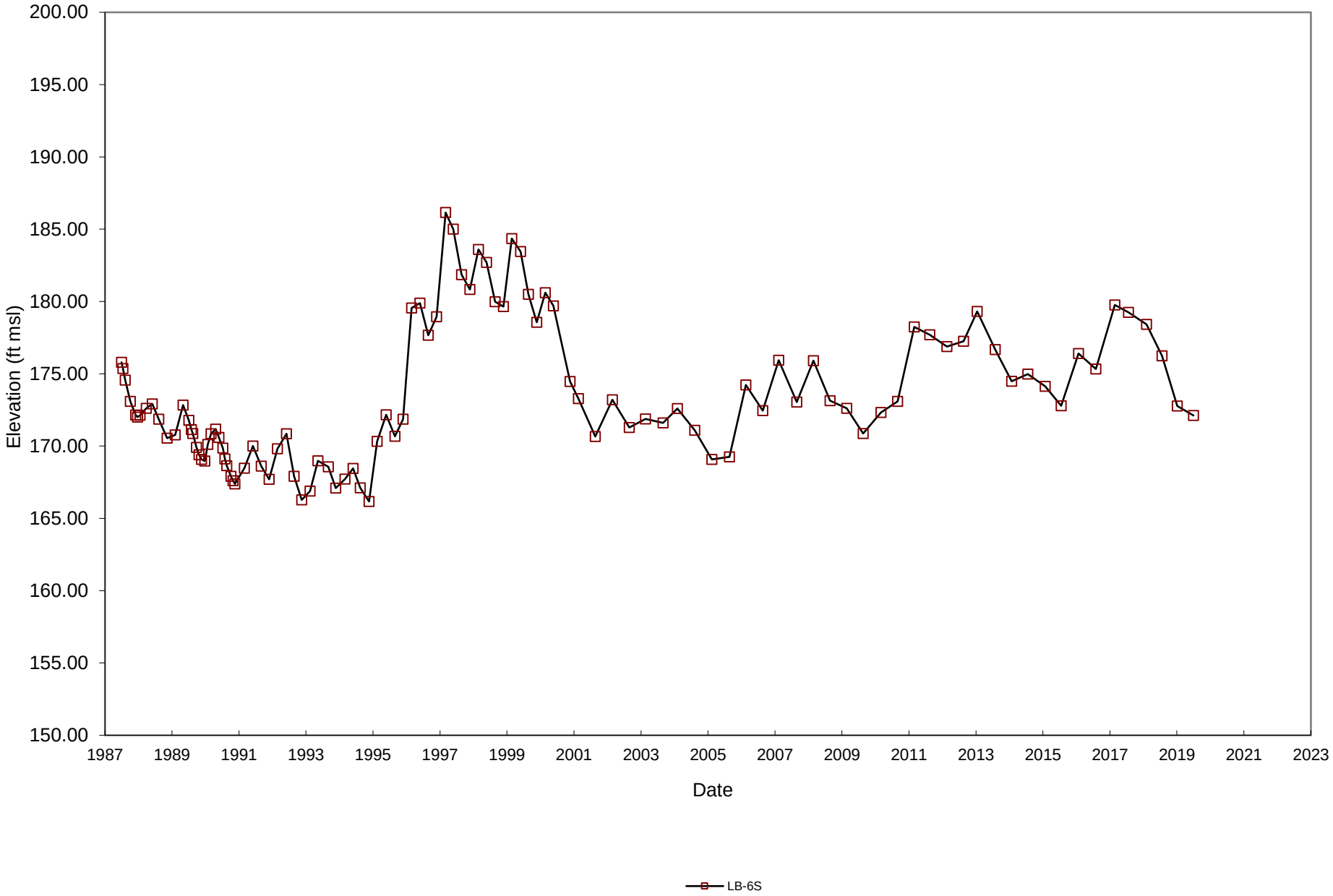
LB-3S and LB-3D Hydrographs
Leichner Landfill

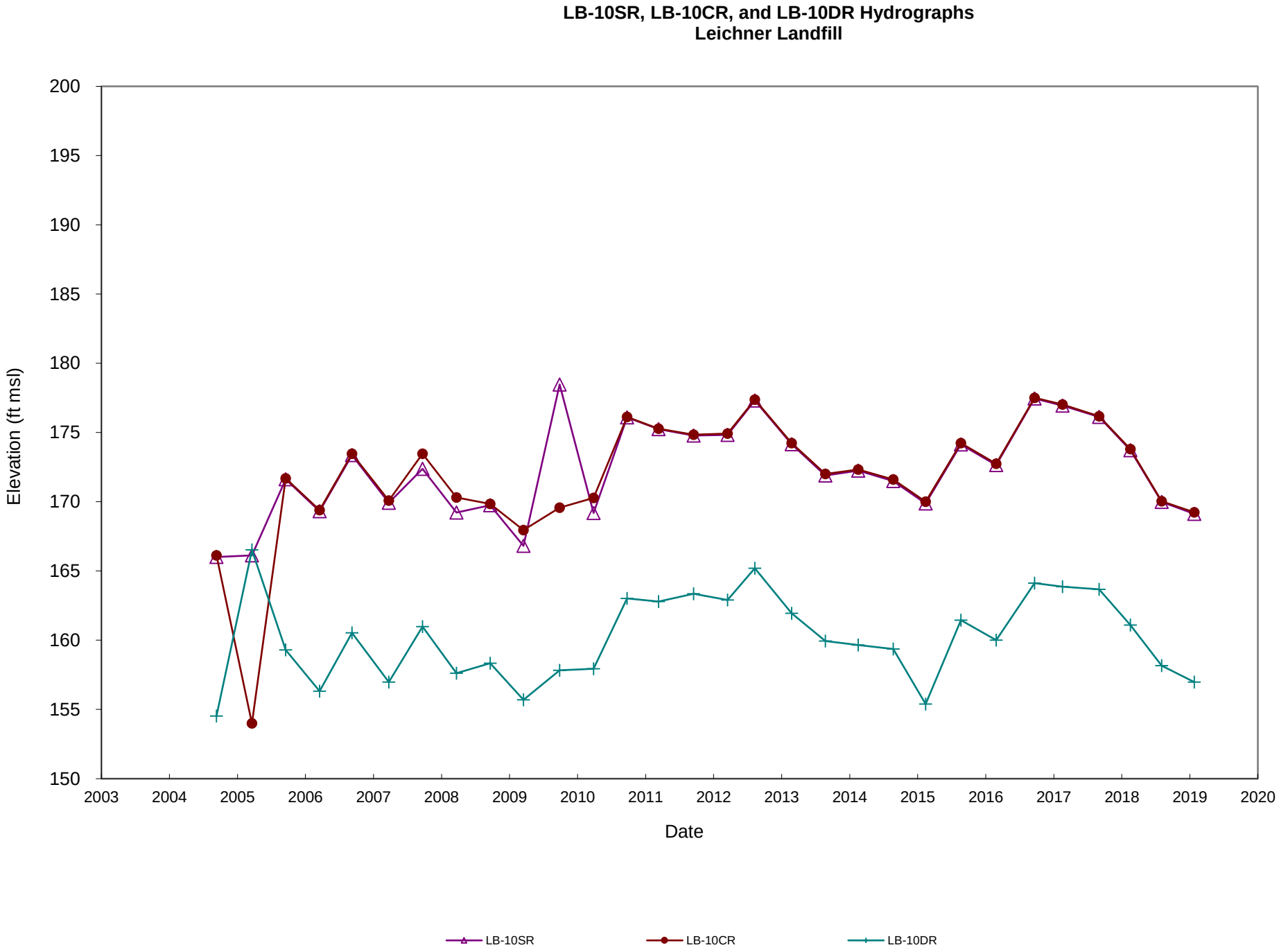


LB 5S, LB-5C, and LB-5D Hydrographs
Leichner Landfill

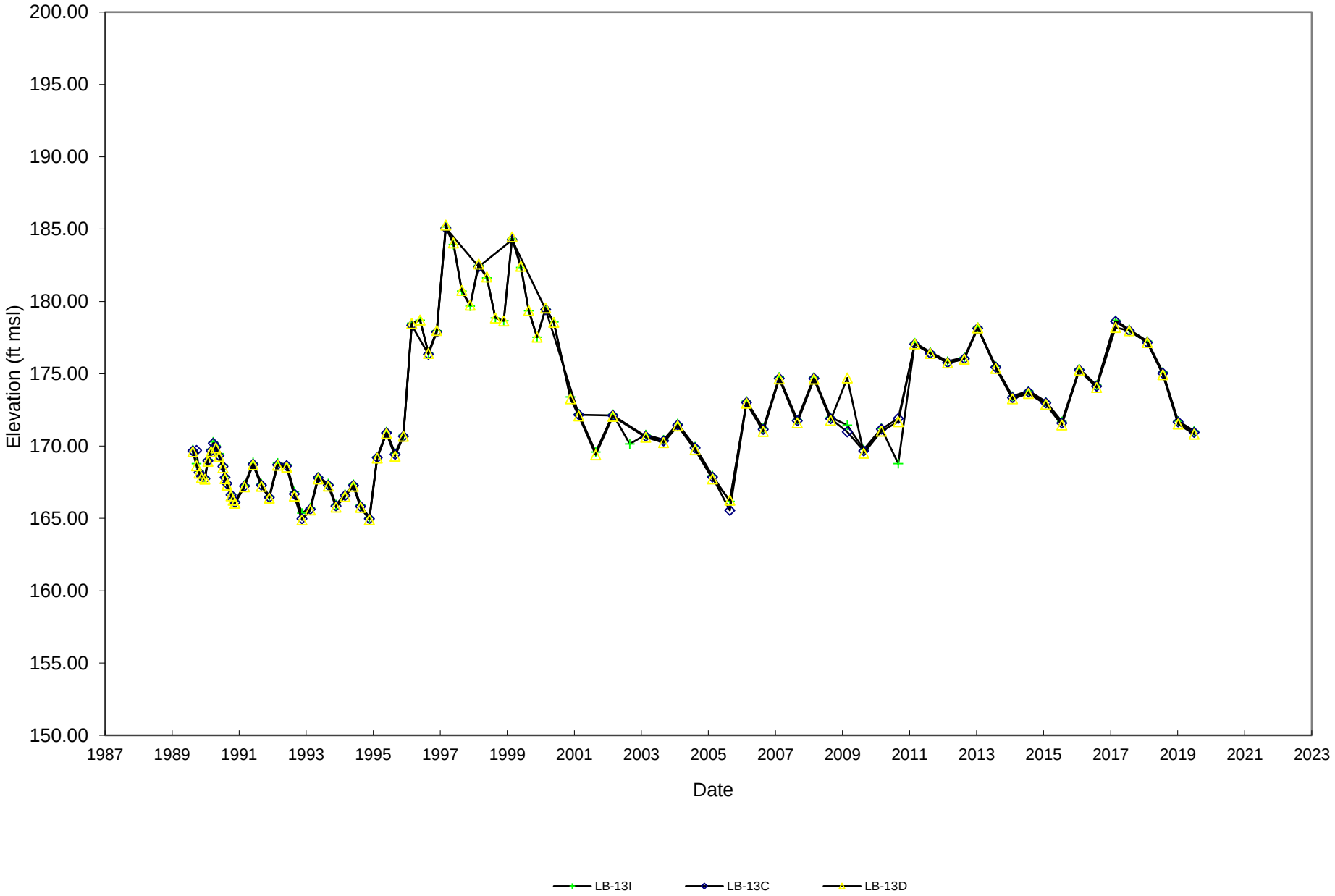


LB-6S Hydrograph
Leichner Landfill

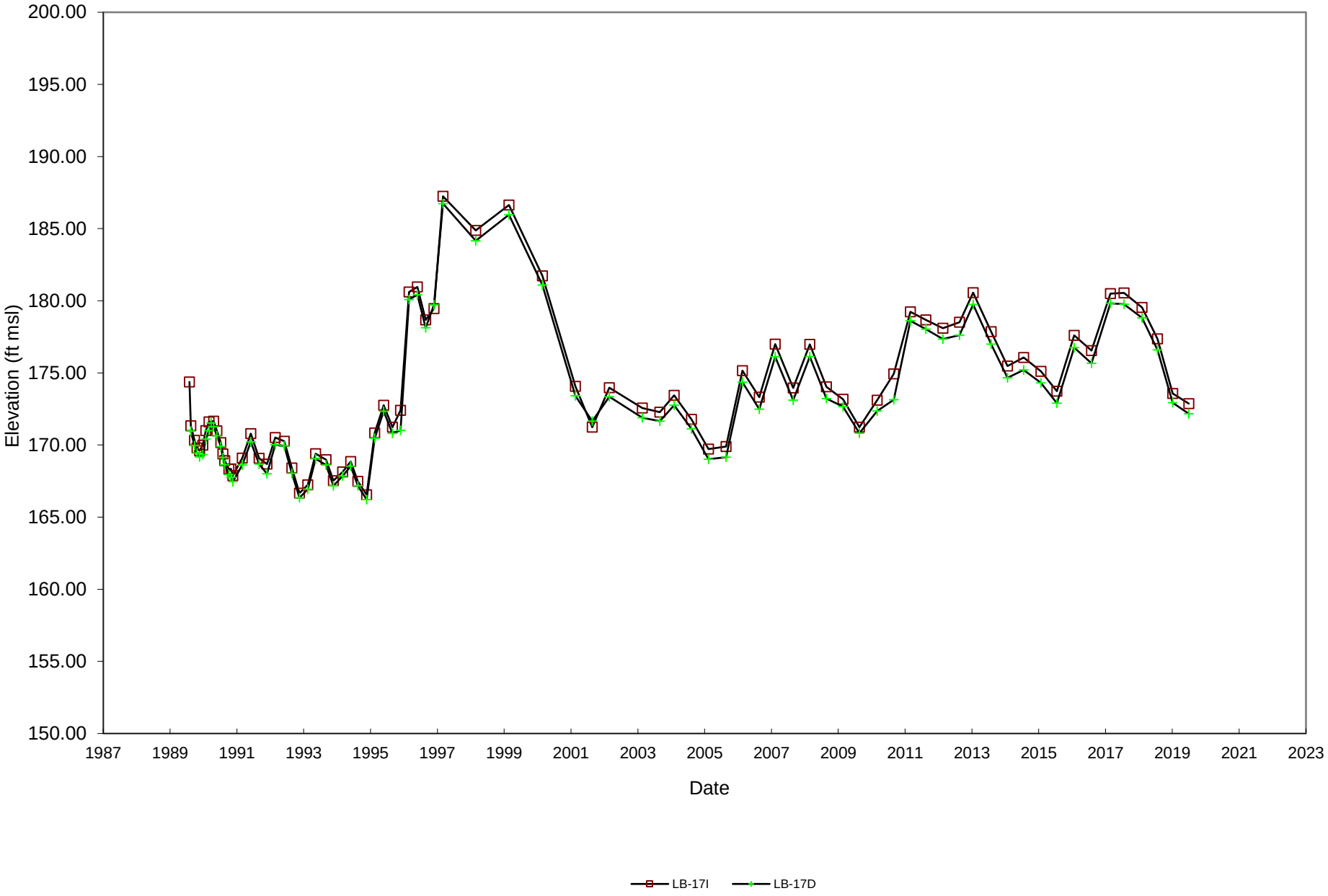



LB-10SR, LB-10CR, and LB-10DR Hydrographs
Leichner Landfill
Elevation (ft msl)
200
195
190
185
180
175
170
165
160
155
150
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
Date
LB-10SR
LB-10CR
LB-10DR

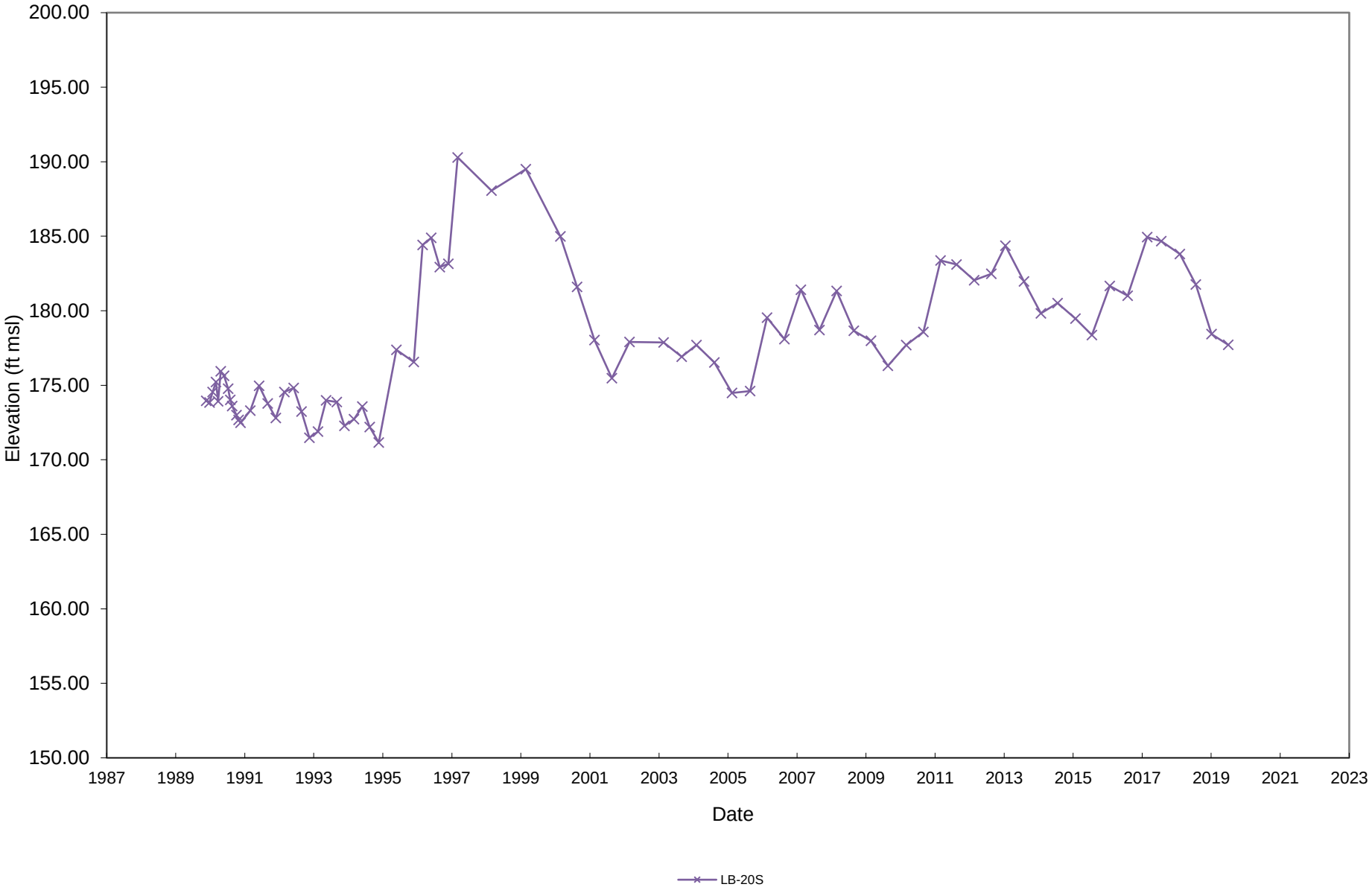
LB-13I, LB-13C, and LB-13D Hydrographs
Leichner Landfill



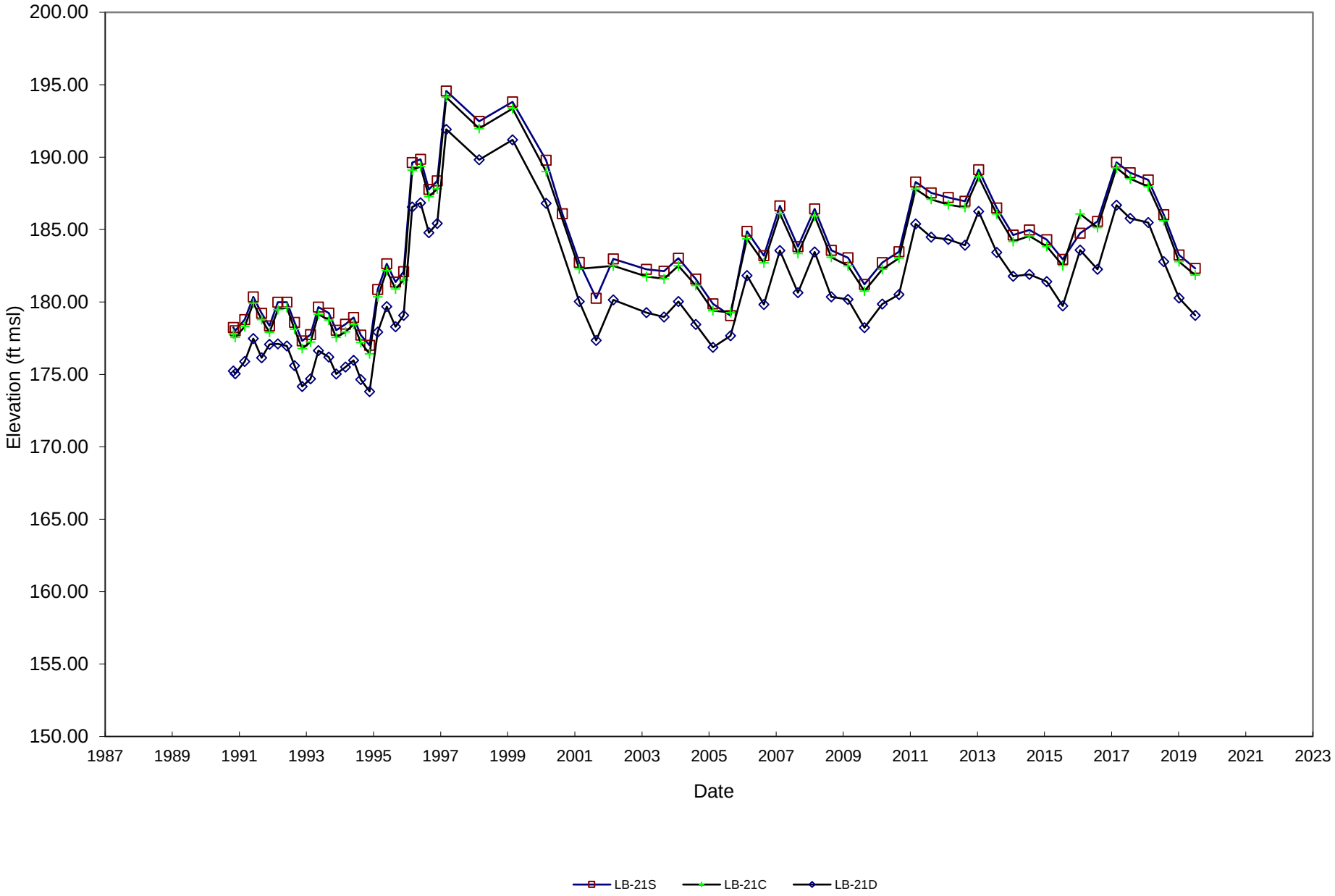
LB-17I and LB-17D Hydrographs
Leichner Landfill



LB-20S Hydrograph
Leichner Landfill



LB-21S, LB-21C, and LB-21D Hydrographs
Leichner Landfill



LB-26I and LB-26D Hydrographs
Leichner Landfill

LB-27I and LB-27D Hydrographs
Leichner Landfill

APPENDIX E

Quality Assurance/Quality Control Reviews of 2019 Laboratory Analytical Data

First Quarter (January) 2019 QA/QC Reviews

SCS Engineers QA/QC Review
Groundwater - 1Q 2019 Groundwater Monitoring Event
Leichner Brothers Landfill
ALS Environmental Lab Report No. K1900813

Samples: LB-012819-08-3D (LB-3D), LB-012819-03-5D (LB-5D), LB-012819-01-10DR (LB-10DR), LB-012819-02-10SR (LB-10SR), LB-012819-06-13D (LB-13D), LB-012819-07-26D (LB-26D), LB-012819-04-27D (LB-27D), LB-012819-05-DUP1 (DUP1).

Sample Date: 01/28/2019
Laboratory Sample Received Date: 01/29/2019
Sample Receipt Temperature: 1.9ºC
Laboratory Data Received Date: 02/20/2019
QA/QC Review Date: 02/27/2019 (SEN)

VOCs

Method Blanks	All analytes were reported as non-detect.
Surrogates	All sample surrogates were within QC limits.
LCS	All % recoveries were within QC limits, and all surrogate recoveries were within control limits.
LCSD	All RPDs were within QC limits.

Dissolved Metals

Method Blanks	All analytes were reported as non-detect.
LCS	All % recoveries were within control limits.
Matrix Spikes	All % recoveries were within QC limits.
MSD	All RPDs were within QC limits.

General Chemistry

Method Blanks	All analytes were reported as non-detect.
LCS	All % recoveries within control limits.
Matrix Spikes	All % recoveries were within QC limits.
MSD	All RPDs were within QC limits.
Duplicates	All RPDs were within QC limits.

Hold Times
All analytical hold times were met.

Reporting Limit Exceedances
All project-specific reporting limits were met.

Field QA/QC
Field Duplicate
A field duplicate sample LB-012819-05-DUP1 (DUP1) was collected at monitoring well LB-27D (LB-012819-04-27D) on 01/28/2019. All calculated RPDs were within 20% except for dissolved iron (55%) which was non-detect in DUP1 (MRL 21 ug/L), but was detected in LB-27D (37 ug/L).

Trip Blank
A laboratory supplied trip blank was carried into the field on 01/28/2019 with all samples collected on the same date and returned to the lab for volatile organic compound (VOC) analysis. All trip blank analytes were reported as non-detect.

Notes
Carbon tetrachloride, 1,2-dibromo-3-chloropropene, and naphthalene were flagged as outside the control criterion for Continuing Calibration Verification (CCV). In accordance with the EPA Method, 80% or more of the CCV analytes must pass within 20% of the true value. The ALS SOP allows for 40%

difference for the remaining analytes. The CCV met these criteria. The quality of the sample data was not significantly affected. No further corrective action was required.

Data Validation

Upon final review of lab report K1900813 for Leichner Landfill, SCS Engineers finds the data are valid for their intended use (02/27/2019; SEN).

SCS Engineers QA/QC Review
Groundwater - 1Q 2019 Groundwater Monitoring Event
Leichner Brothers Landfill
ALS Environmental Lab Report No. K1900836

Samples: LB-012919-02-1D (LB-1D), LB-012919-03-1S (LB-1S), LB-012919-04-FB1 (FB1), LB-012919-06-5S (LB-5S), LB-012919-08-6S (LB-6S), LB-012919-09-DUP2 (DUP2), LB-012919-01-17D (LB-17D), .

Sample Date: 01/29/2019
Laboratory Sample Received Date: 01/30/2019
Sample Receipt Temperature: 5.9ºC
Laboratory Data Received Date: 02/15/2019
QA/QC Review Date: 02/27/2019 (SEN)

VOCs

Method Blanks	All analytes were reported as non-detect.
Surrogates	All sample surrogates were within QC limits.
LCS	All % recoveries were within QC limits, and all surrogate recoveries were within control limits.
LCSD	All RPDs were within QC limits.

Dissolved Metals

Method Blanks	All analytes were reported as non-detect.
LCS	All % recoveries were within control limits.
Matrix Spikes	All % recoveries were within QC limits.
MSD	All RPDs were within QC limits.

General Chemistry

Method Blanks	All analytes were reported as non-detect.
LCS	All % recoveries within control limits.
Matrix Spikes	All % recoveries were within QC limits.
MSD	All RPDs were within QC limits.
Duplicates	All RPDs were within QC limits.

Hold Times
All analytical hold times were met.

Reporting Limit Exceedances
All project-specific reporting limits were met.

Field QA/QC
Field Duplicate
A field duplicate sample LB-012919-09-DUP2 (DUP2) was collected at monitoring well LB-6S (LB-012919-08-6S) on 01/29/2019. All calculated RPDs were within 20%.

Field Blank
A field blank LB-012919-04-FB1 (FB1) was collected near LB-1S on 01/29/2019 and submitted to the lab. All analytes were reported as non-detect except for total dissolved solids at 8.0 mg/L (MRL 5.0 mg/L).

Trip Blank
A laboratory supplied trip blank was carried into the field on 01/29/2019 with all samples collected on the same date and returned to the lab for volatile organic compound (VOC) analysis. All trip blank analytes were reported as non-detect.

Notes

1,2-Dibromo-3-chloropropene, and naphthalene were flagged as outside the control criterion for Continuing Calibration Verification (CCV). In accordance with the EPA Method, 80% or more of the CCV analytes must pass within 20% of the true value. The ALS SOP allows for 40% difference for the remaining analytes. The CCV met these criteria. The quality of the sample data was not significantly affected. No further corrective action was required.

Data Validation

Upon final review of lab report K1900836 for Leichner Landfill, SCS Engineers finds the data are valid for their intended use (02/27/2019; SEN).

SCS Engineers QA/QC Review
Groundwater - 1Q 2019 Groundwater Monitoring Event
Leichner Brothers Landfill
ALS Environmental Lab Report No. K1900890

Samples: LB-013019-04-3S (LB-3S), LB-013019-02-13I (LB-13I), LB-013019-01-26I (LB-26I), LB-013019-03-27I (LB-27I), and trip blanks.

Sample Date: 01/30/2019
Laboratory Sample Received Date: 01/31/2019
Sample Receipt Temperature: 0.5ºC
Laboratory Data Received Date: 02/19/2019
QA/QC Review Date: 02/27/2019 (SEN)

VOCs

Method Blanks	All analytes were reported as non-detect.
Surrogates	All sample surrogates were within QC limits.
LCS	All % recoveries were within QC limits, and all surrogate recoveries were within control limits.
LCSD	All RPDs were within QC limits.

Dissolved Metals

Method Blanks	All analytes were reported as non-detect.
LCS	All % recoveries were within control limits.
Matrix Spikes	All % recoveries were within QC limits.
MSD	All RPDs were within QC limits.

General Chemistry

Method Blanks	All analytes were reported as non-detect.
LCS	All % recoveries within control limits.
Matrix Spikes	All % recoveries were within QC limits.
MSD	All RPDs were within QC limits.
Duplicates	All RPDs were within QC limits.

Hold Times
All analytical hold times were met.

Reporting Limit Exceedances
All project-specific reporting limits were met.

Field QA/QC
Trip Blank
A laboratory supplied trip blank was carried into the field on 01/30/2019 with all samples collected on the same date and returned to the lab for volatile organic compound (VOC) analysis. All trip blank analytes were reported as non-detect.

Notes
1,2-Dibromo-3-chloropropene, and naphthalene were flagged as outside the control criterion for Continuing Calibration Verification (CCV). In accordance with the EPA Method, 80% or more of the CCV analytes must pass within 20% of the true value. The ALS SOP allows for 40% difference for the remaining analytes. The CCV met these criteria. The quality of the sample data was not significantly affected. No further corrective action was required.

Data Validation
Upon final review of lab report K1900890 for Leichner Landfill, SCS Engineers finds the data are valid for their intended use (02/27/2019; SEN).

Third Quarter (July) 2019 QA/QC Reviews

SCS Engineers QA/QC Review
Groundwater - 3Q 2018 Groundwater Monitoring Event
Leichner Brothers Landfill
ALS Environmental Lab Report No. K1906741

Samples: LB-072219-01-1S (LB-1S), LB-072219-02-5S (LB-5S), LB-072219-03-DUP (LB-5S DUP), LB-072219-05-13I (LB-13I), LB-072219-04-27I (LB-27I), and Trip Blanks.

Sample Date: 07/22/2019
Laboratory Sample Received Date: 07/23/2019
Sample Receipt Temperature: -0.5ºC
Laboratory Data Received Date: 08/06/2019
QA/QC Review Date: 08/12/2019 (SEN)

VOCs

Method Blanks	All analytes were reported as non-detect.
Surrogates	All sample surrogates were within QC limits.
LCS	All % recoveries were within QC limits, and all surrogate recoveries were within control limits.
Matrix Spike	All % recoveries were within QC limits.
MSD	All RPDs were within QC limits.

Dissolved Metals

Method Blanks	All analytes were reported as non-detect.
LCS	All % recoveries were within control limits.
Matrix Spikes	All % recoveries were within QC limits.
MSD	All RPDs were within QC limits.

General Chemistry

Method Blanks	All analytes were reported as non-detect.
LCS	All % recoveries within control limits.
Matrix Spikes	All % recoveries were within QC limits.
MSD	All RPDs were within QC limits.
Duplicates	All RPDs were within QC limits.

Hold Times
All analytical hold times were met.

Reporting Limit Exceedances
All project-specific reporting limits were met.

Field QA/QC
Field Duplicate
A field duplicate sample LB-072219-03-DUP (DUP) was collected at monitoring well LB-5S (LB-072219-02-5S) on 07/22/2019. All calculated RPDs were within 20%.

Trip Blank
A laboratory supplied trip blank was carried into the field on 07/22/2019 with all samples collected on the same date and returned to the lab for volatile organic compound (VOC) analysis. All trip blank analytes were reported as non-detect.

Notes
None.

Data Validation
Upon final review of lab report K1906741 for Leichner Landfill, SCS Engineers finds the data are valid for their intended use (08/12/2019; SEN).

SCS Engineers QA/QC Review
Groundwater - 3Q 2018 Groundwater Monitoring Event
Leichner Brothers Landfill
ALS Environmental Lab Report No. K1906780

Samples: LB-072319-02-6S (LB-6S), LB-072319-03-10SR (LB-10SR), LB-072319-04-FB (FB), LB-072319-01-26I (LB-26I), and Trip Blanks.

Sample Date: 07/23/2019
Laboratory Sample Received Date: 07/24/2019
Sample Receipt Temperature: 0.0°C
Laboratory Data Received Date: 08/12/2019
QA/QC Review Date: 08/29/2019 (SEN)

VOCs

Method Blanks	All analytes were reported as non-detect.
Surrogates	All sample surrogates were within QC limits.
LCS	All % recoveries were within QC limits, and all surrogate recoveries were within control limits.
Matrix Spike	All % recoveries were within QC limits.
MSD	All RPDs were within QC limits.

Dissolved Metals

Method Blanks	All analytes were reported as non-detect.
LCS	All % recoveries were within control limits.
Matrix Spikes	All % recoveries were within QC limits.
MSD	All RPDs were within QC limits.

General Chemistry

Method Blanks	All analytes were reported as non-detect.
LCS	All % recoveries within control limits.
Matrix Spikes	All % recoveries were within QC limits.
MSD	All RPDs were within QC limits.
Duplicates	All RPDs were within QC limits.

Hold Times
All analytical hold times were met.

Reporting Limit Exceedances
All project-specific reporting limits were met.

Field QA/QC
Field Blank
A field blank sample LB-072319-04-FB (FB) was collected near monitoring well LB-10SR (LB-072319-03-10SR) on 07/23/2019. All analytes were reported as non-detect.

Trip Blank
A laboratory supplied trip blank was carried into the field on 07/23/2019 with all samples collected on the same date and returned to the lab for volatile organic compound (VOC) analysis. All trip blank analytes were reported as non-detect.

Notes
None.

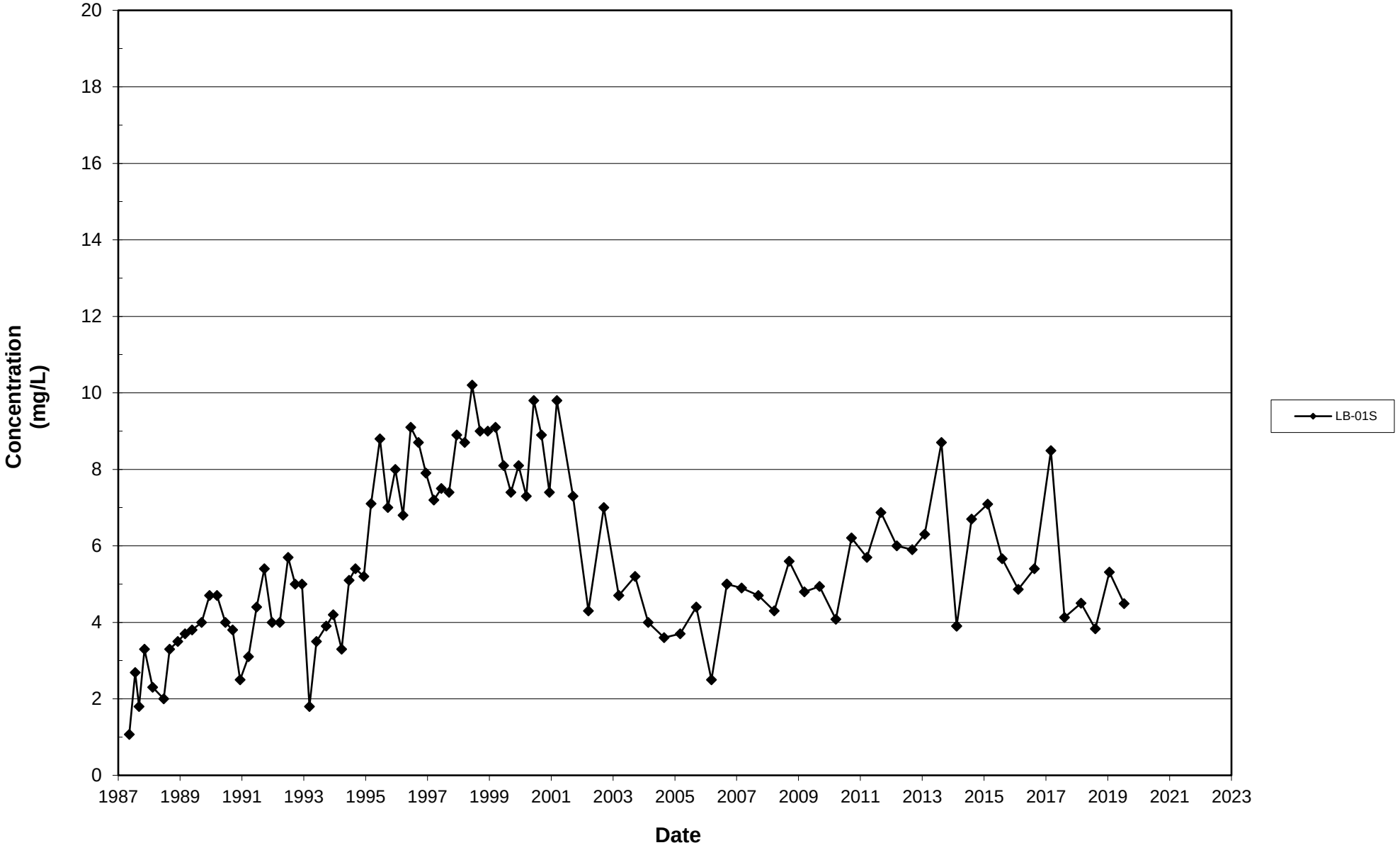
Data Validation
Upon final review of lab report K1906780 for Leichner Landfill, SCS Engineers finds the data are valid for their intended use (08/29/2019; SEN).

APPENDIX F

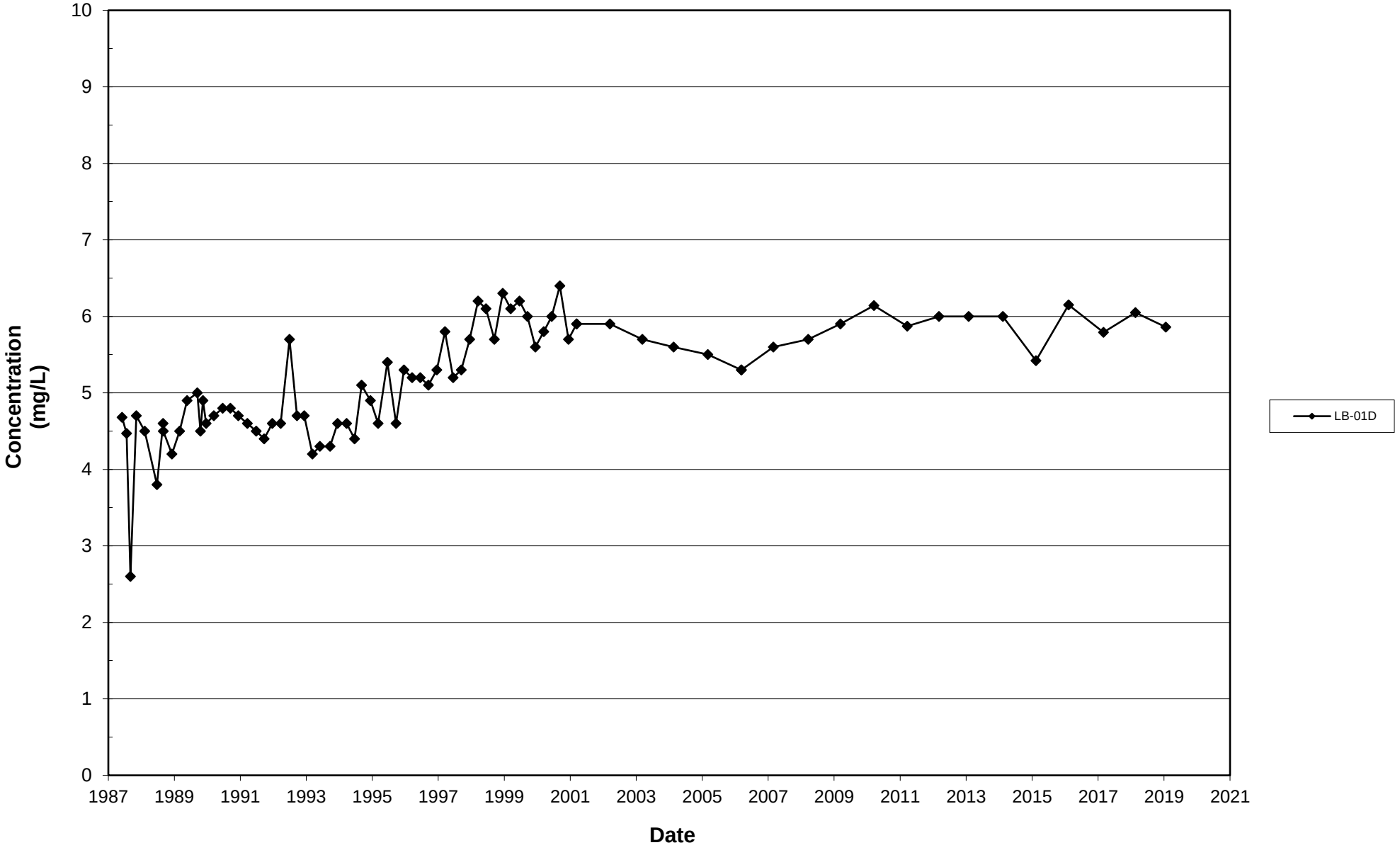
Groundwater Time-Concentration Graphs

Nitrate

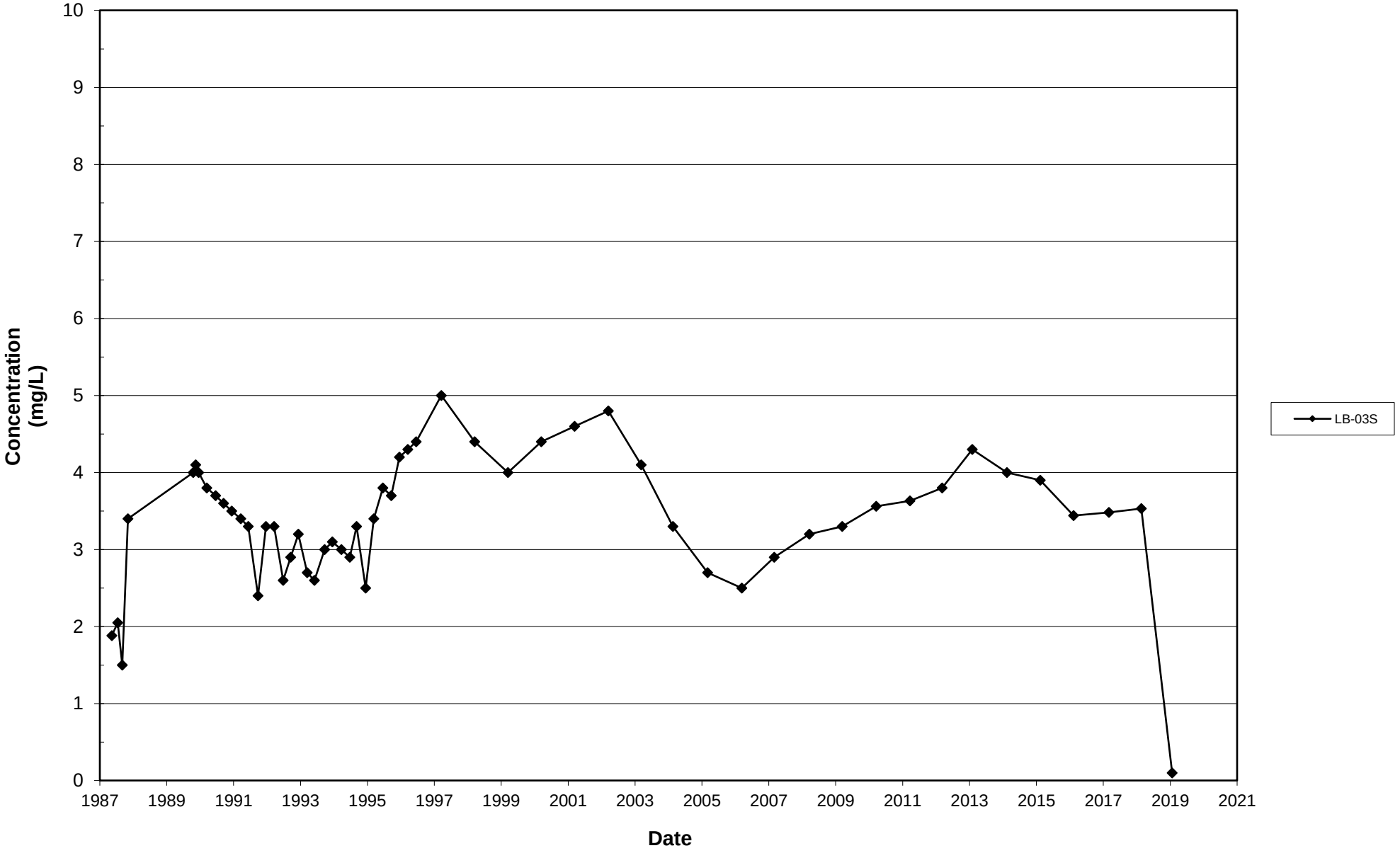
Leichner Landfill
Nitrate, LB-01S
1987 - 2019



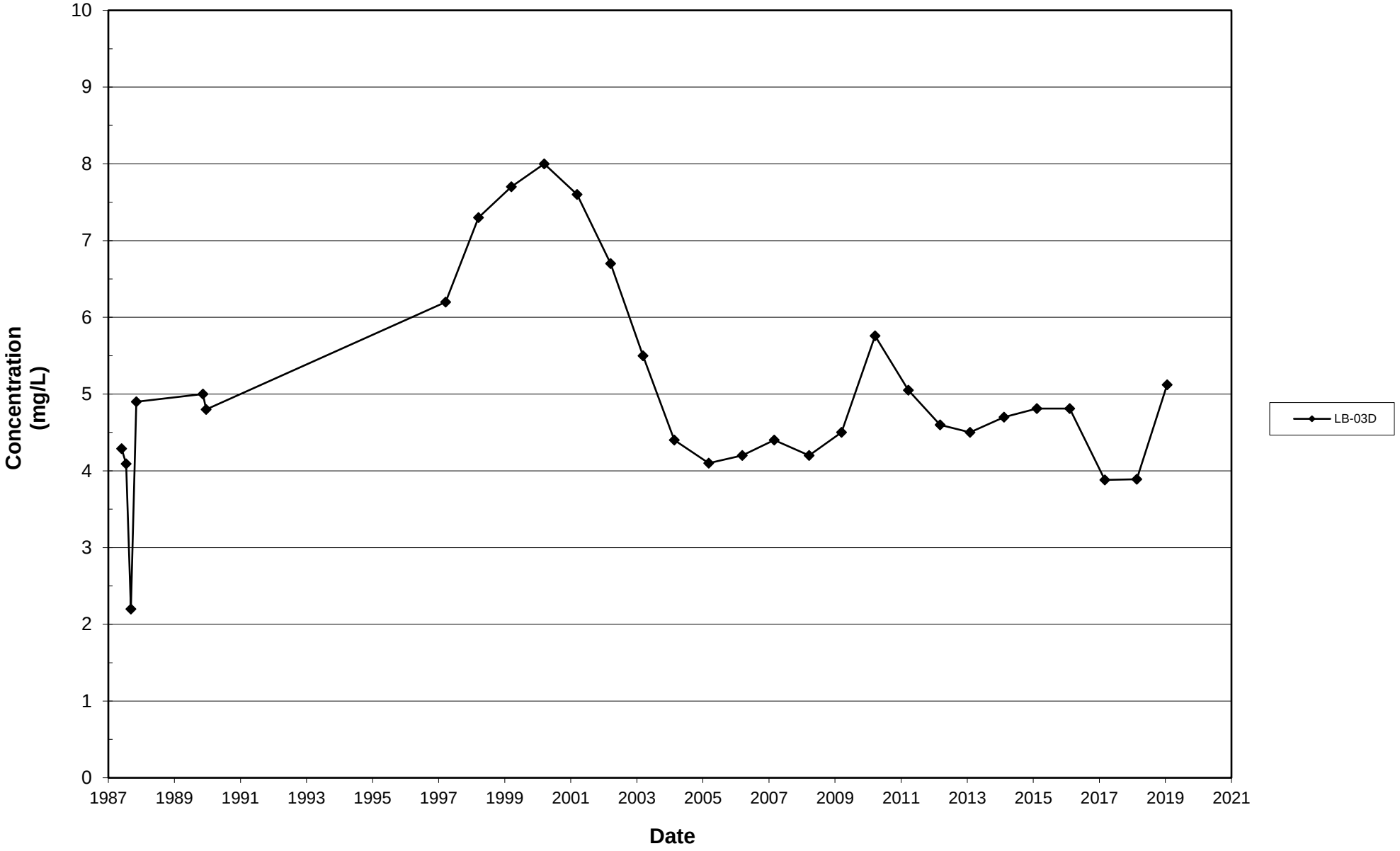
Leichner Landfill
Nitrate, LB-01D
1987 - 2019



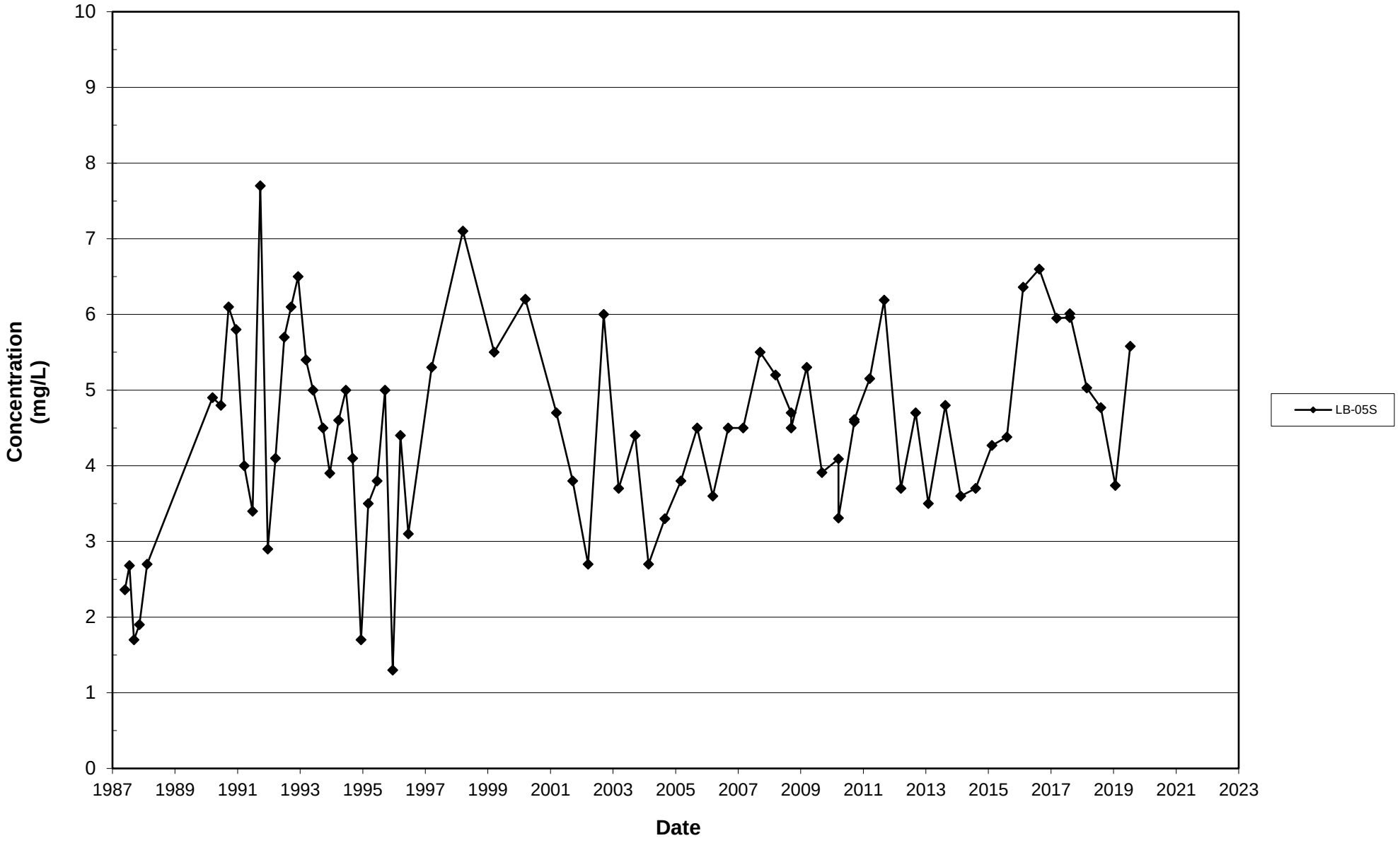
Leichner Landfill
Nitrate, LB-03S
1987 - 2019



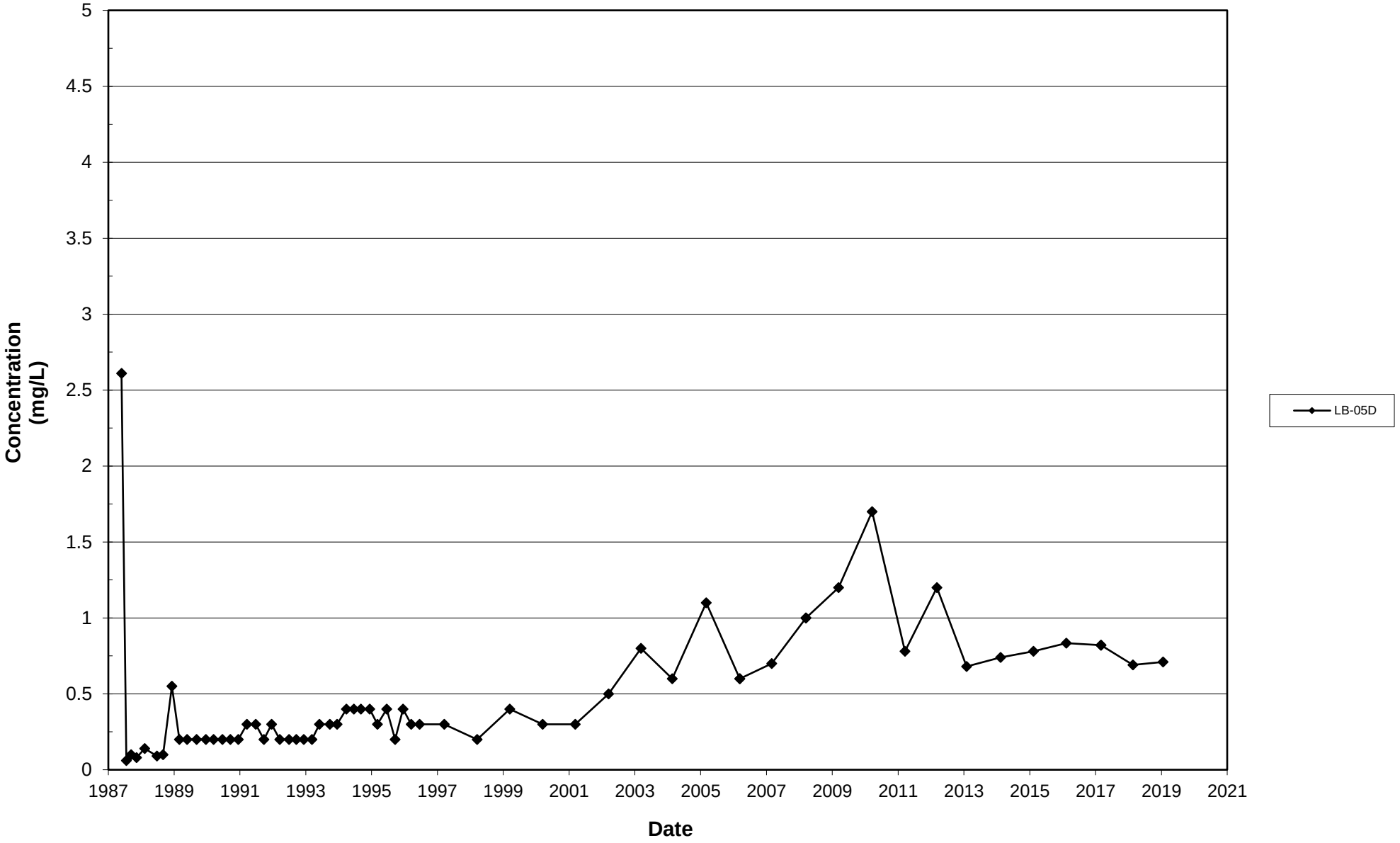
Leichner Landfill
Nitrate, LB-03D
1987 - 2019



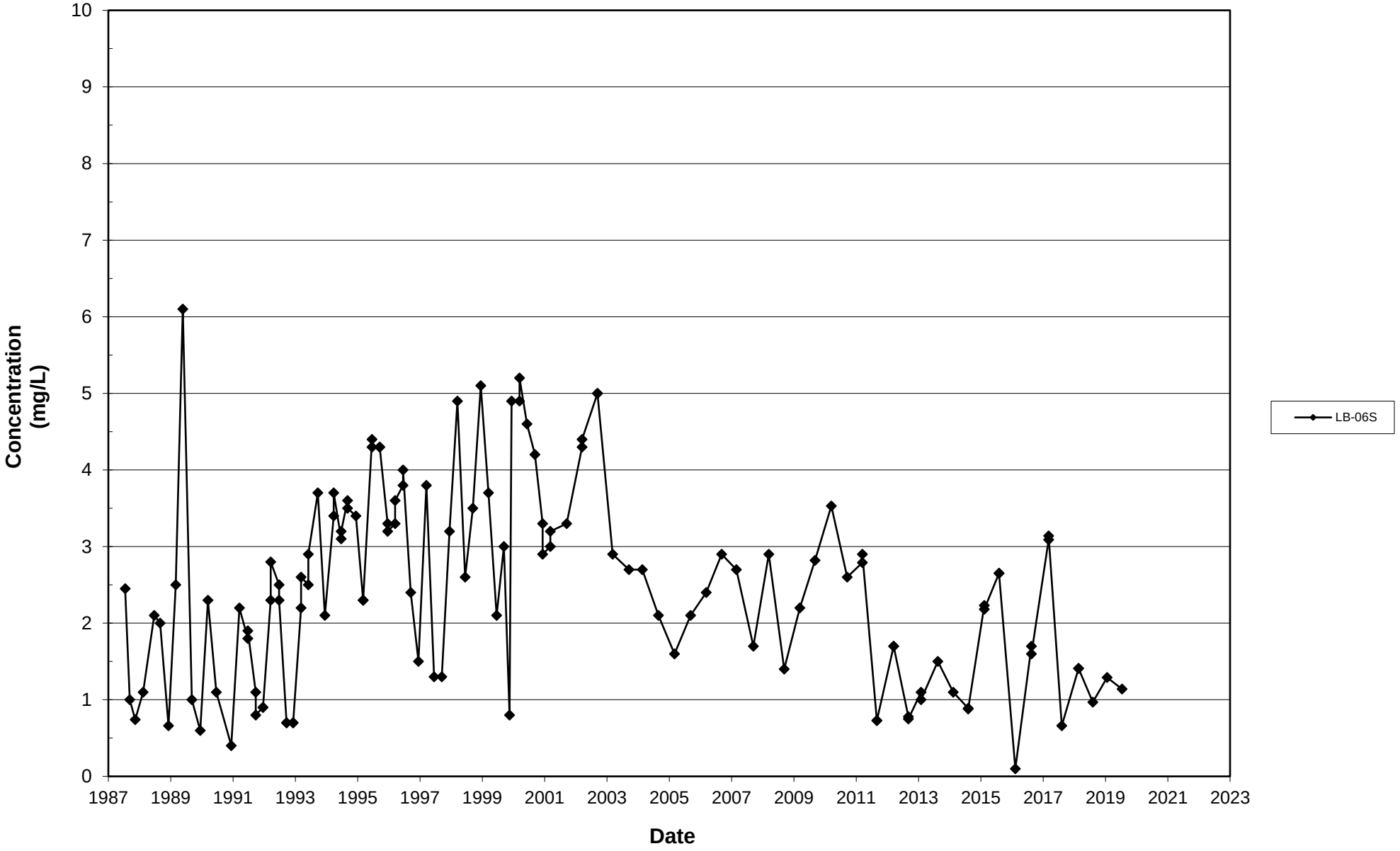
Leichner Landfill
Nitrate, LB-05S
1987 - 2019



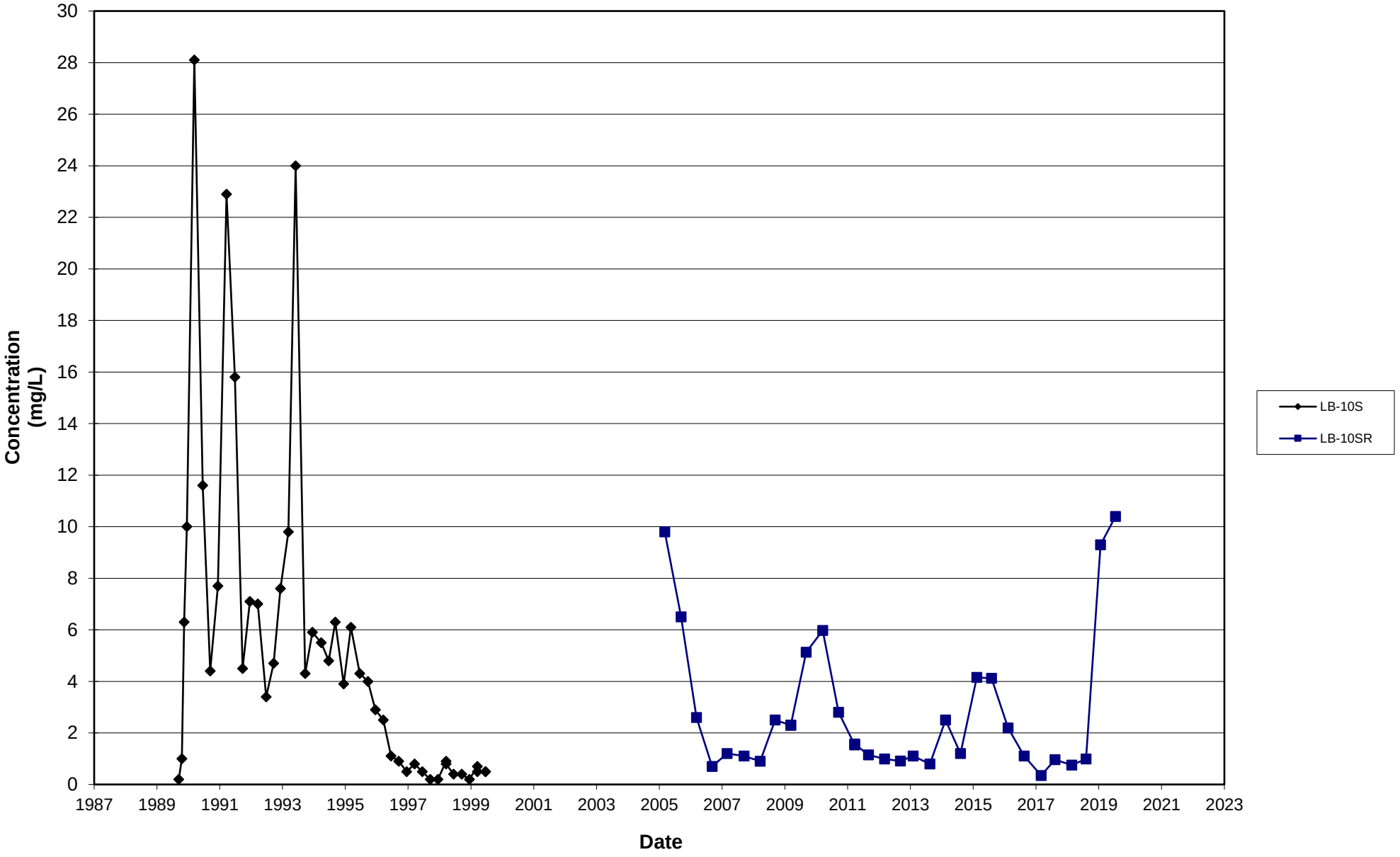
Leichner Landfill
Nitrate, LB-05D
1987 - 2019



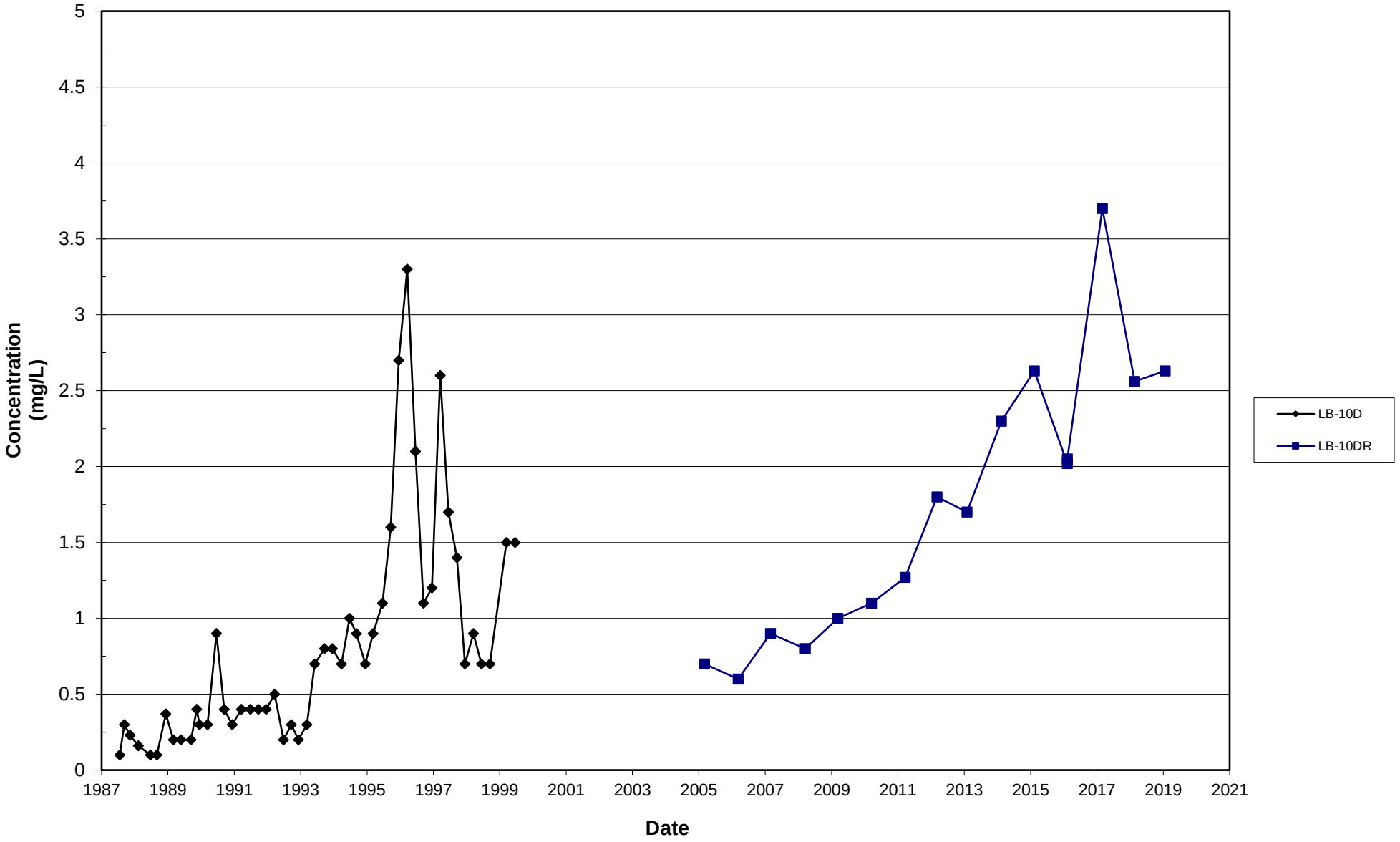
Leichner Landfill
Nitrate, LB-06S
1987 - 2019



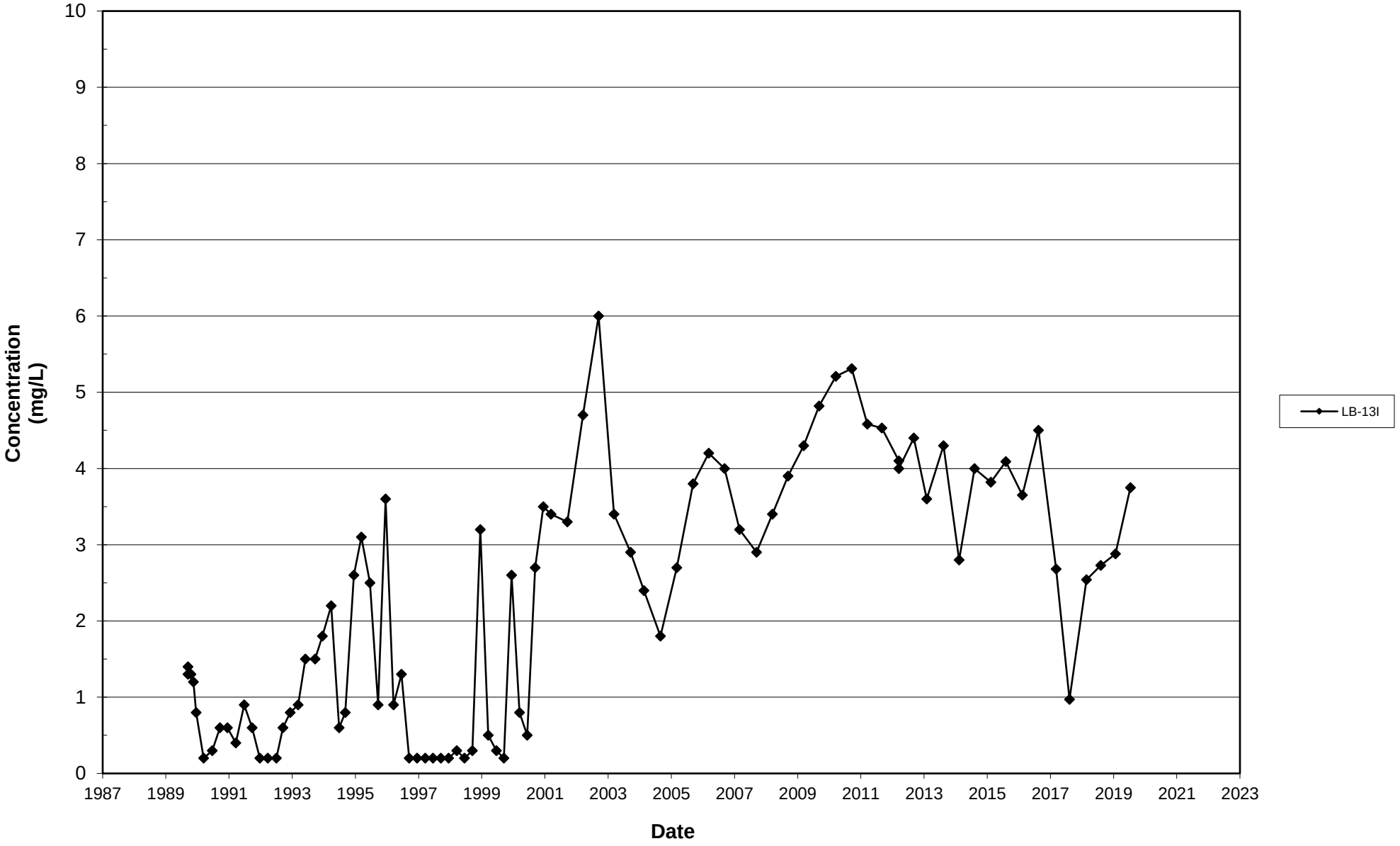
Leichner Landfill
Nitrate, LB-10S and LB-10SR
1987 - 2019



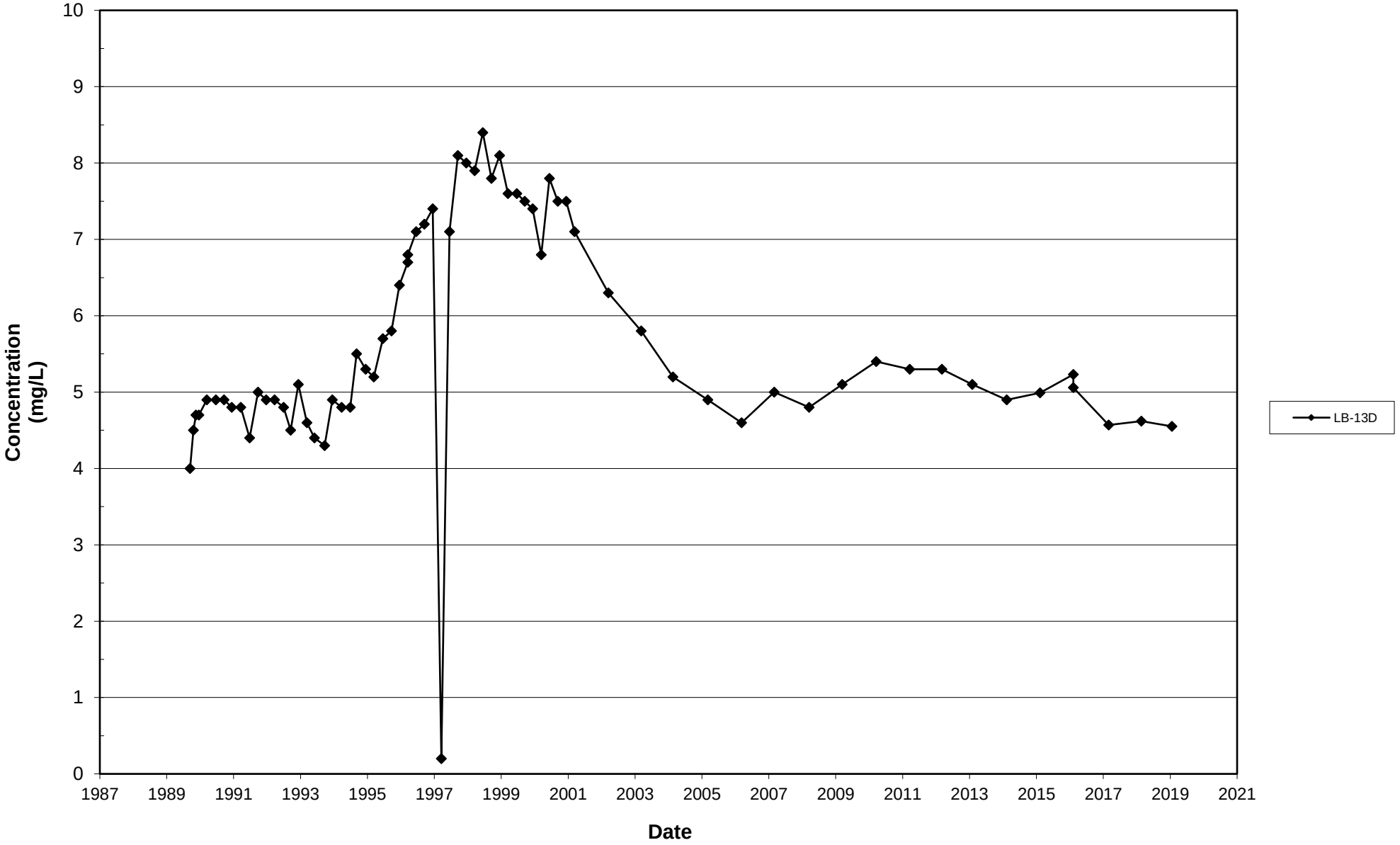
Leichner Landfill
Nitrate, LB-10D and LB-10DR
1987 - 2019



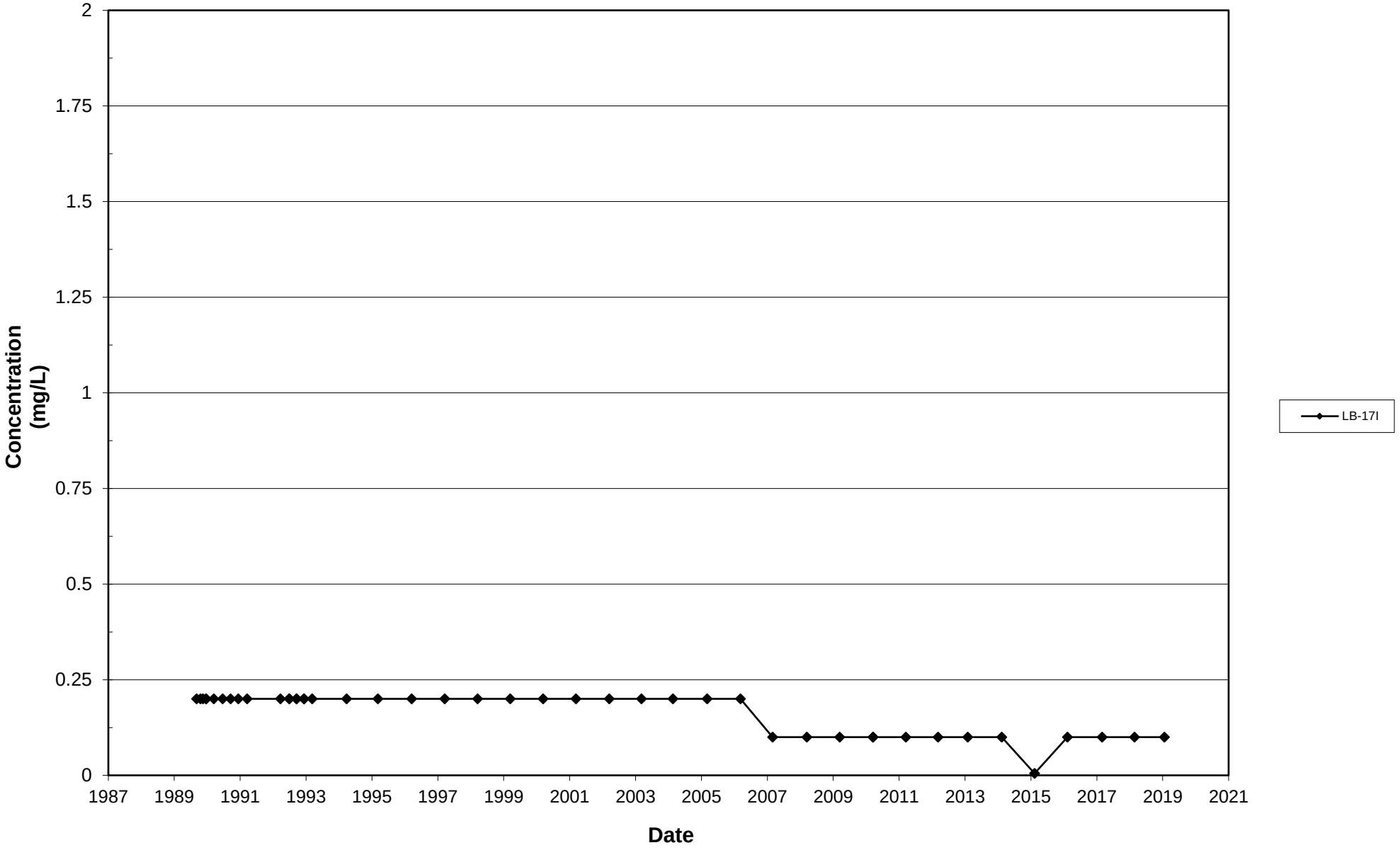
Leichner Landfill
Nitrate, LB-13I
1987 - 2019



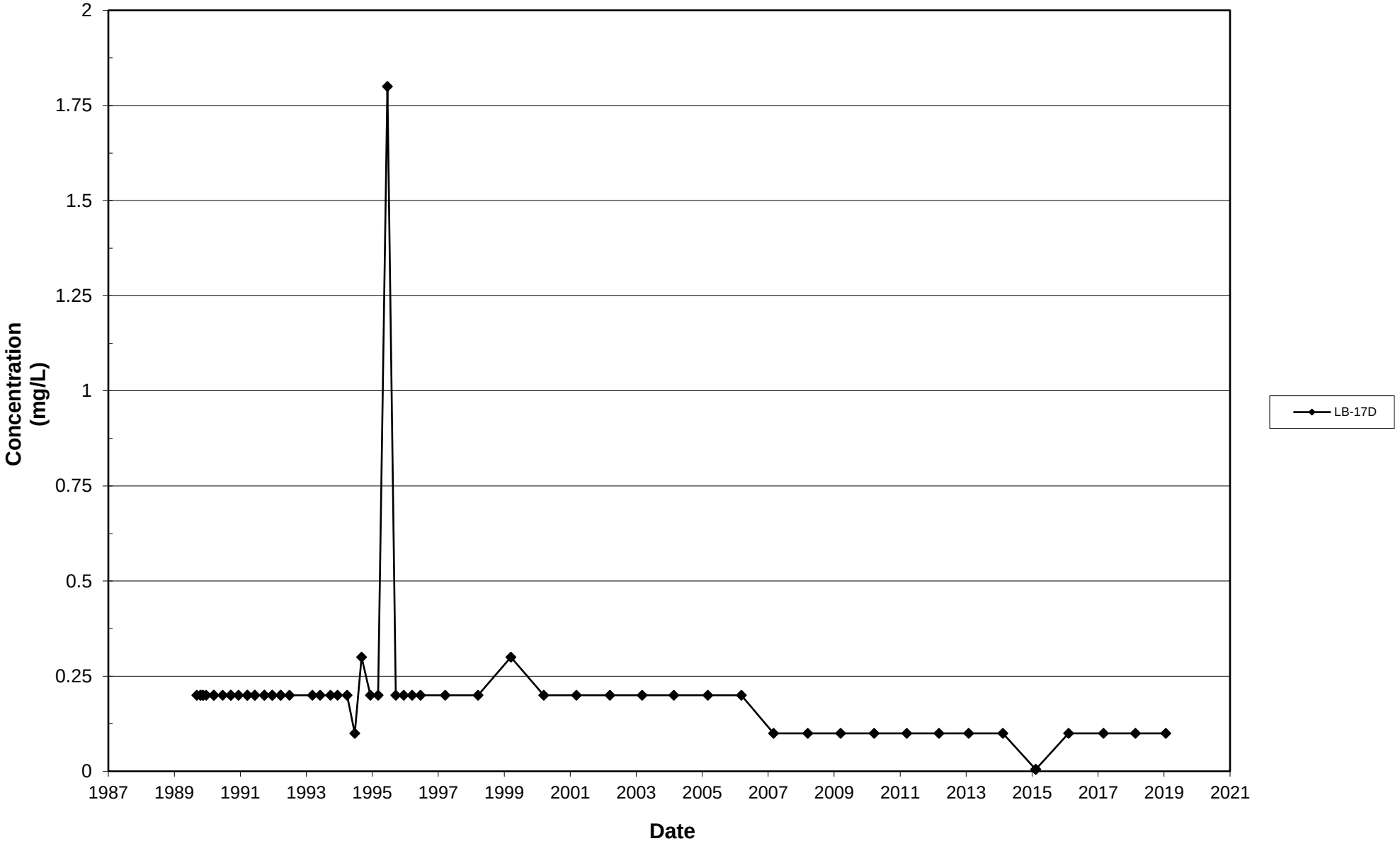
Leichner Landfill
Nitrate, LB-13D
1987 - 2019



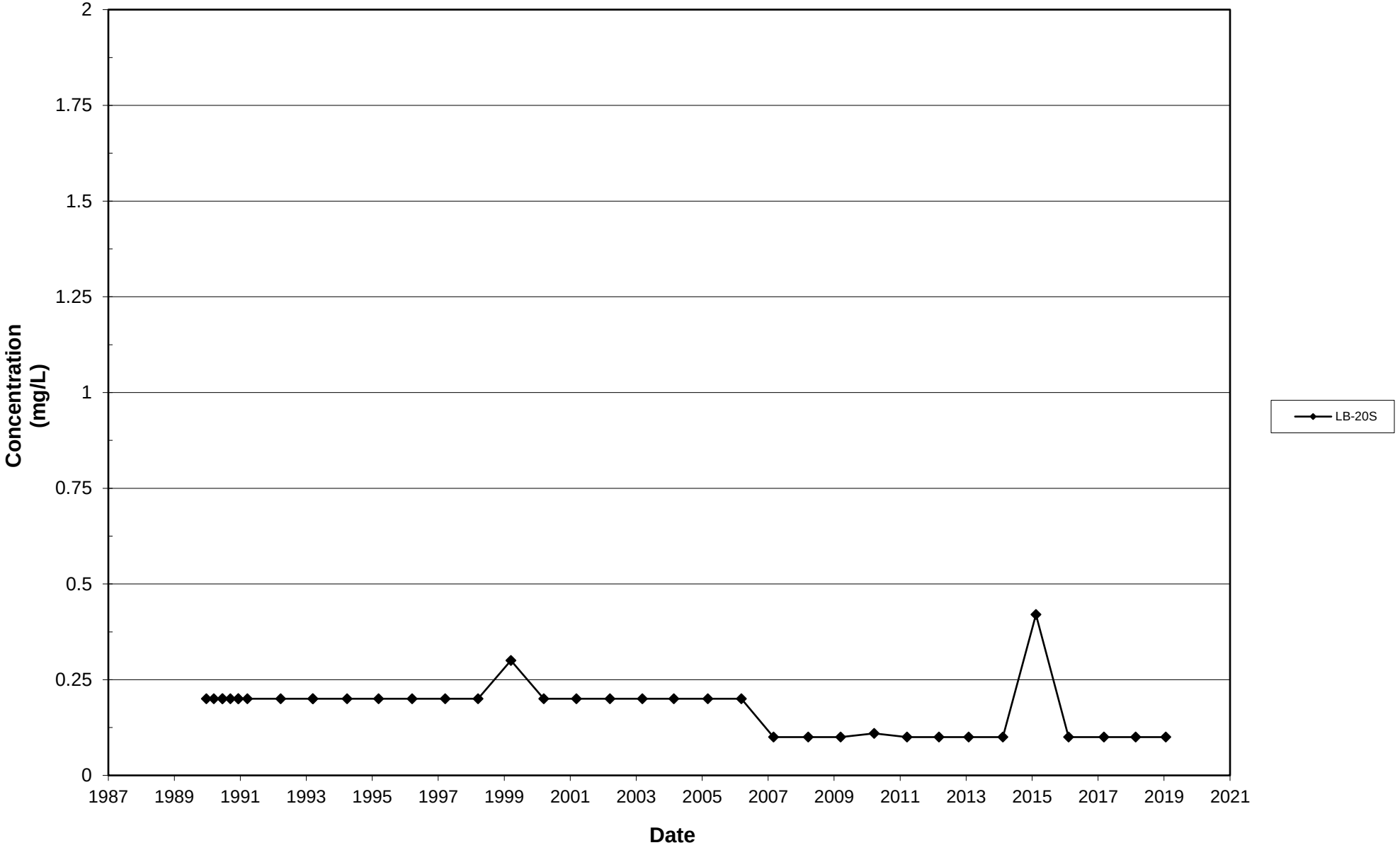
Leichner Landfill
Nitrate, LB-17I
1987 - 2019



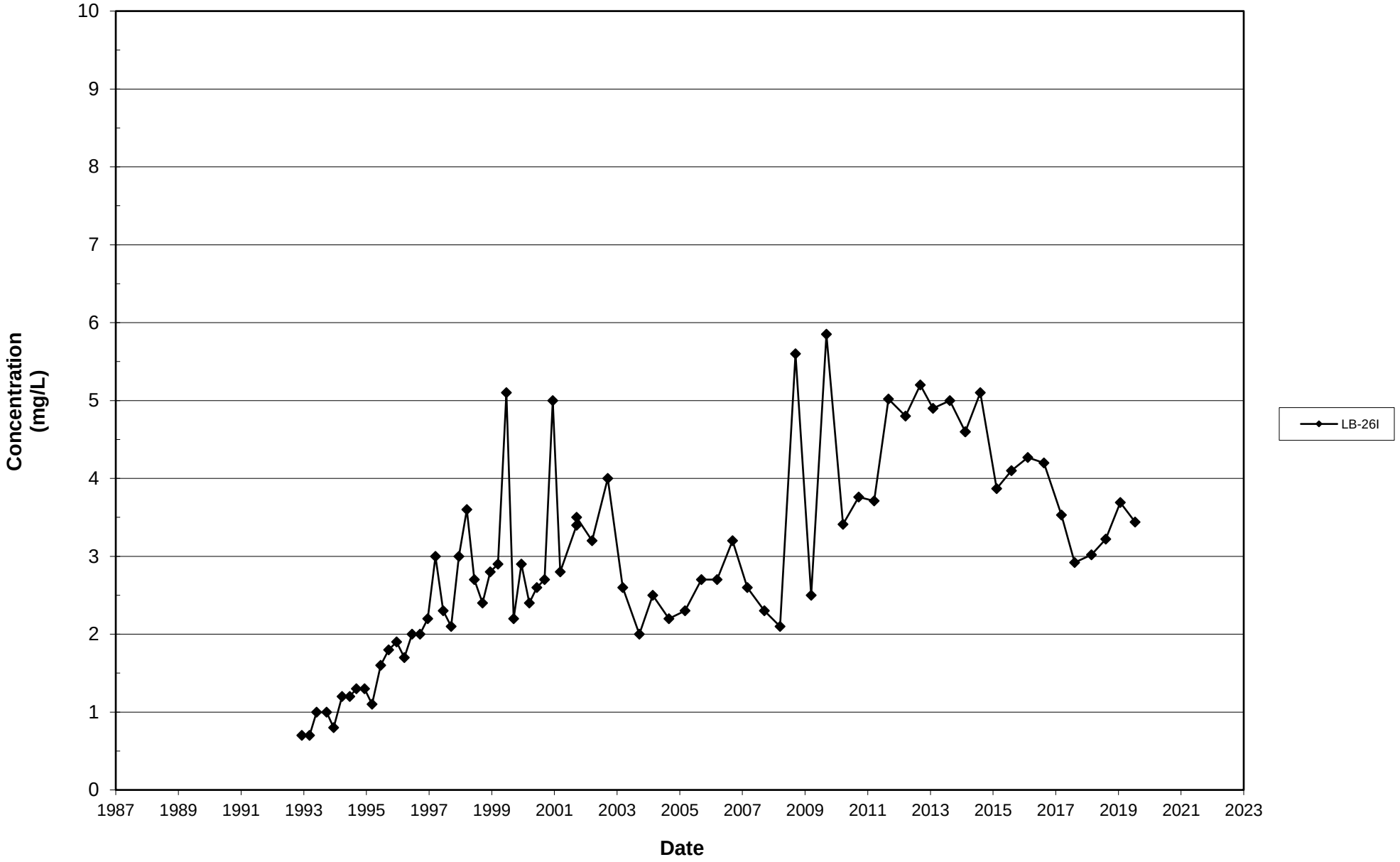
Leichner Landfill
Nitrate, LB-17D
1987 - 2019



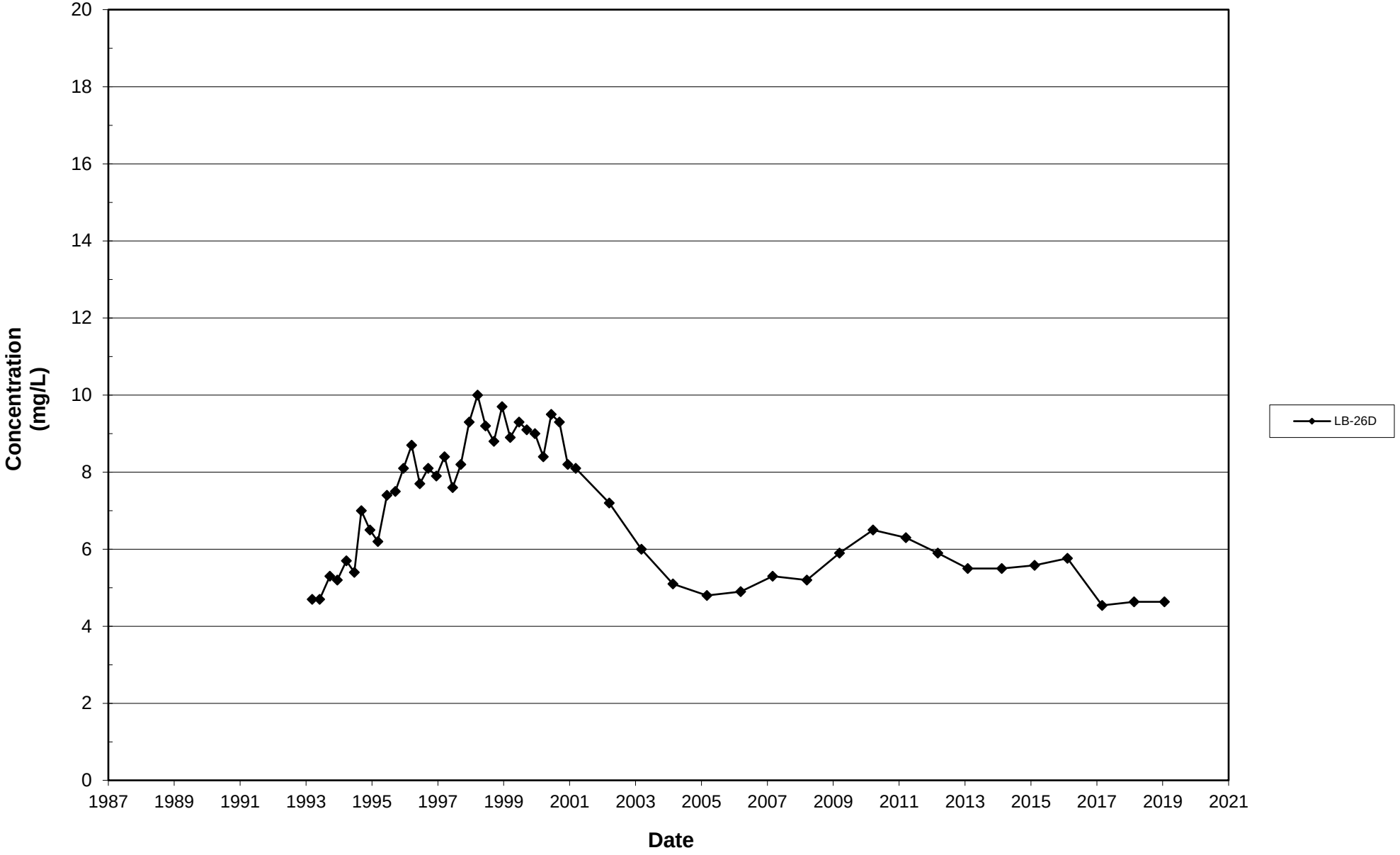
Leichner Landfill
Nitrate, LB-20S
1987 - 2019



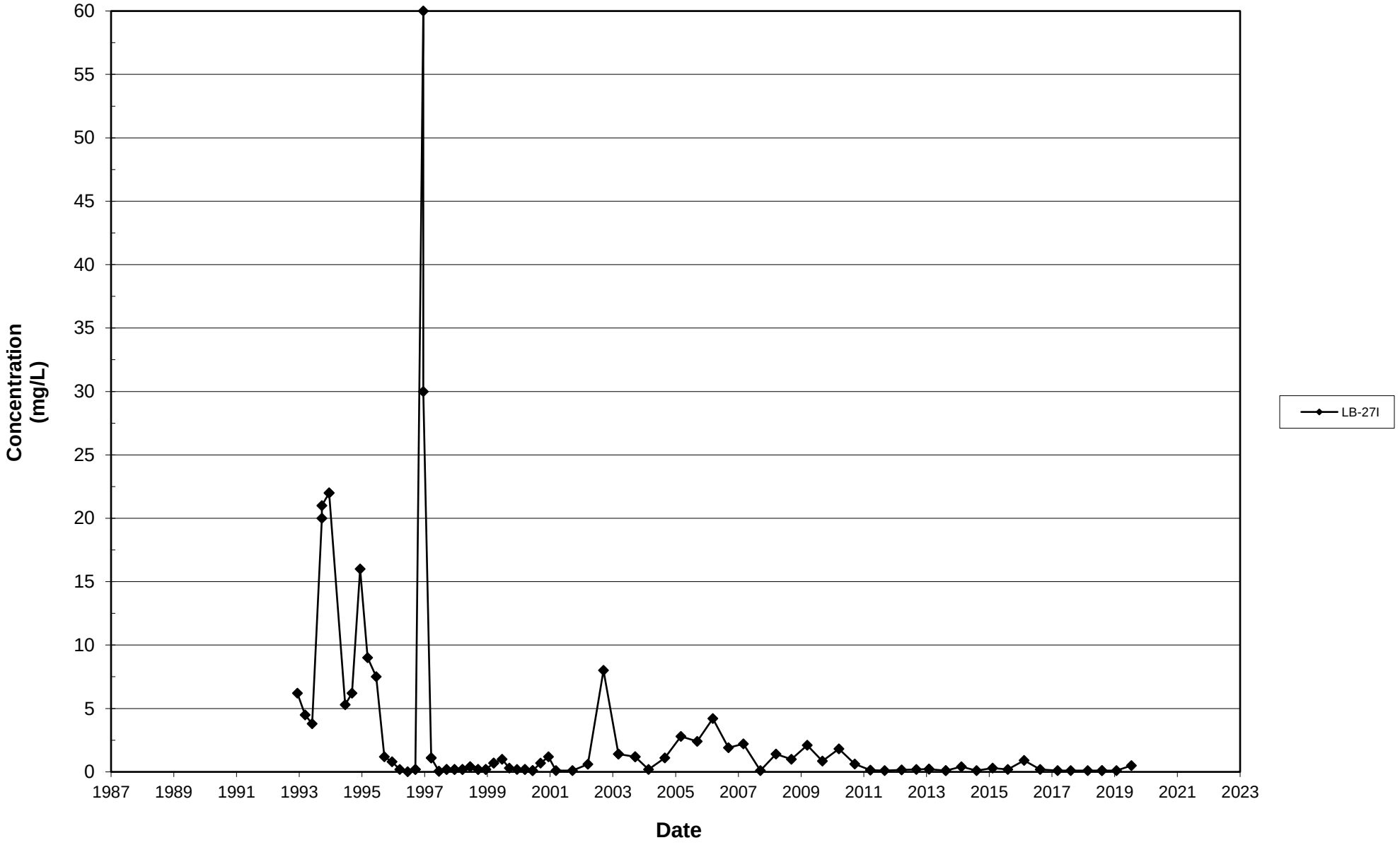
Leichner Landfill
Nitrate, LB-26I
1987 - 2019



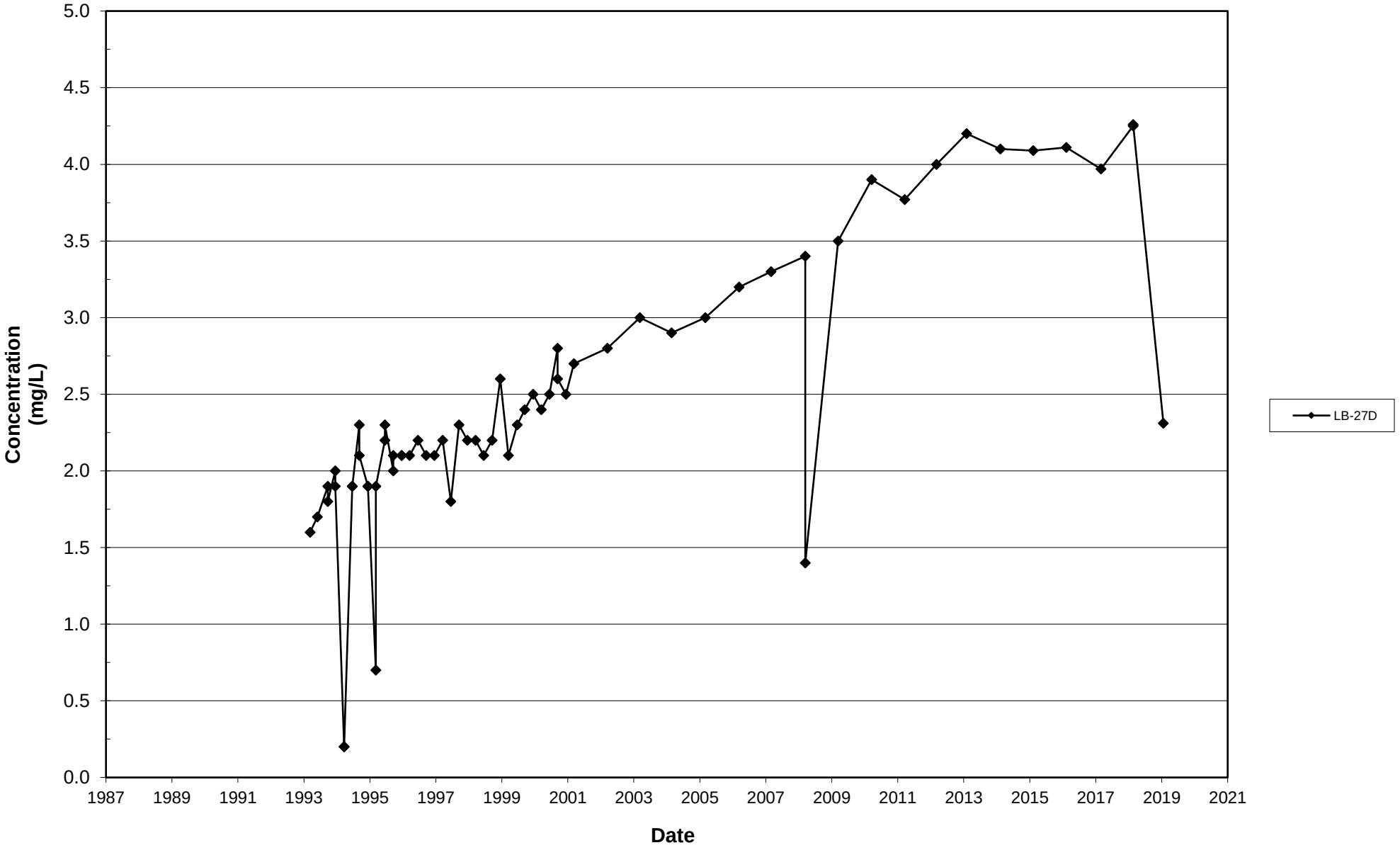
Leichner Landfill
Nitrate, LB-26D
1987 - 2019



Leichner Landfill
Nitrate, LB-27I
1987 - 2019

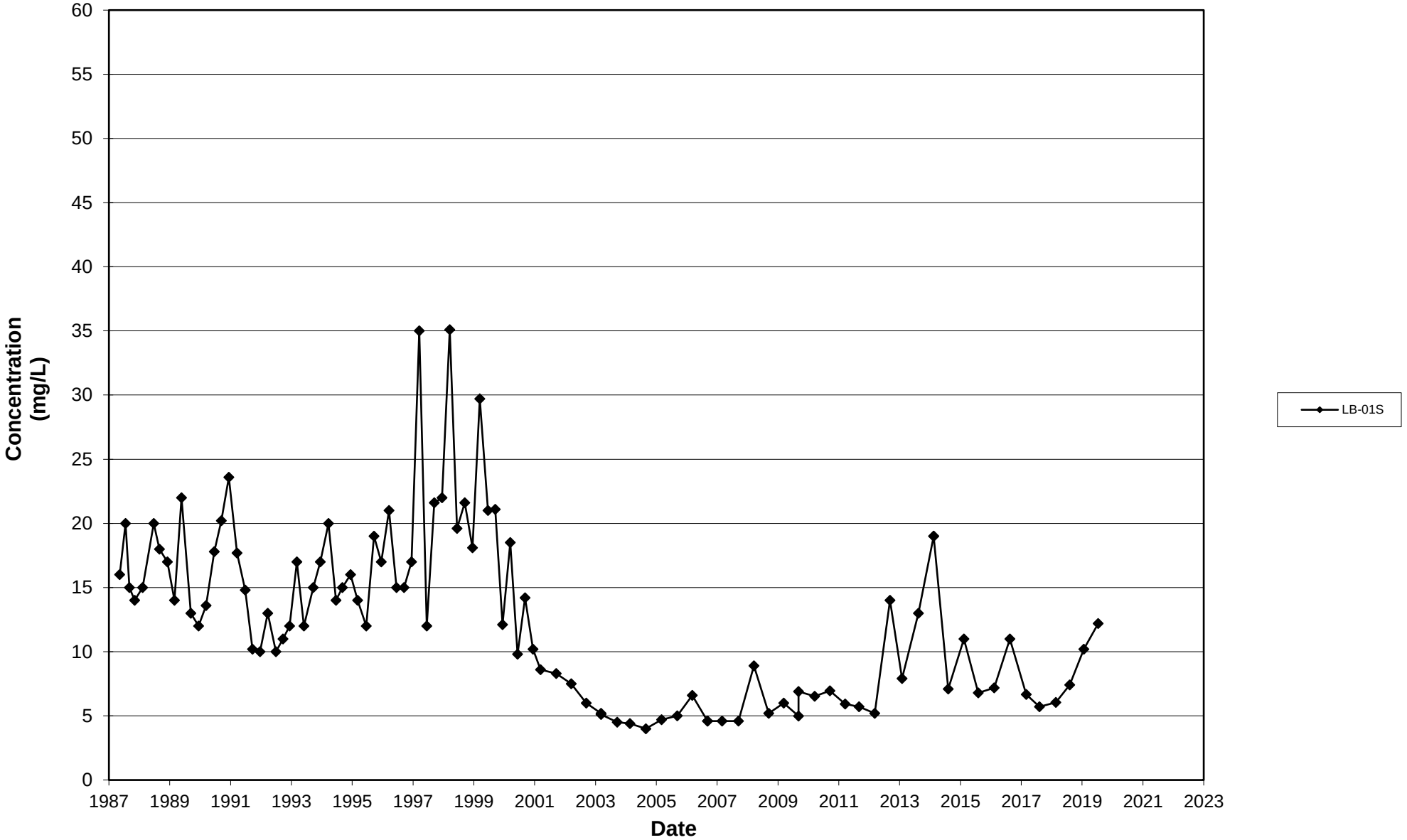


Leichner Landfill
Nitrate, LB-27D
1987 - 2019

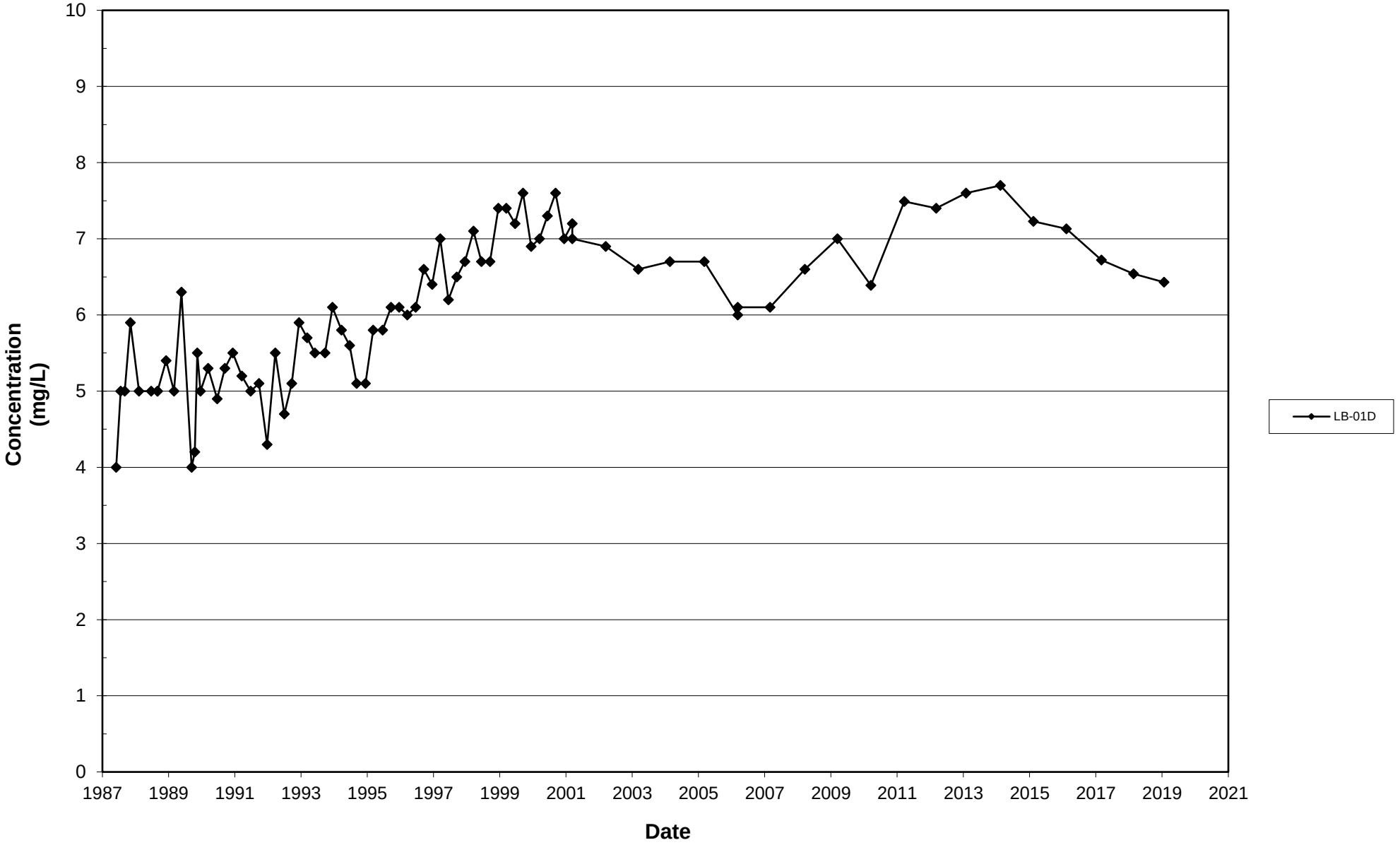


Chloride

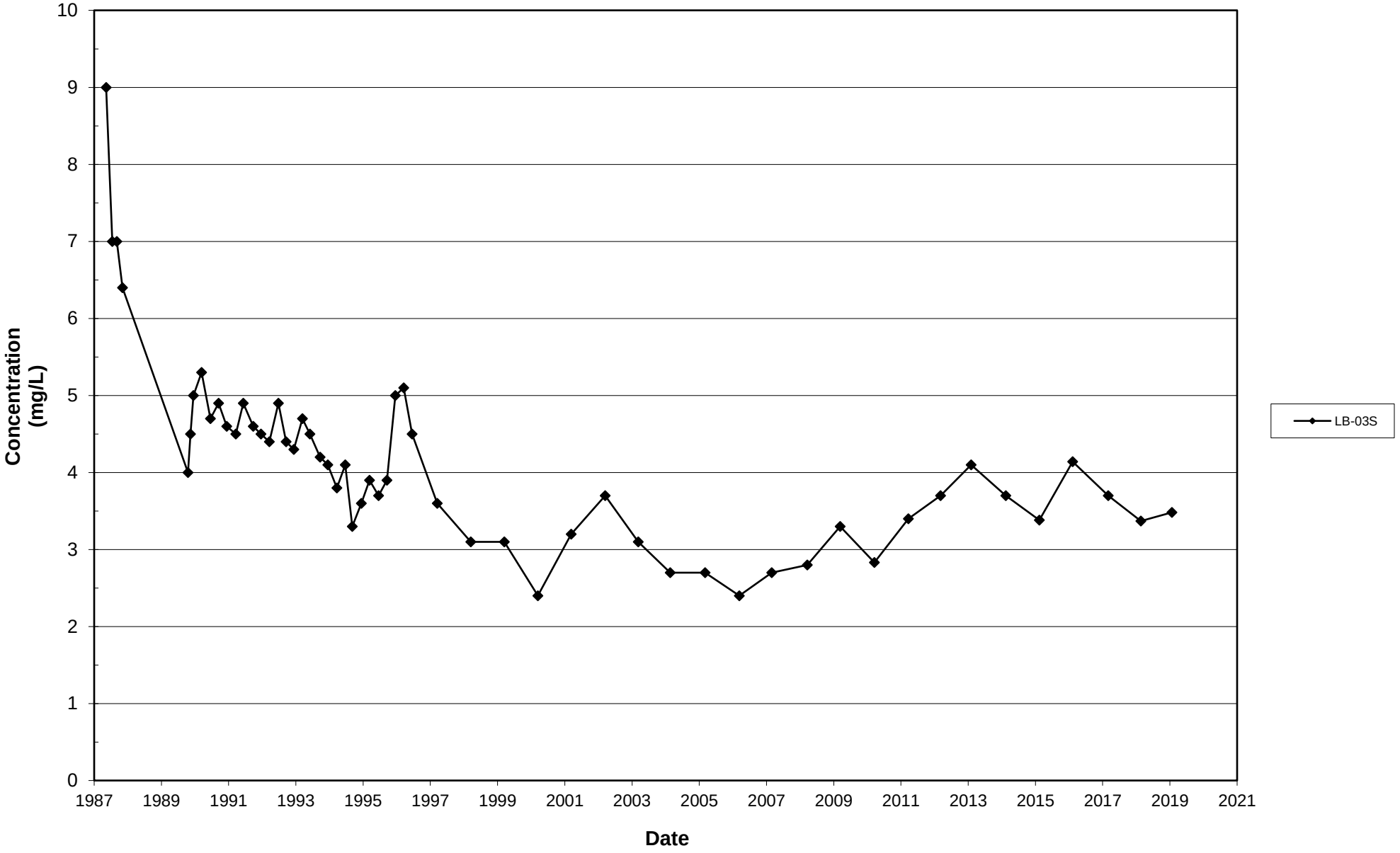
Leichner Landfill
Chloride, LB-01S
1987 - 2019



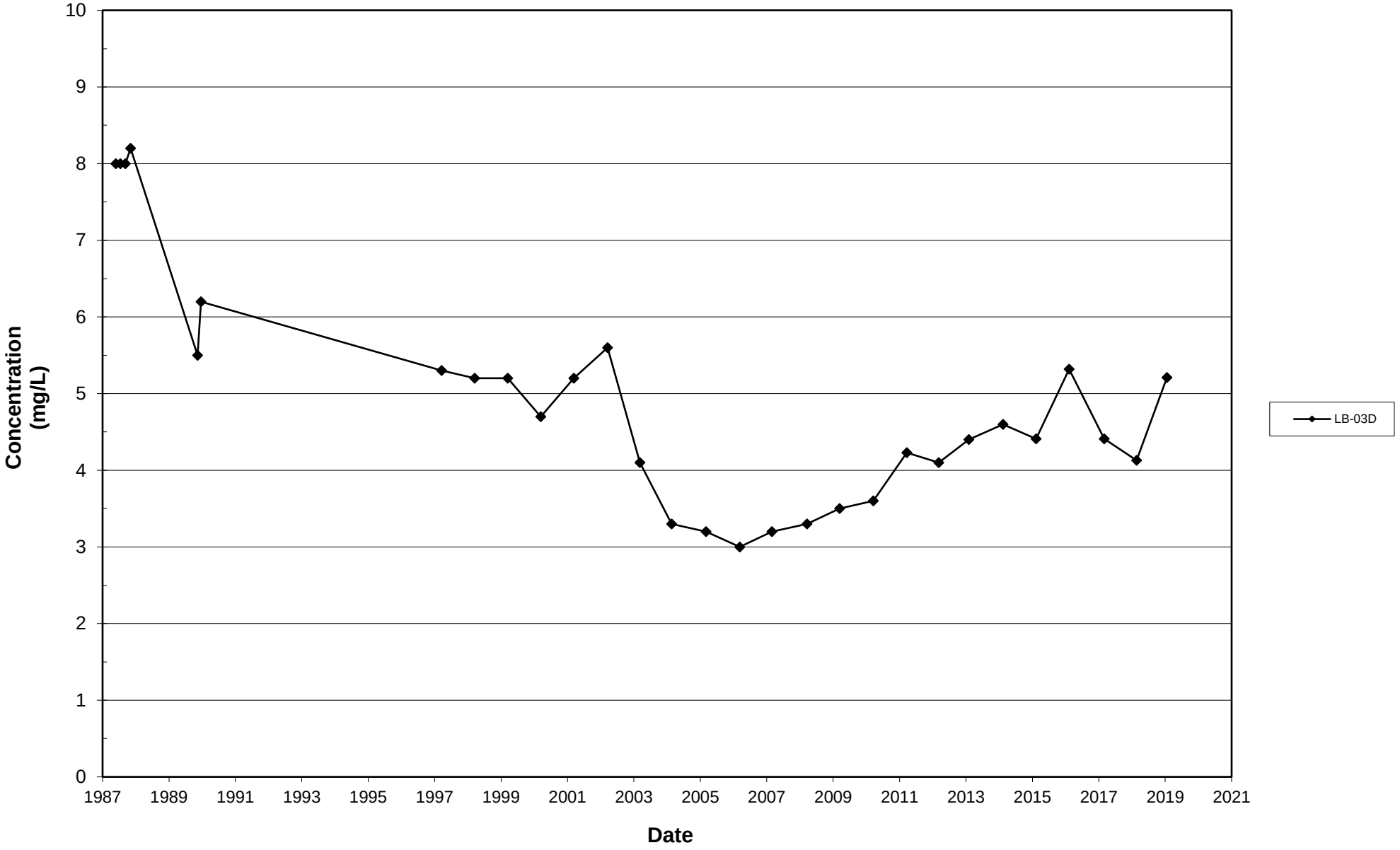
Leichner Landfill
Chloride, LB-01D
1987 - 2019



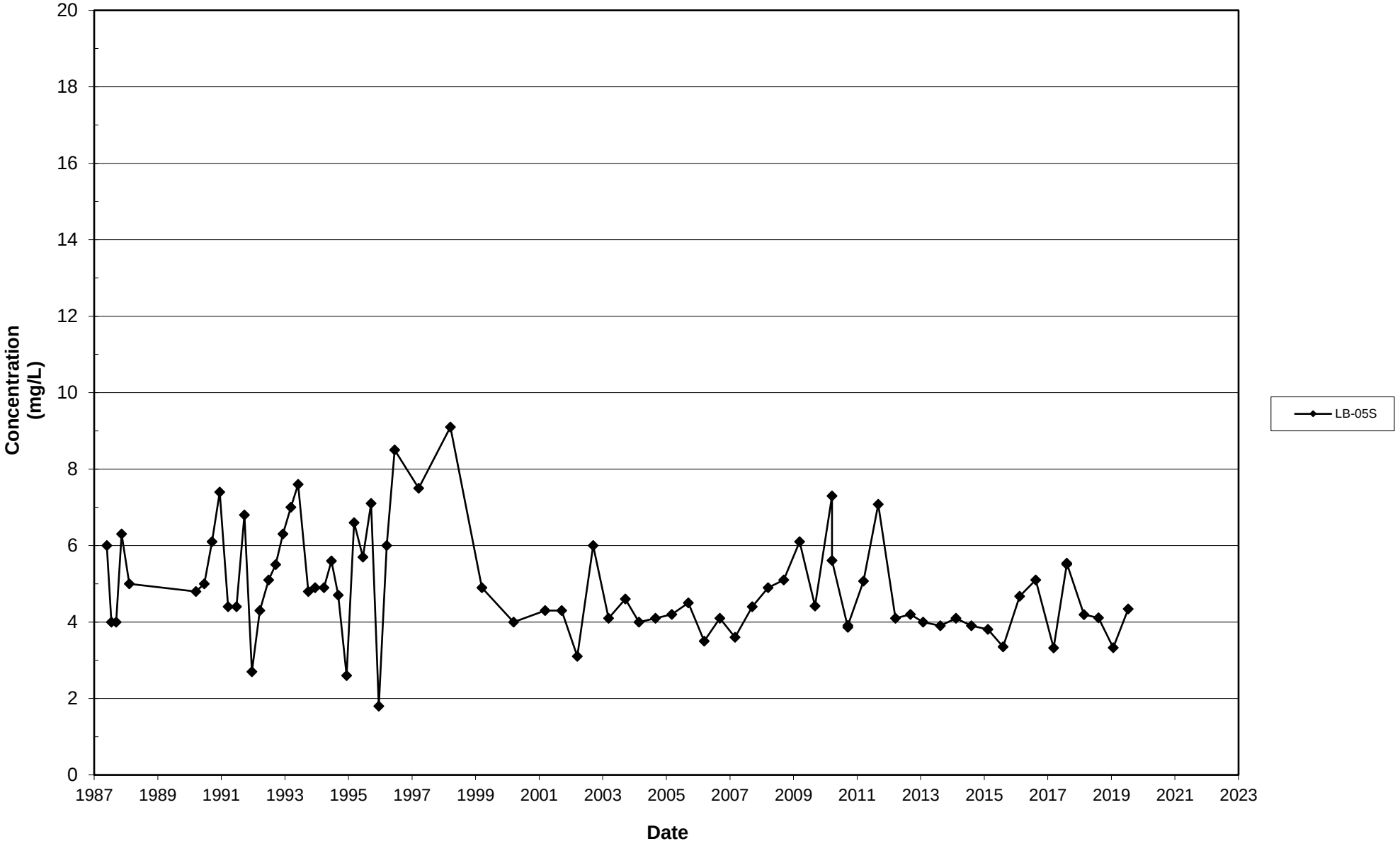
Leichner Landfill
Chloride, LB-03S
1987 - 2019



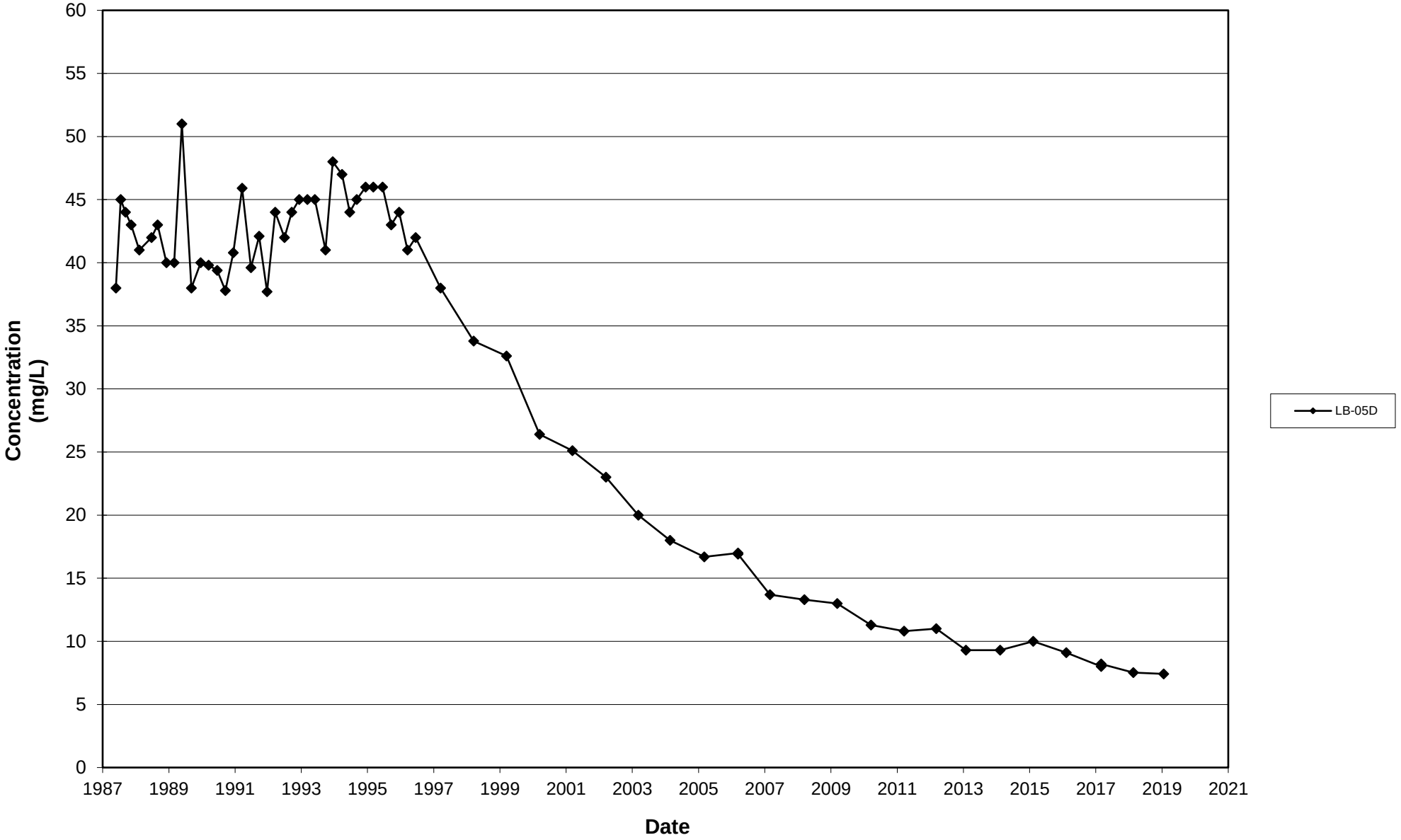
Leichner Landfill
Chloride, LB-03D
1987 - 2019



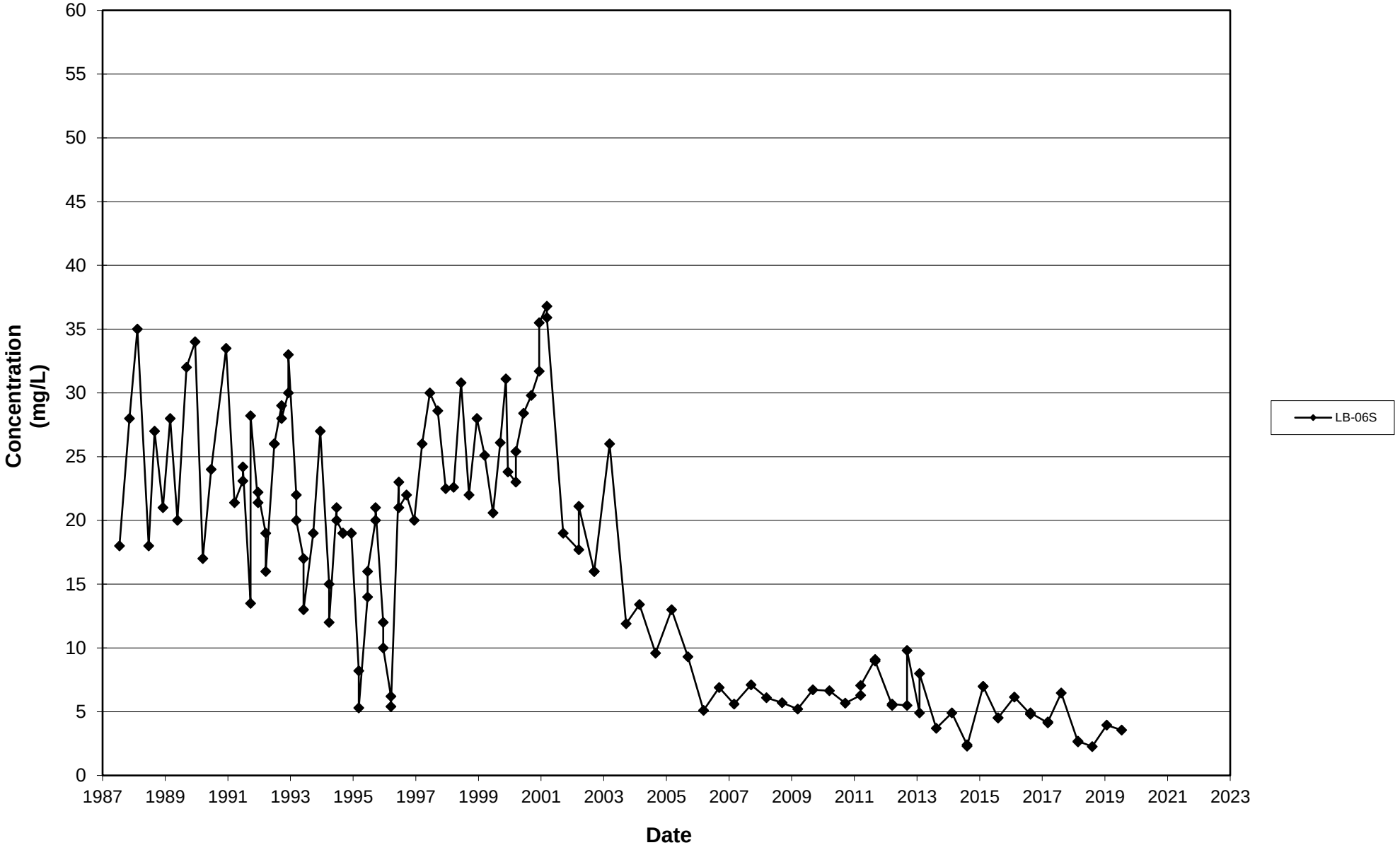
Leichner Landfill
Chloride, LB-05S
1987 - 2019



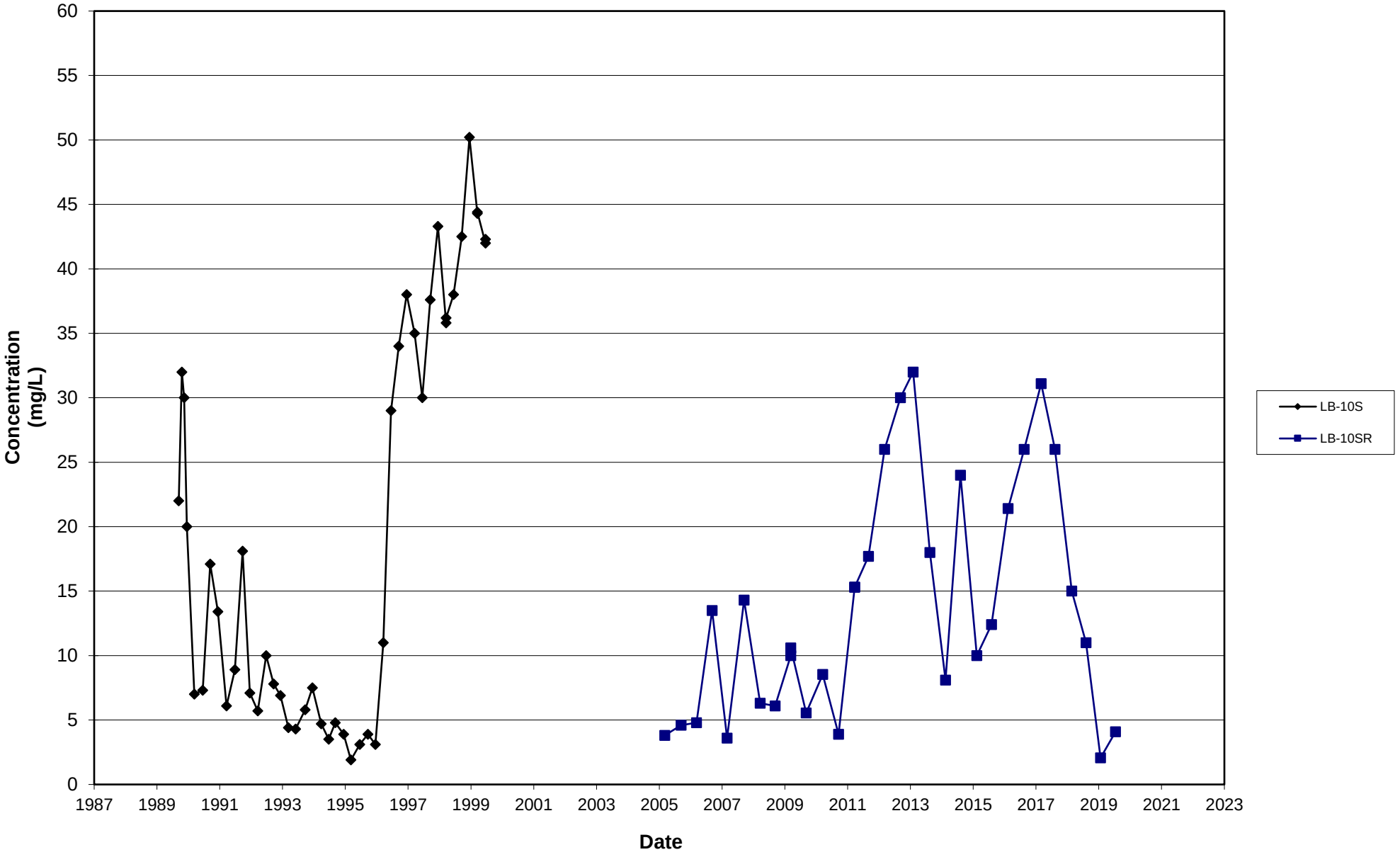
Leichner Landfill
Chloride, LB-05D
1987 - 2019



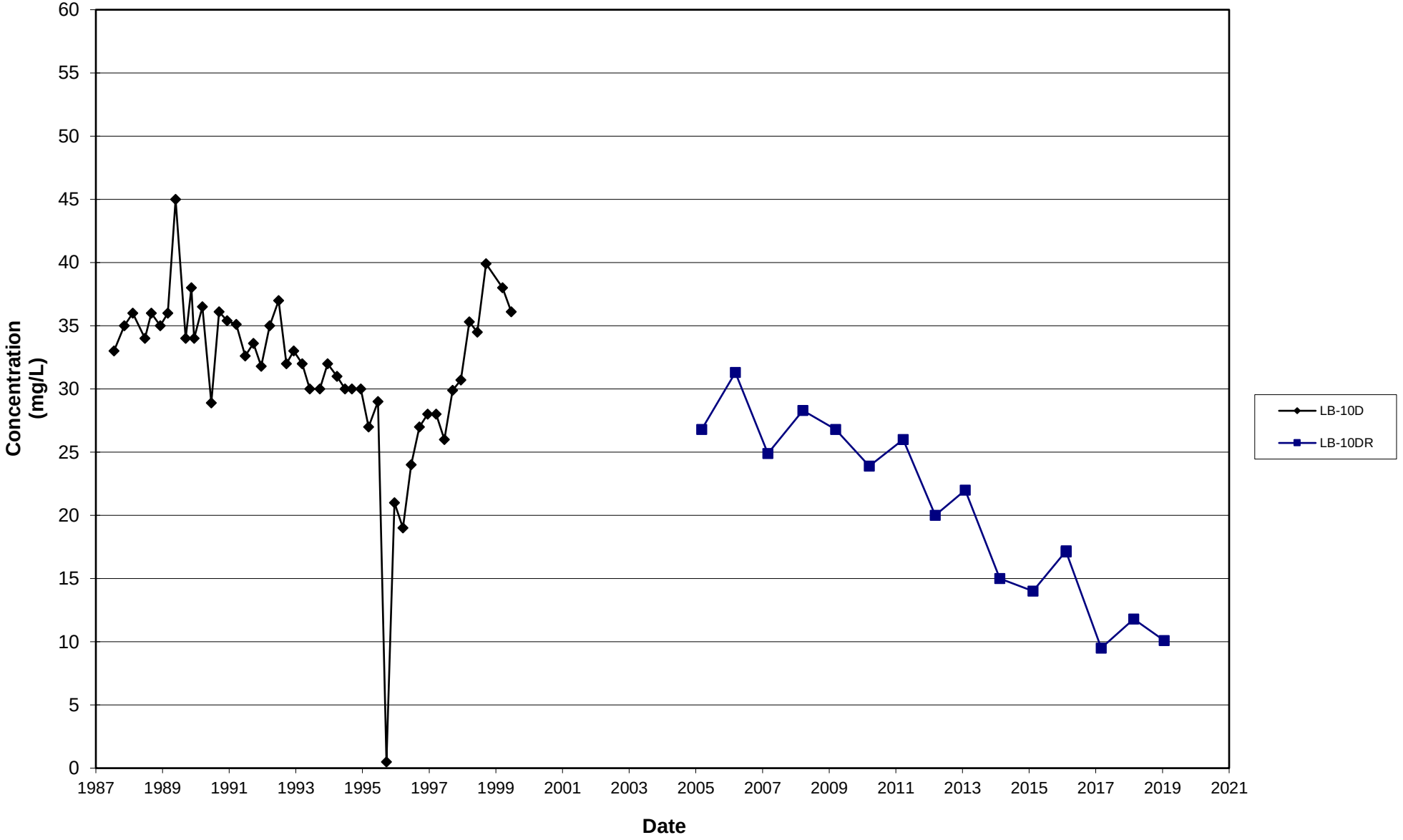
Leichner Landfill
Chloride, LB-06S
1987 - 2019



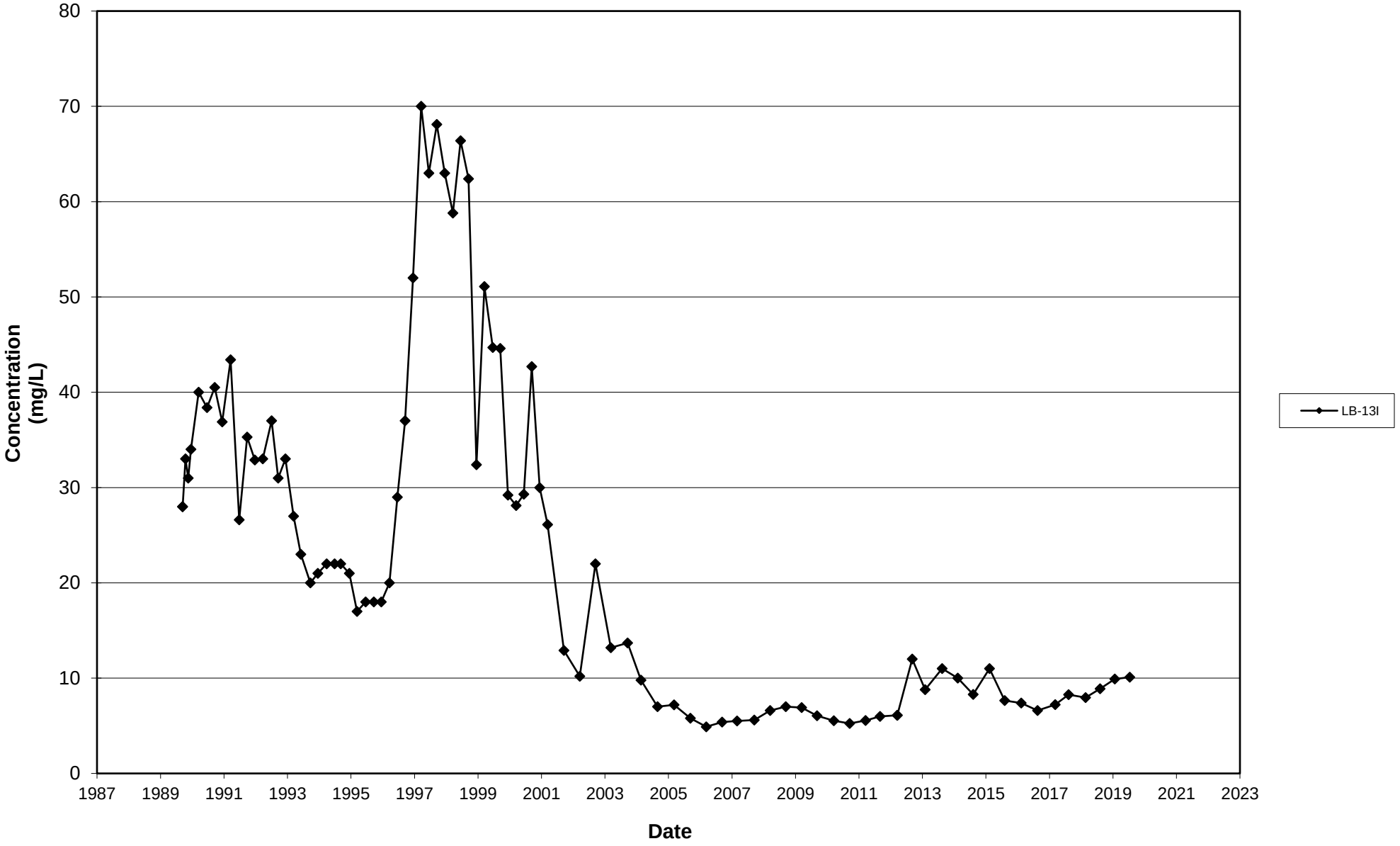
Leichner Landfill
Chloride, LB-10S and LB-10SR
1987 - 2019



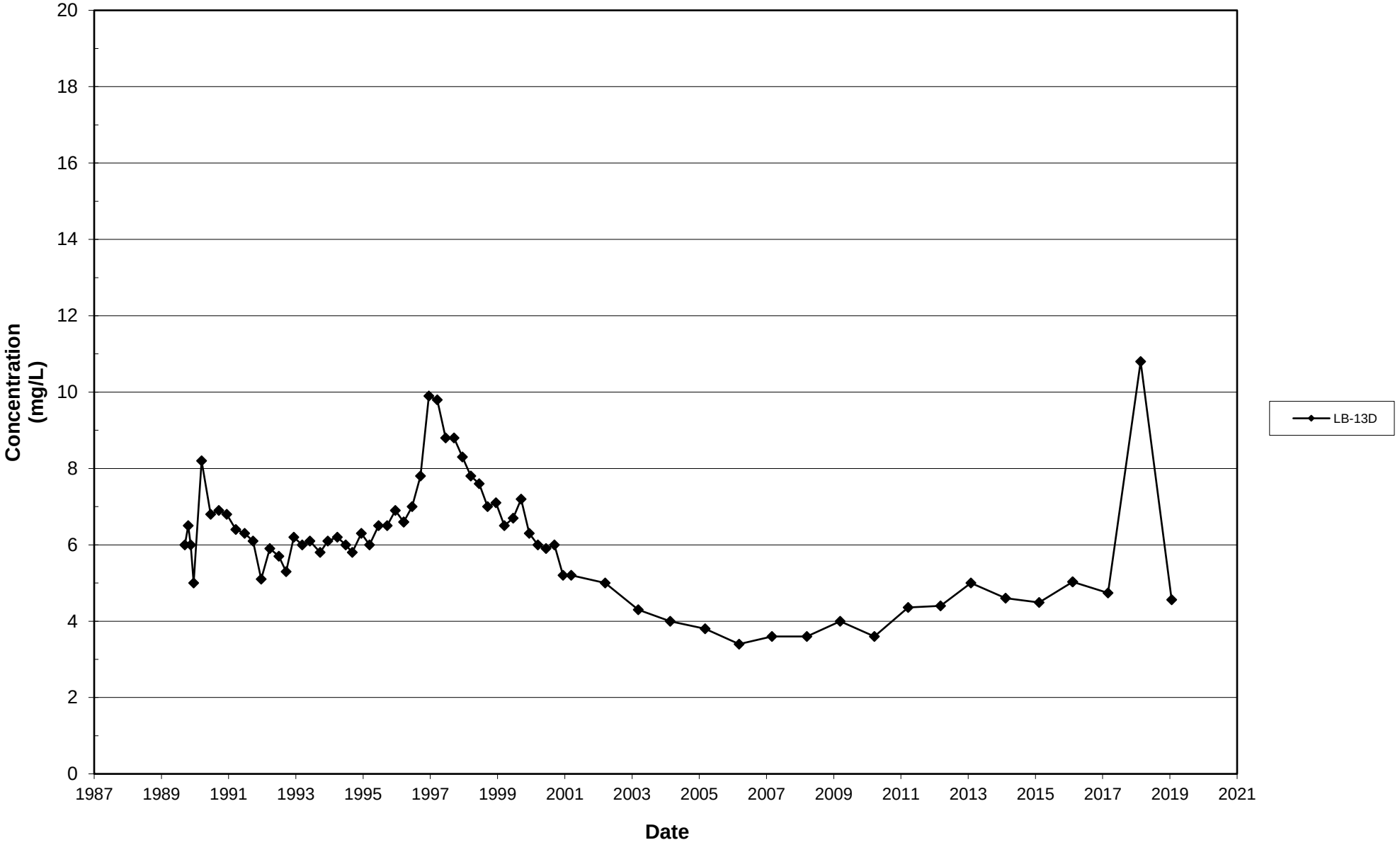
Leichner Landfill
Chloride, LB-10D and LB-10DR
1987 - 2019



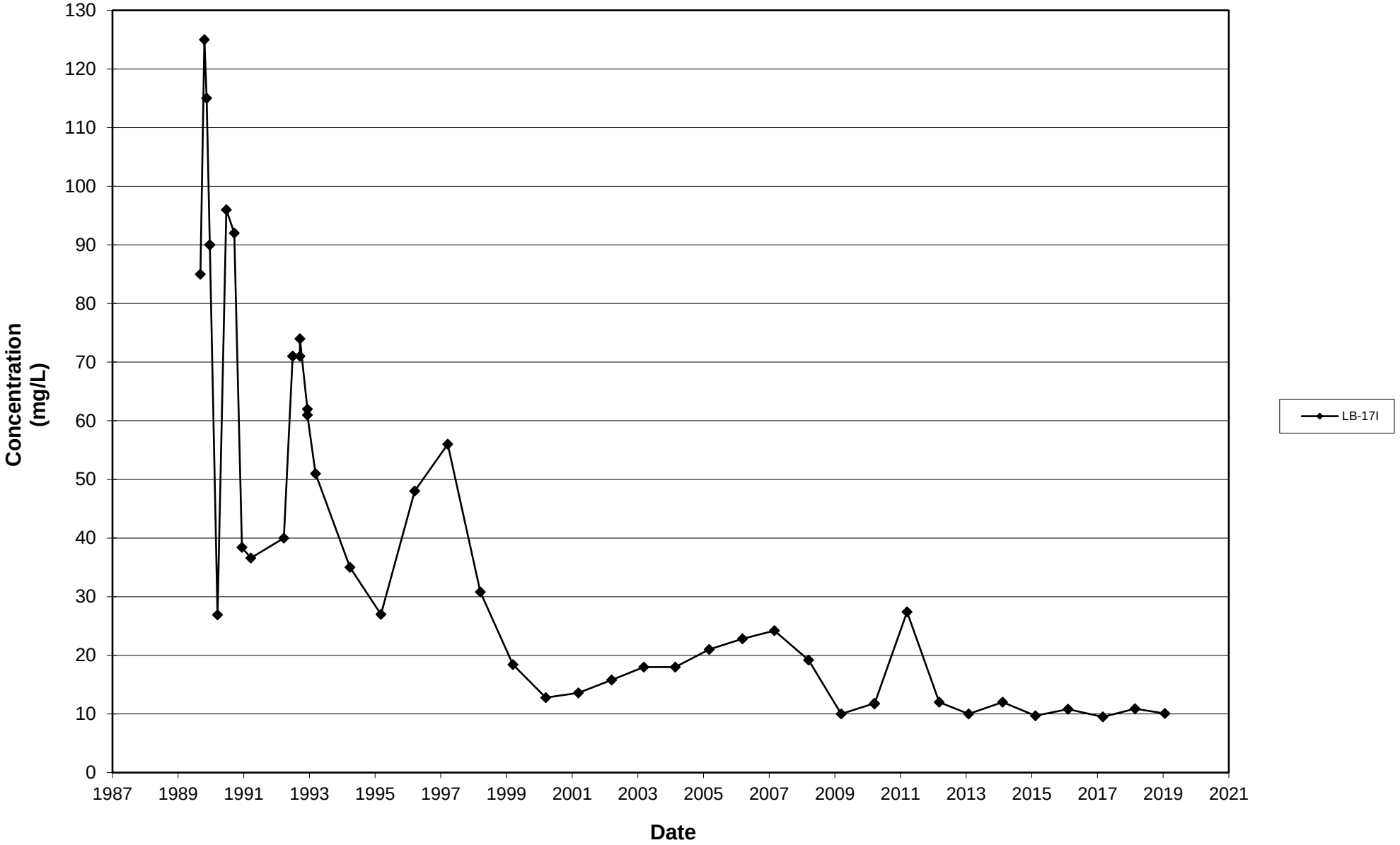
Leichner Landfill
Chloride, LB-13I
1987 - 2019



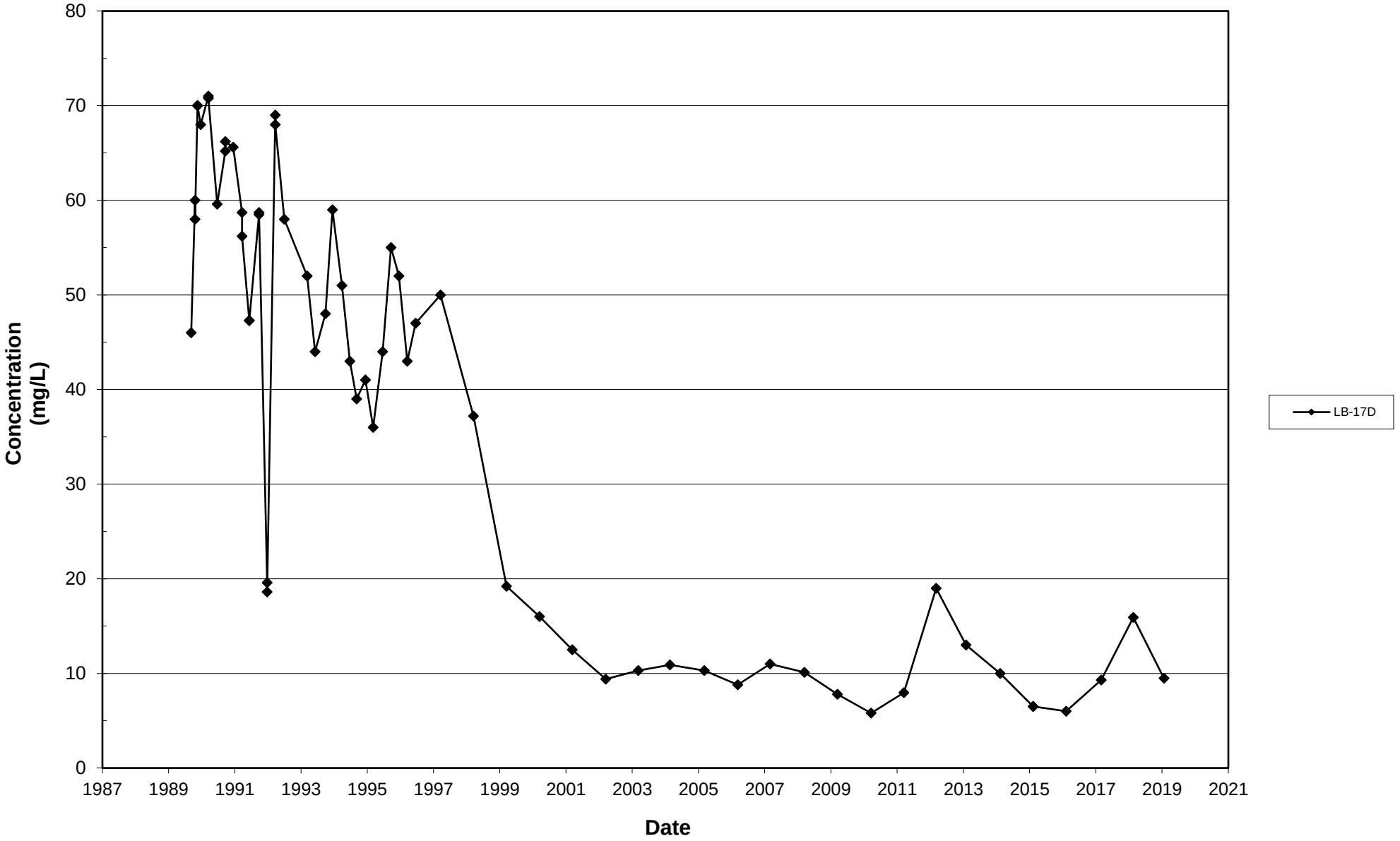
Leichner Landfill
Chloride, LB-13D
1987 - 2019



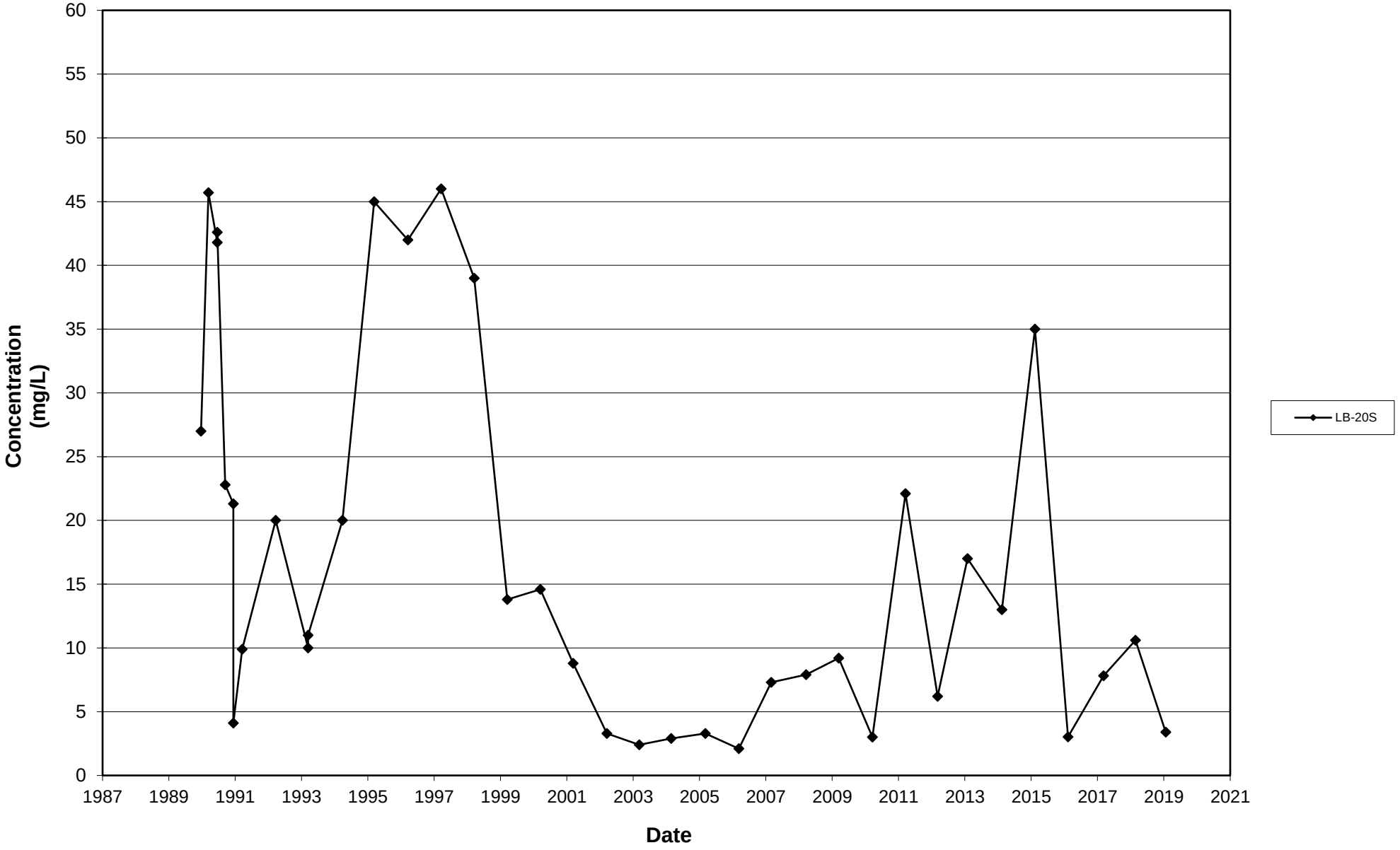
Leichner Landfill
Chloride, LB-17I
1987 - 2019



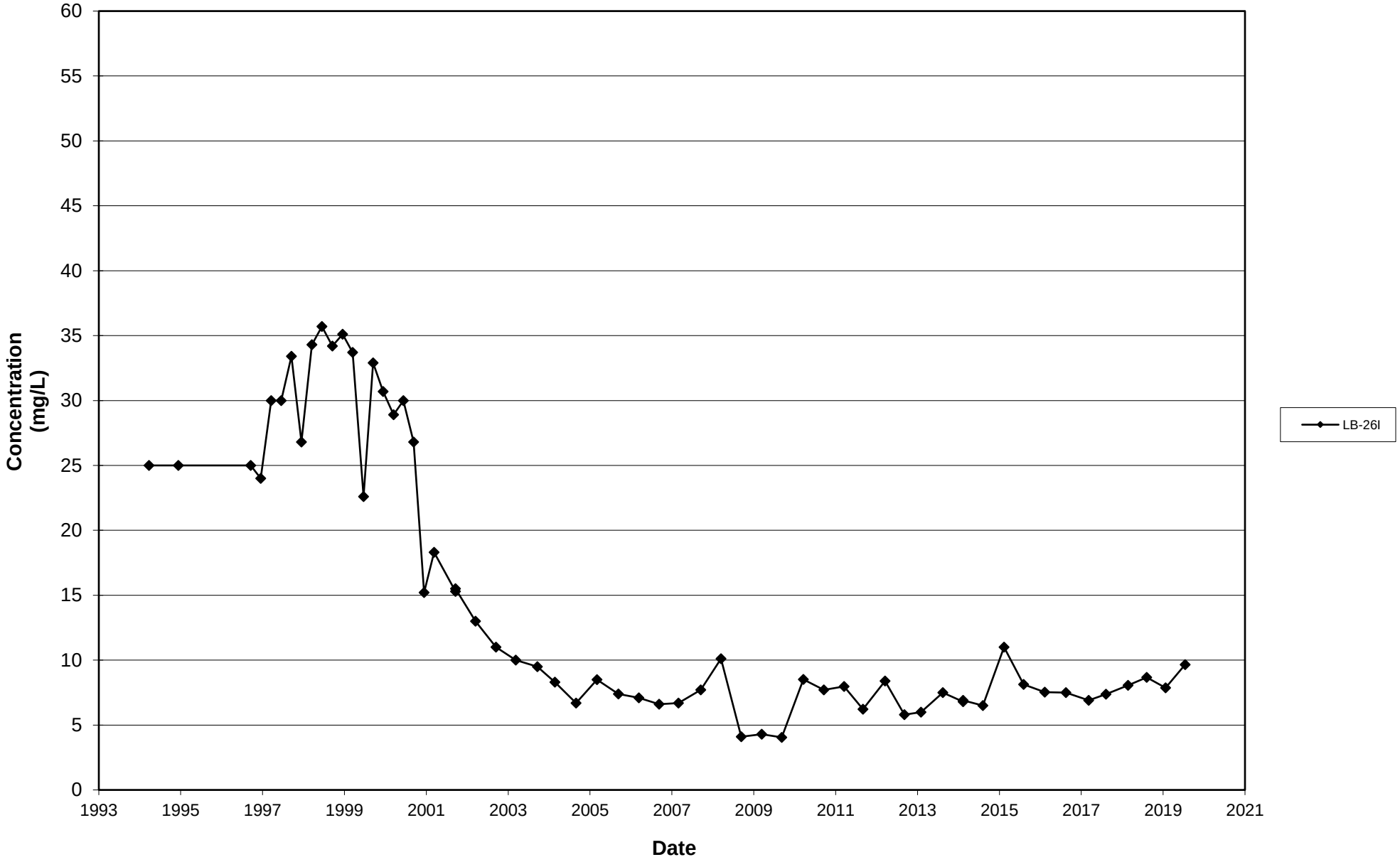
Leichner Landfill
Chloride, LB-17D
1987 - 2019



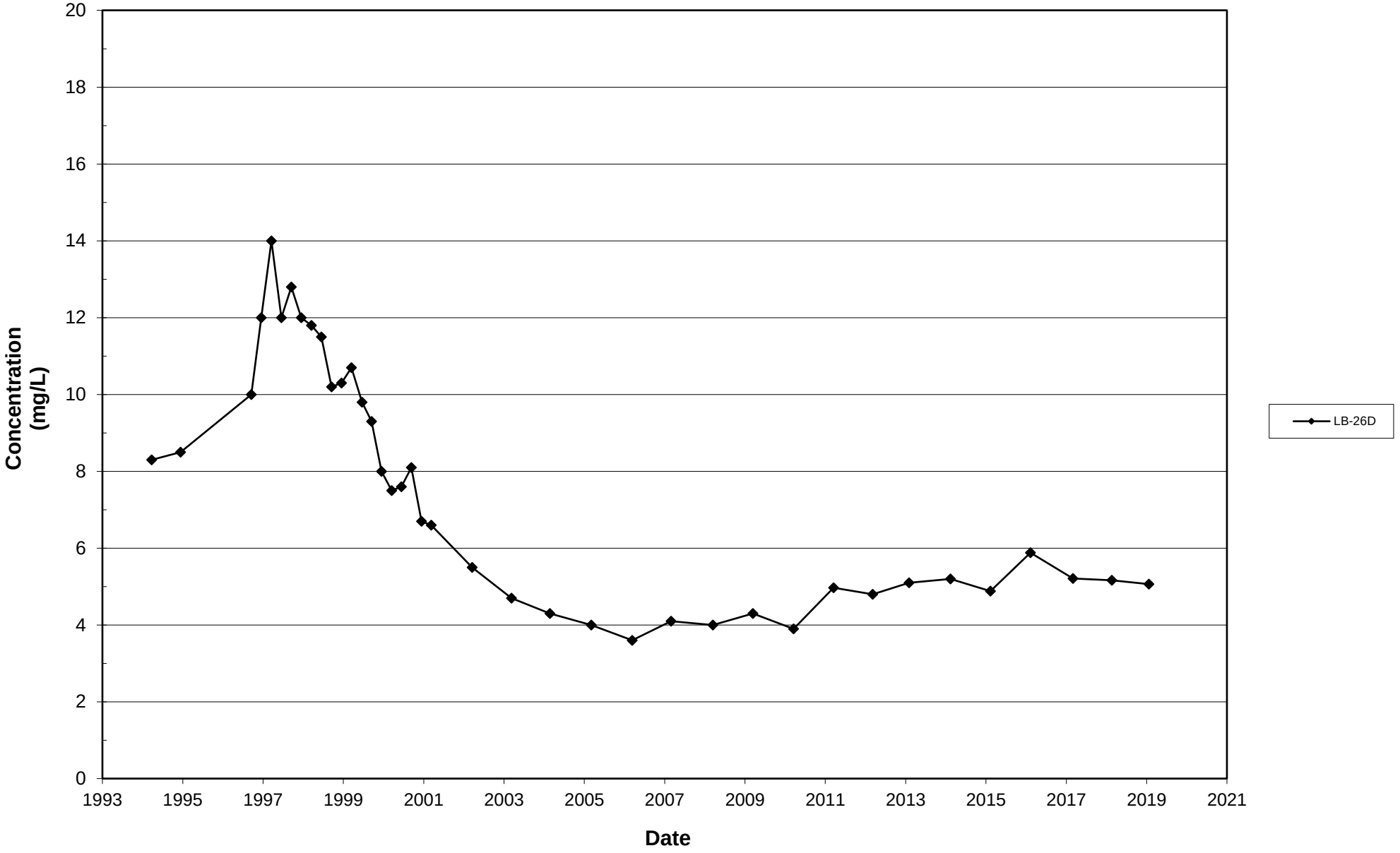
Leichner Landfill
Chloride, LB-20S
1987 - 2019



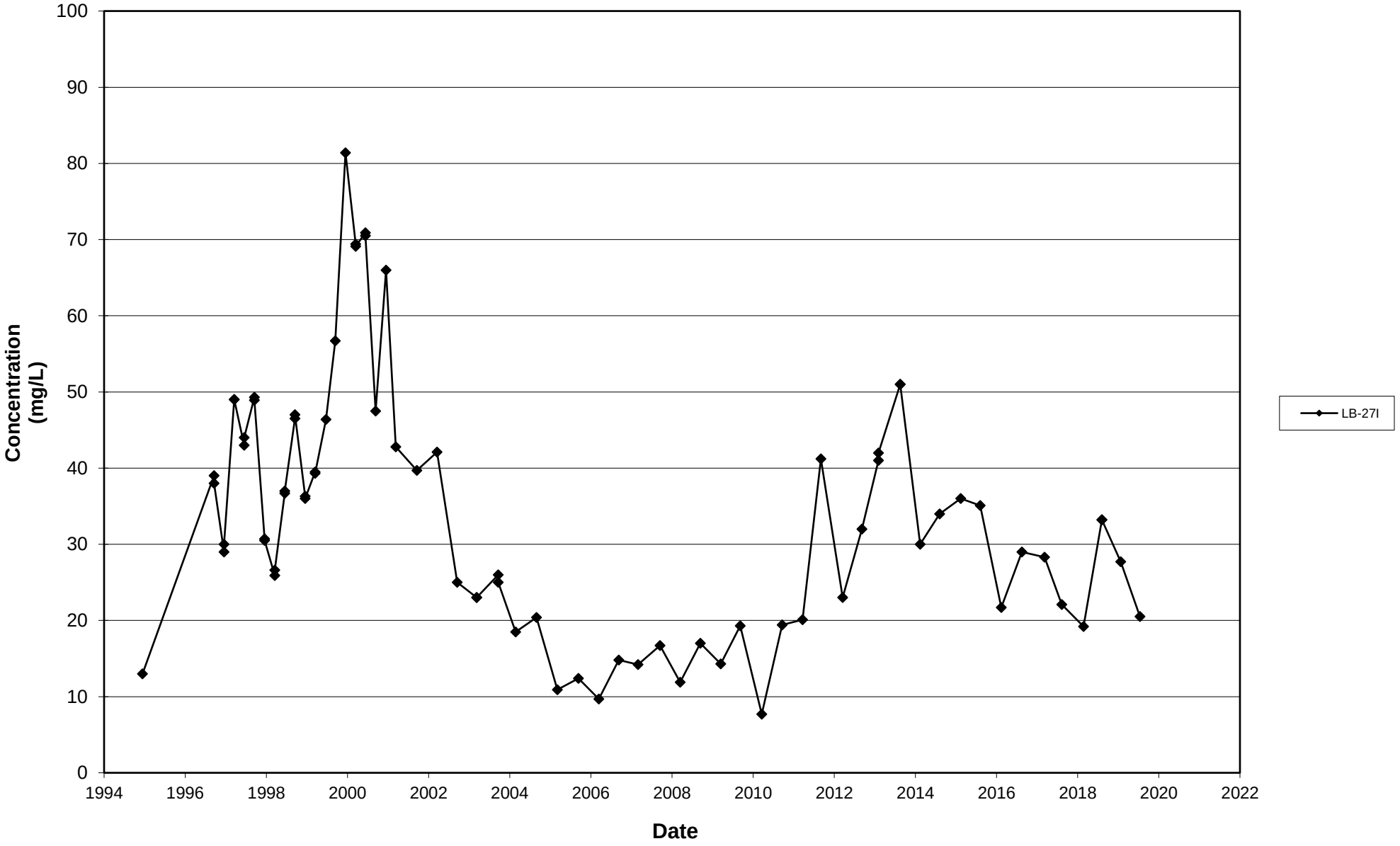
Leichner Landfill
Chloride, LB-26I
1987 - 2019



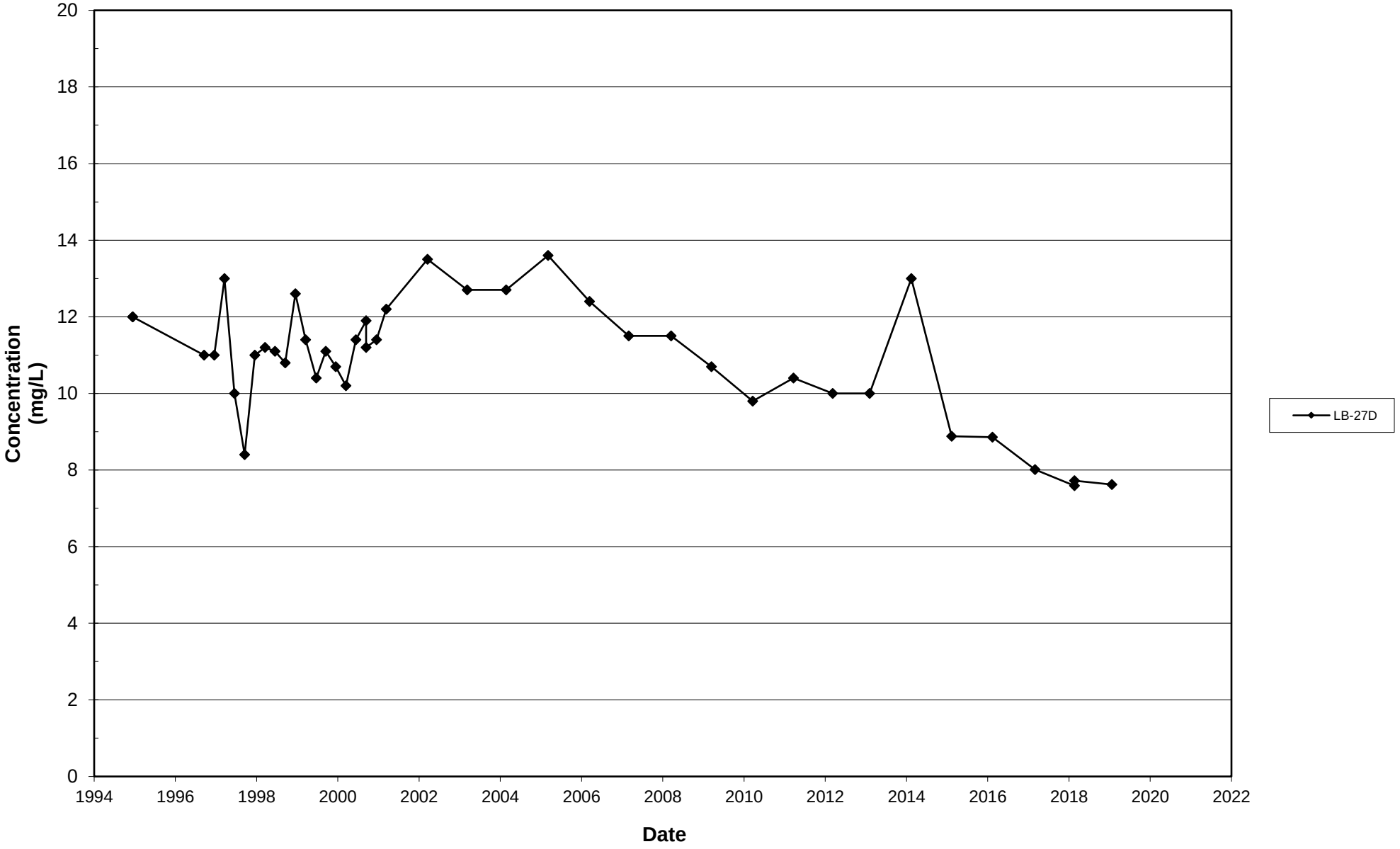
Leichner Landfill
Chloride, LB-26D
1987 - 2019



Leichner Landfill
Chloride, LB-27I
1987 - 2019

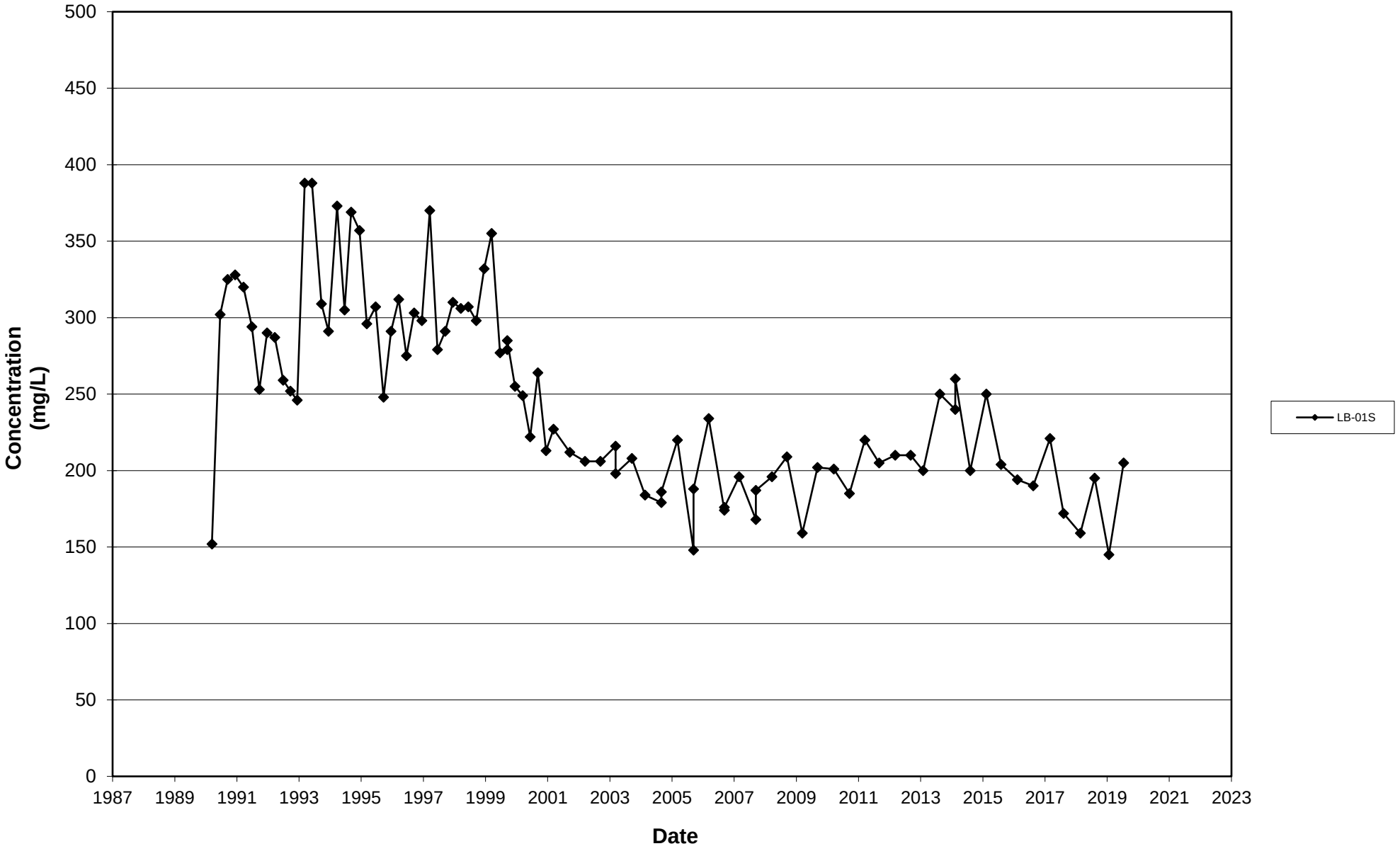


Leichner Landfill
Chloride, LB-27D
1987 - 2019

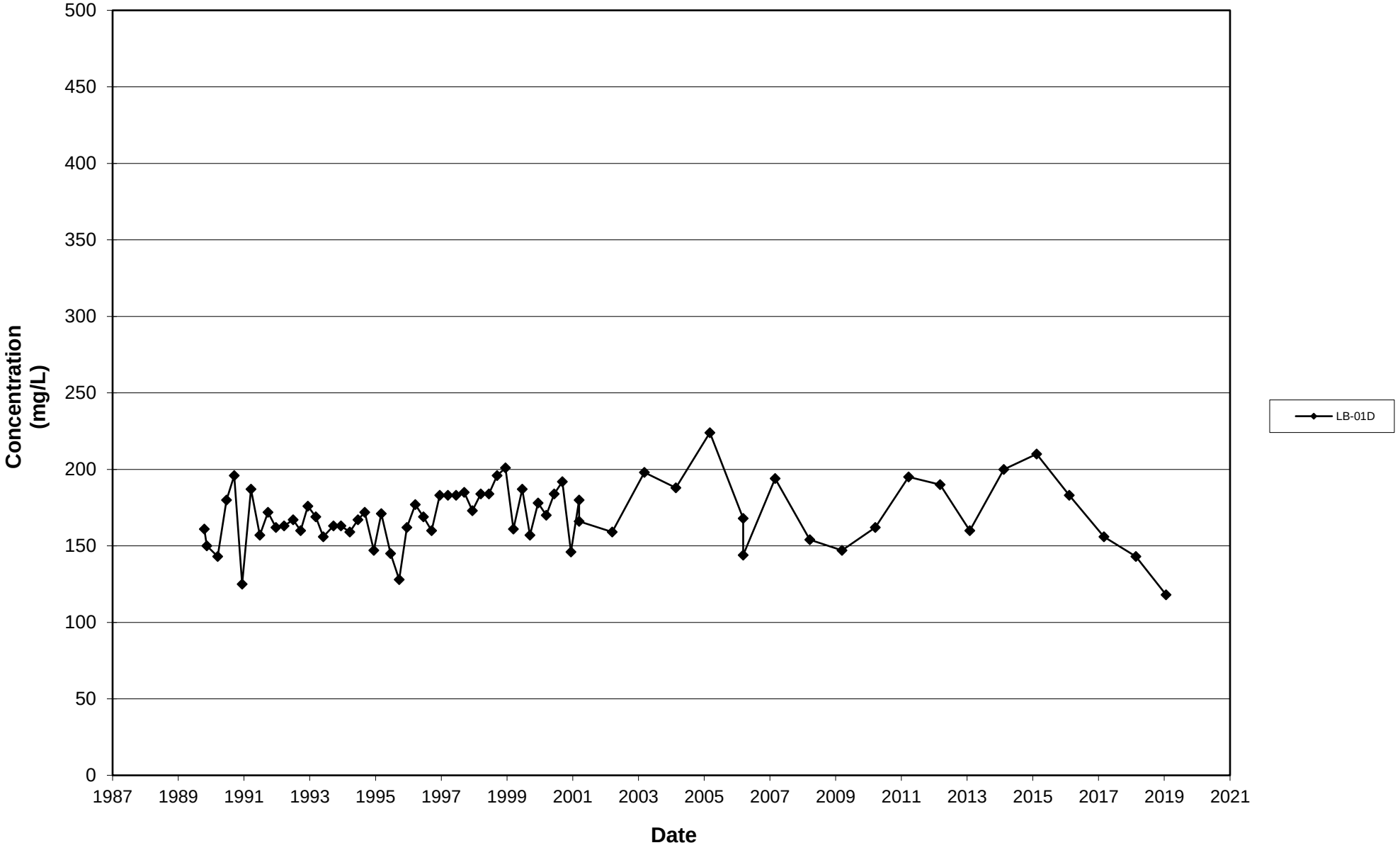


Total Dissolved Solids

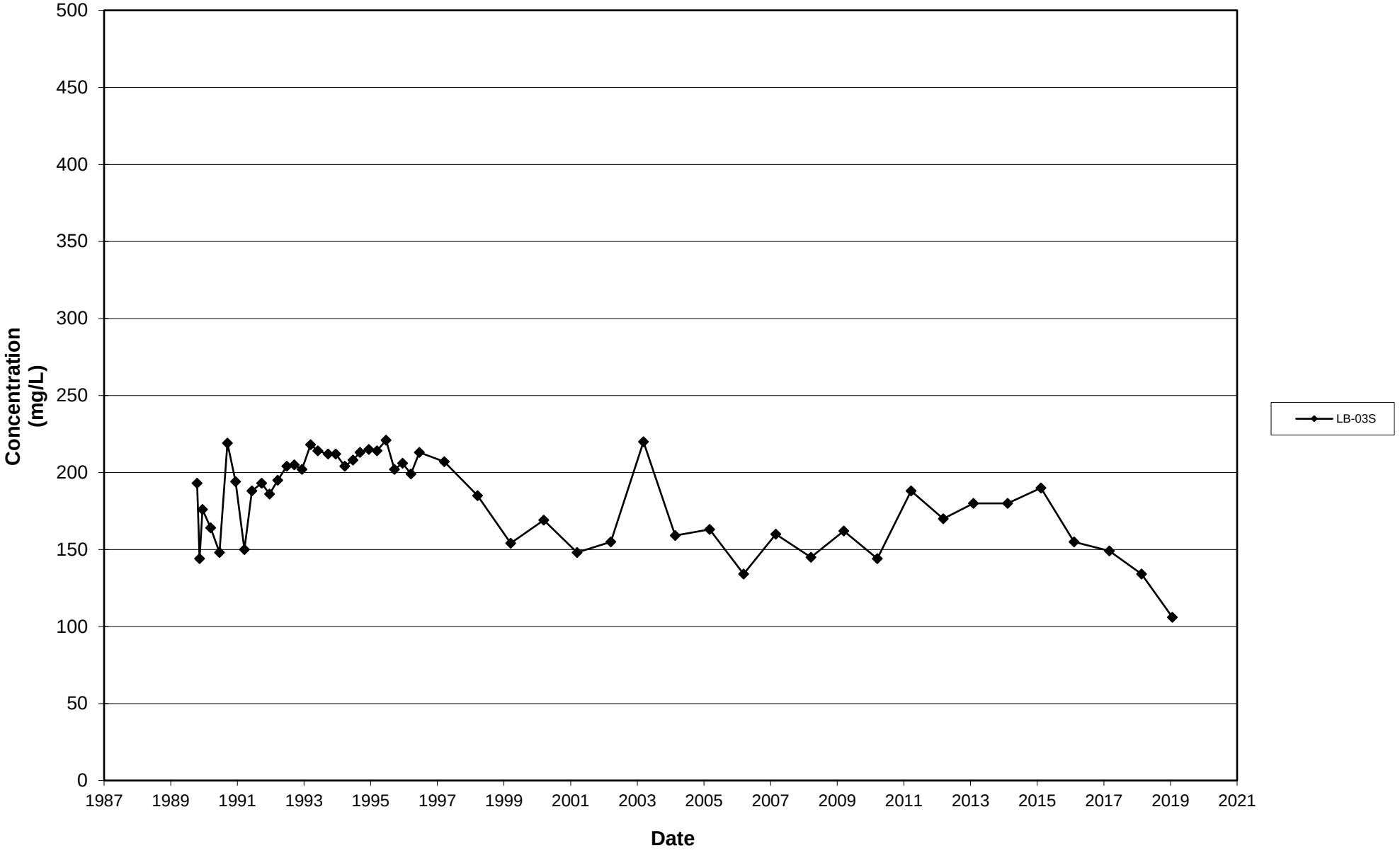
Leichner Landfill
Total Dissolved Solids, LB-01S
1987 - 2019



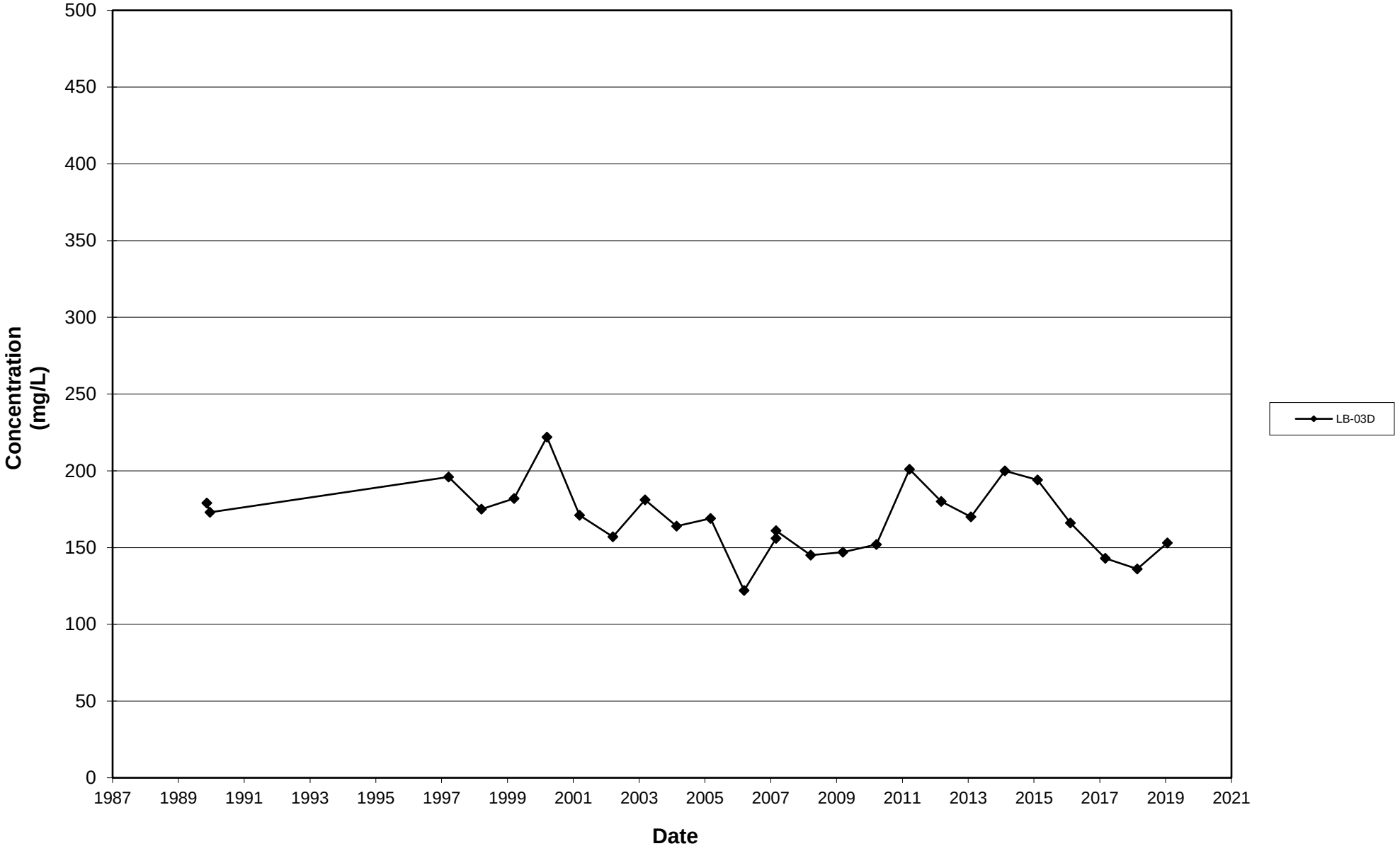
Leichner Landfill
Total Dissolved Solids, LB-01D
1987 - 2019



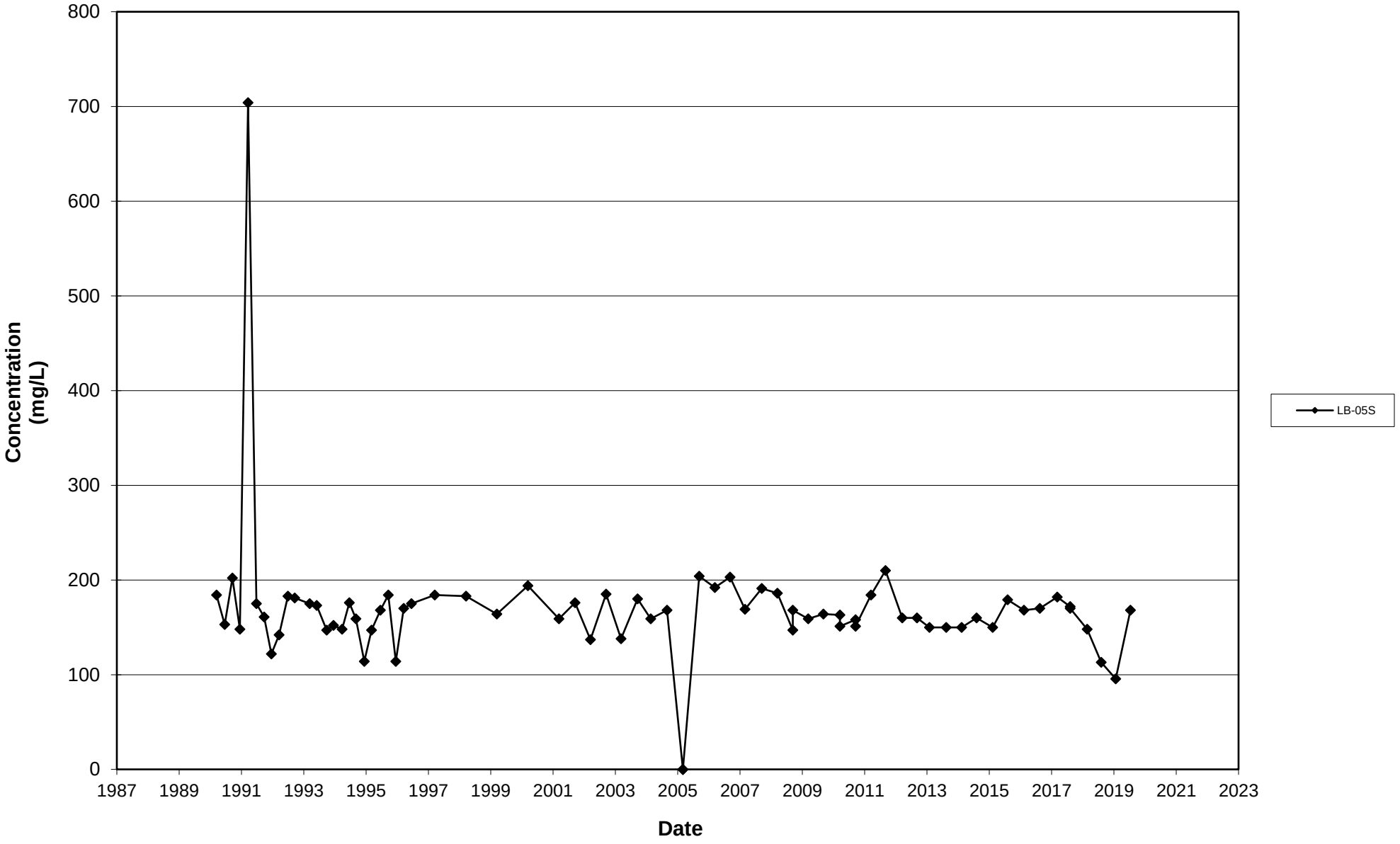
Leichner Landfill
Total Dissolved Solids, LB-03S
1987 - 2019



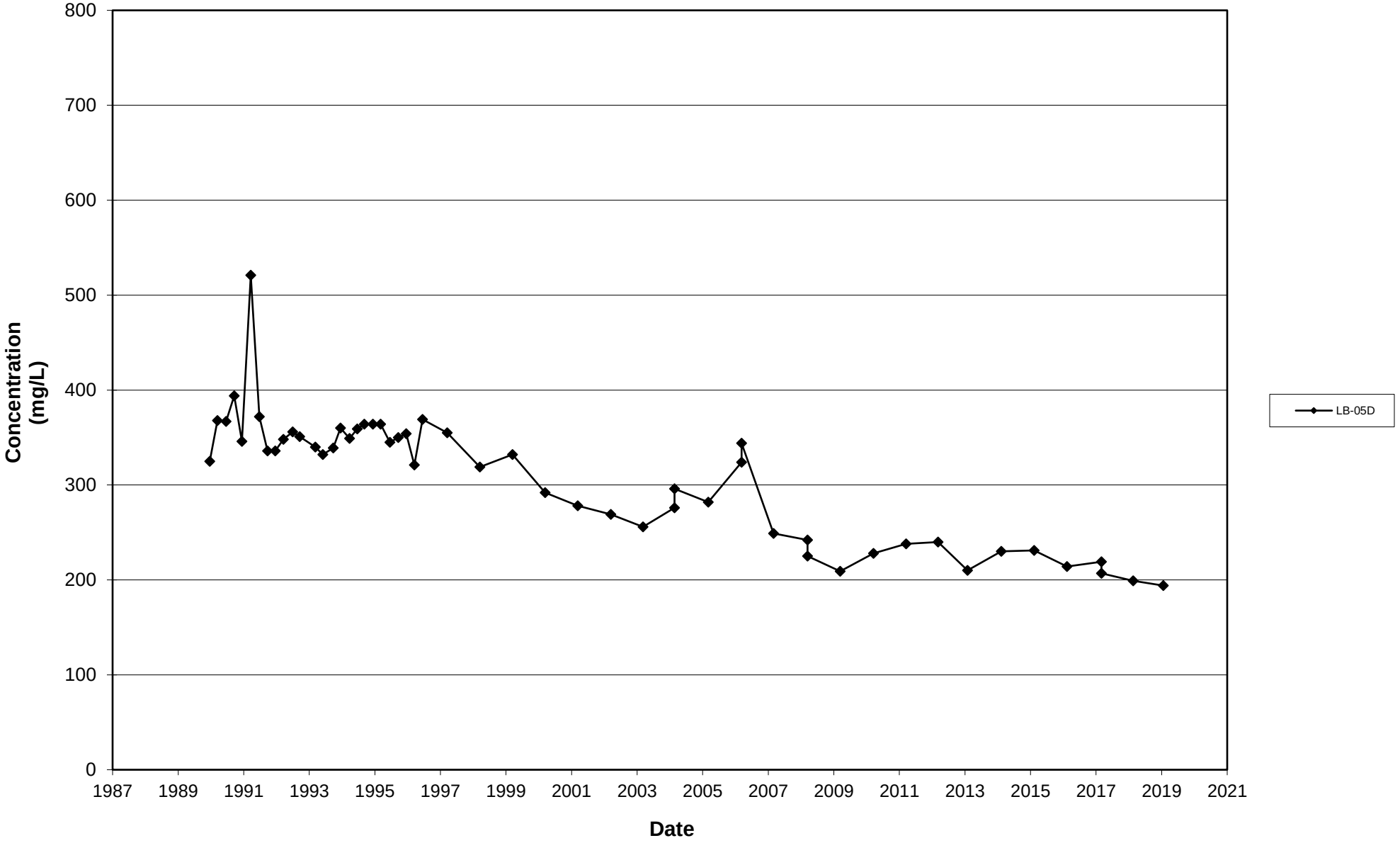
Leichner Landfill
Total Dissolved Solids, LB-03D
1987 - 2019



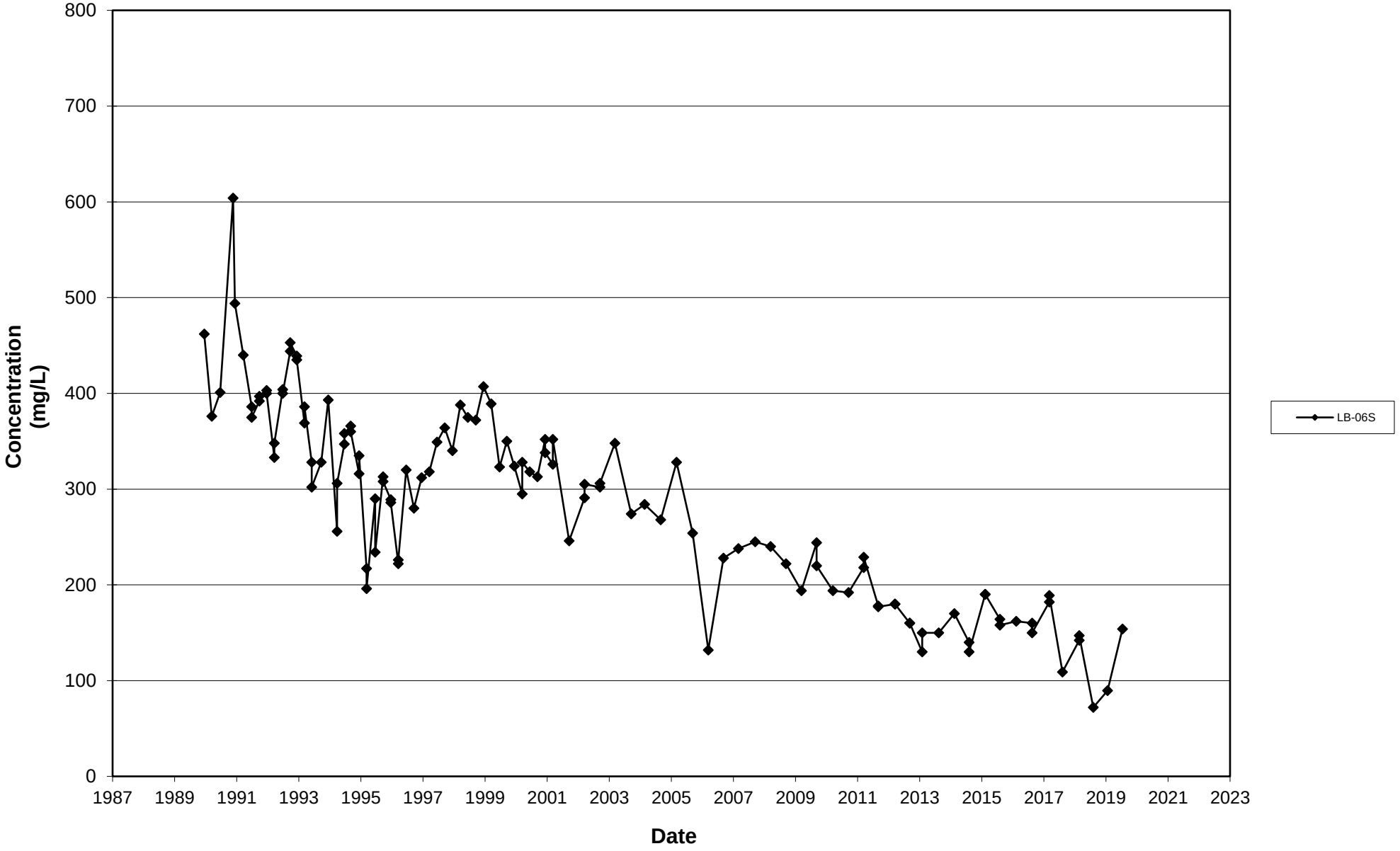
Leichner Landfill
Total Dissolved Solids, LB-05S
1987 - 2019



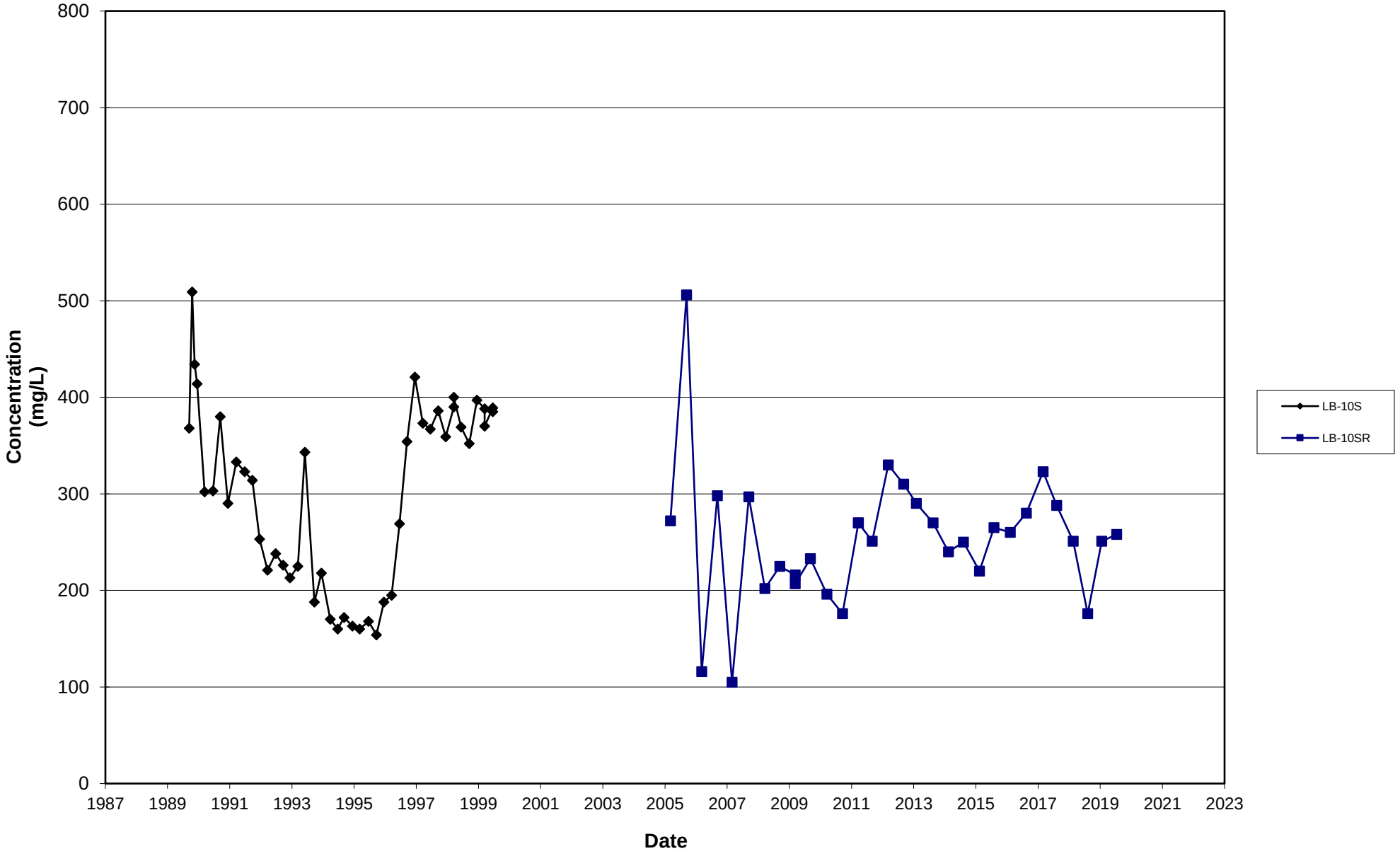
Leichner Landfill
Total Dissolved Solids, LB-05D
1987 - 2019



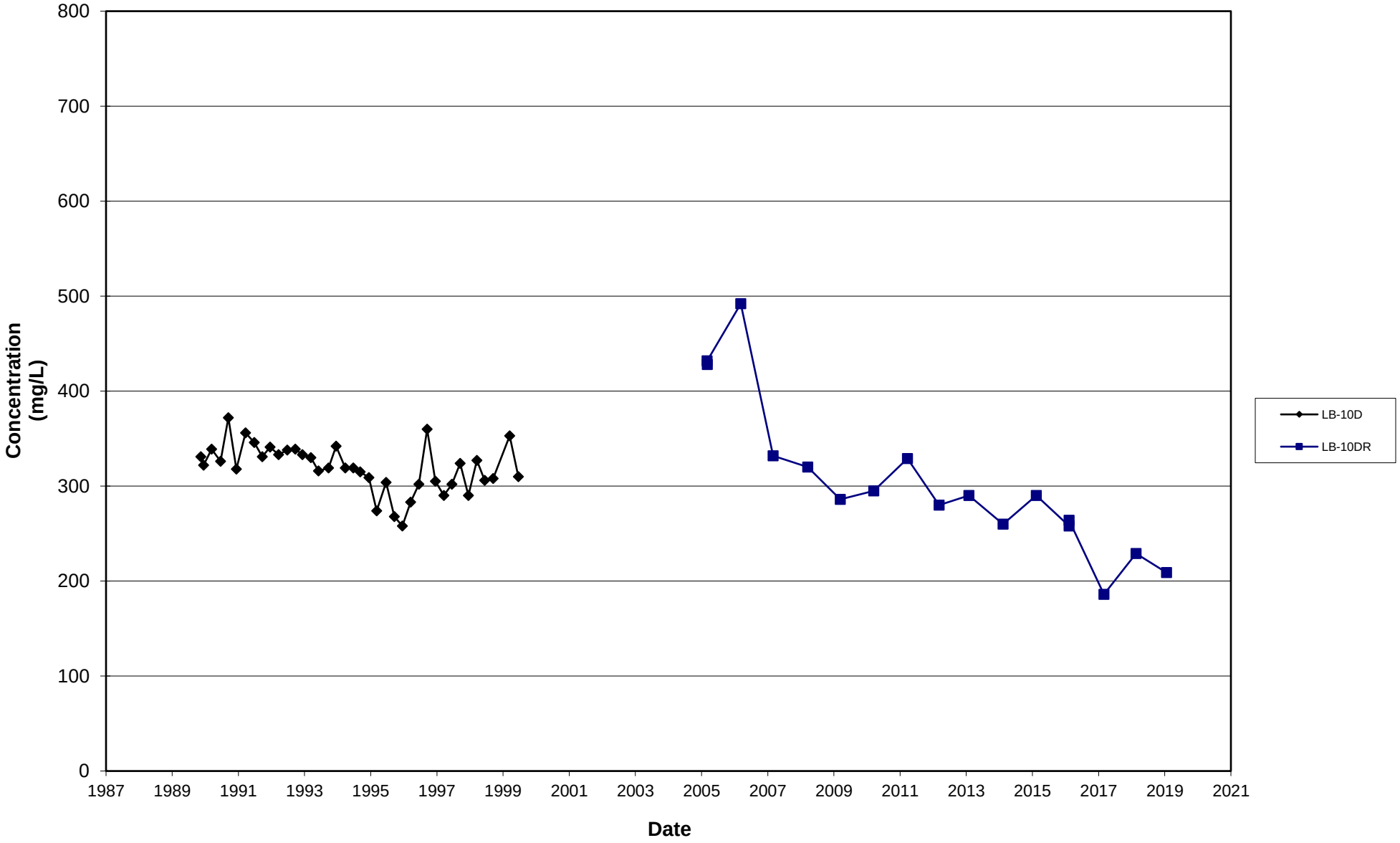
Leichner Landfill
Total Dissolved Solids, LB-06S
1987 - 2019



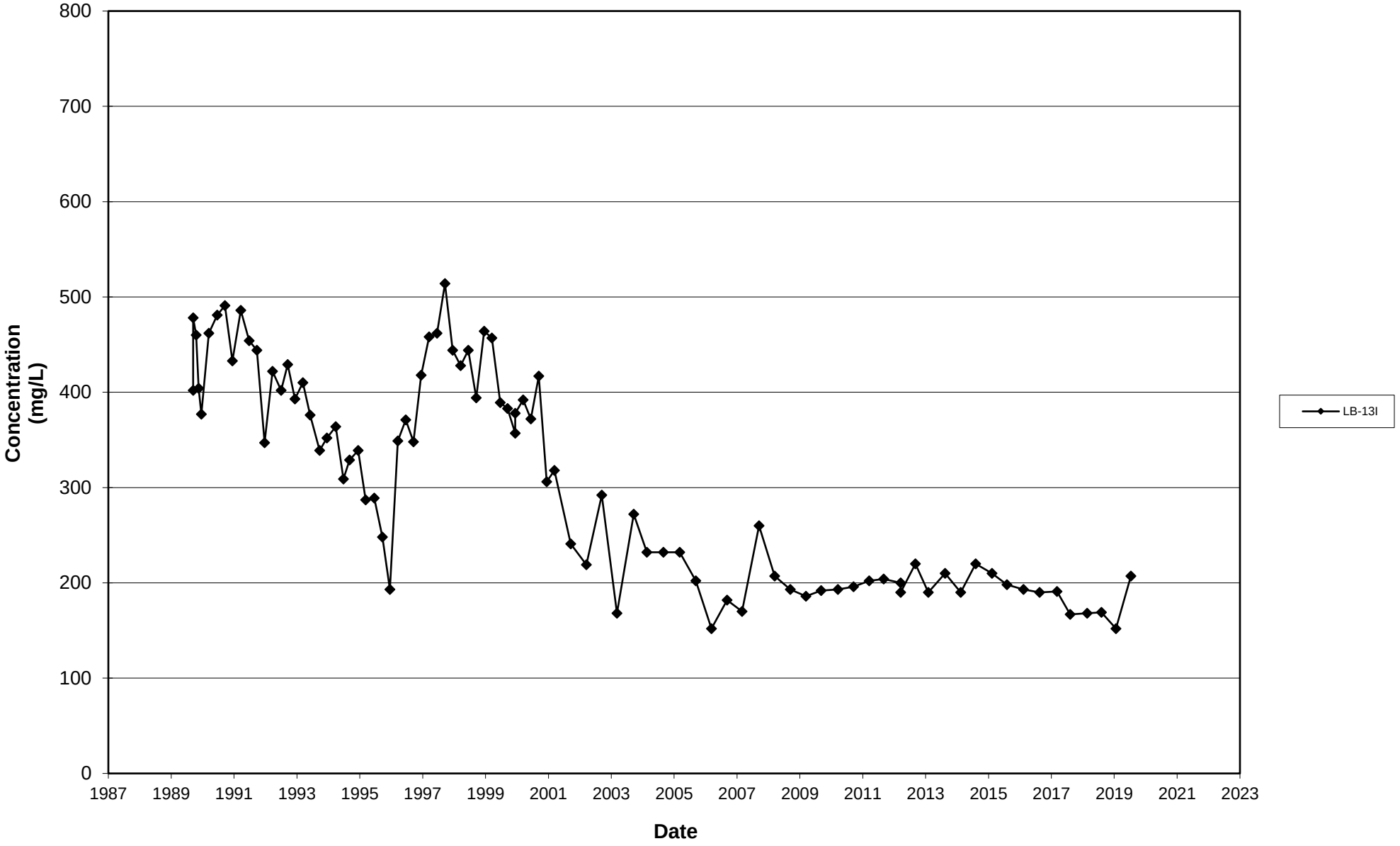
Leichner Landfill
Total Dissolved Solids, LB-10S and LB-10SR
1987 - 2019



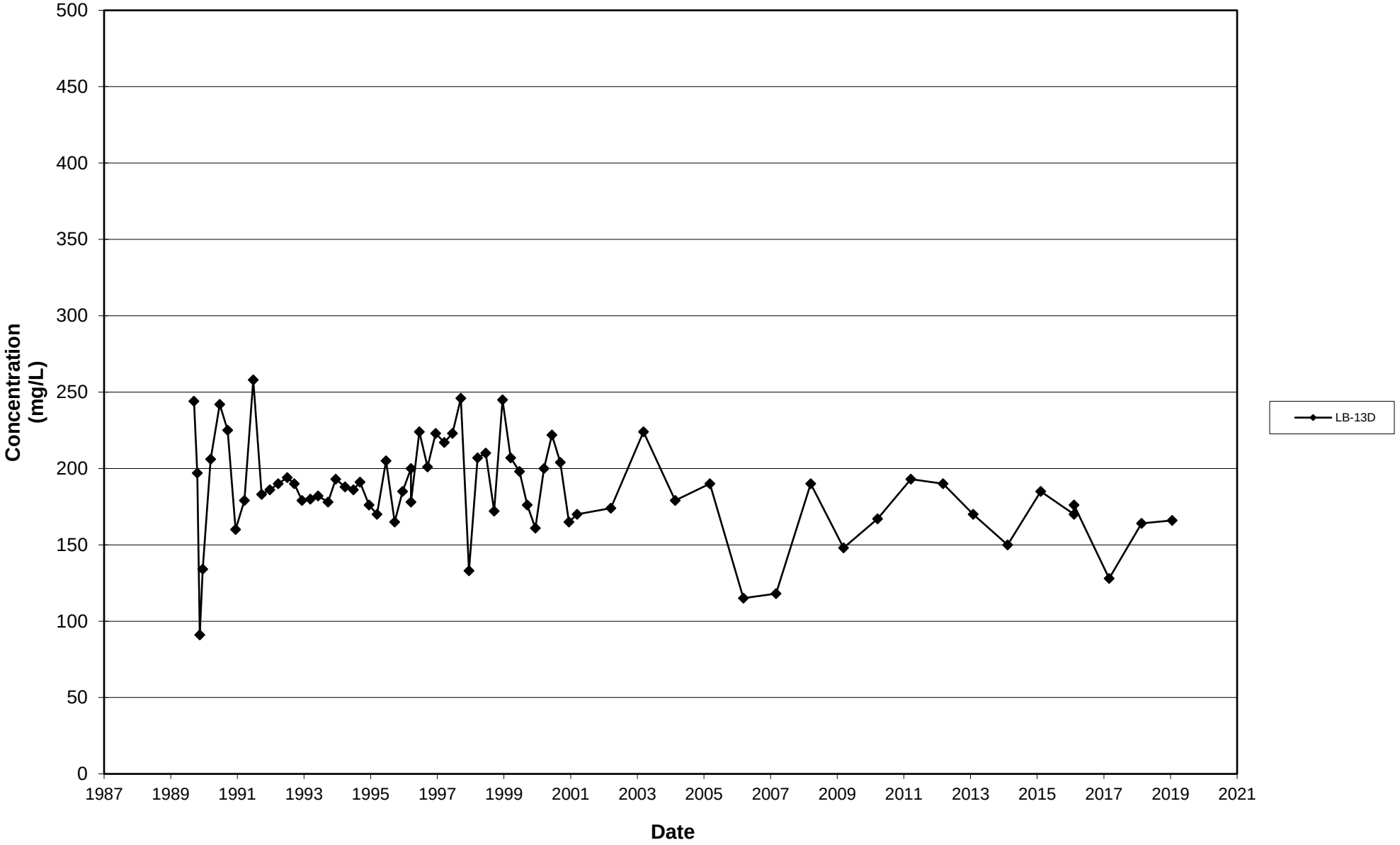
Leichner Landfill
Total Dissolved Solids, LB-10D and LB-10DR
1987 - 2019



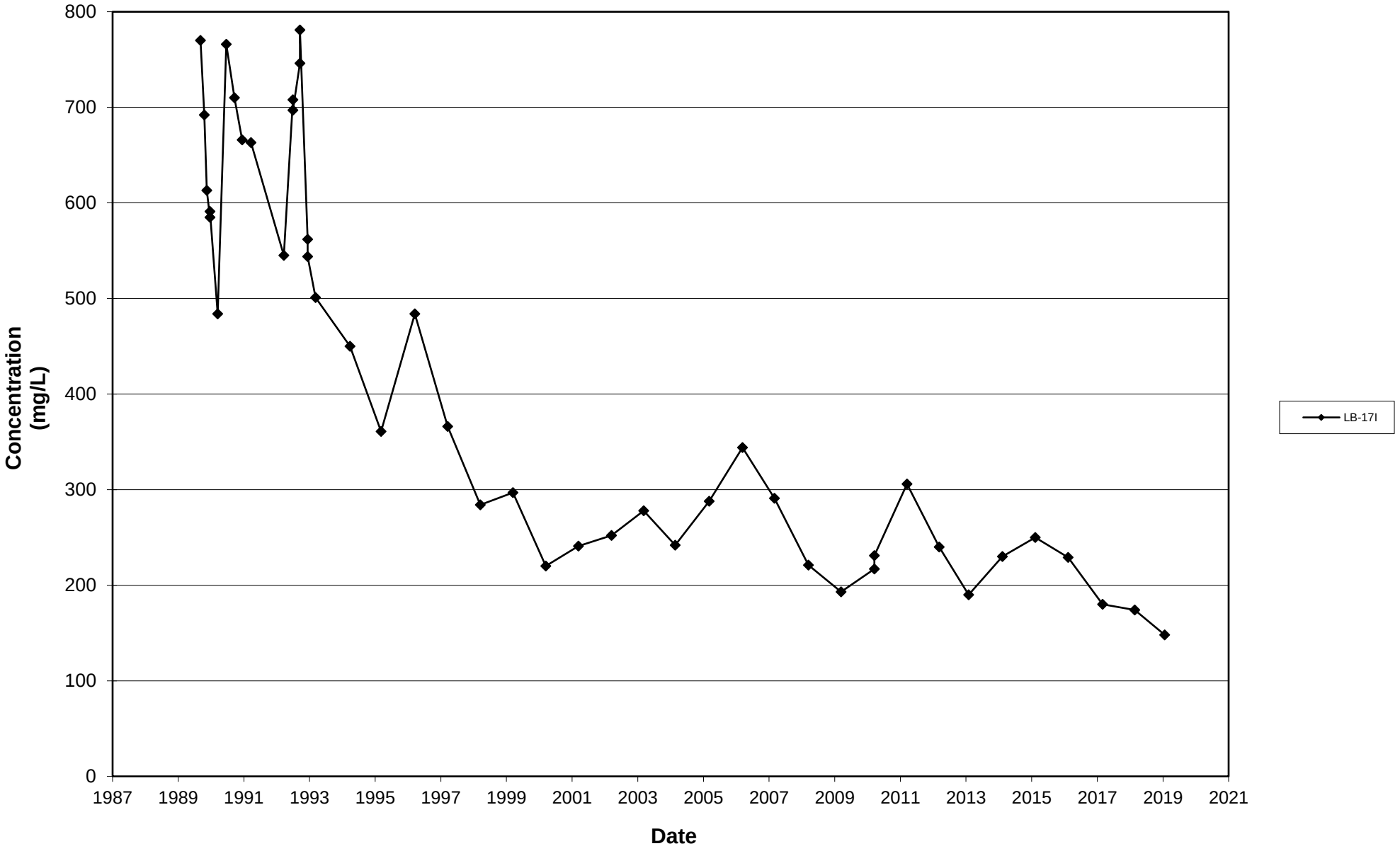
Leichner Landfill
Total Dissolved Solids, LB-13I
1987 - 2019



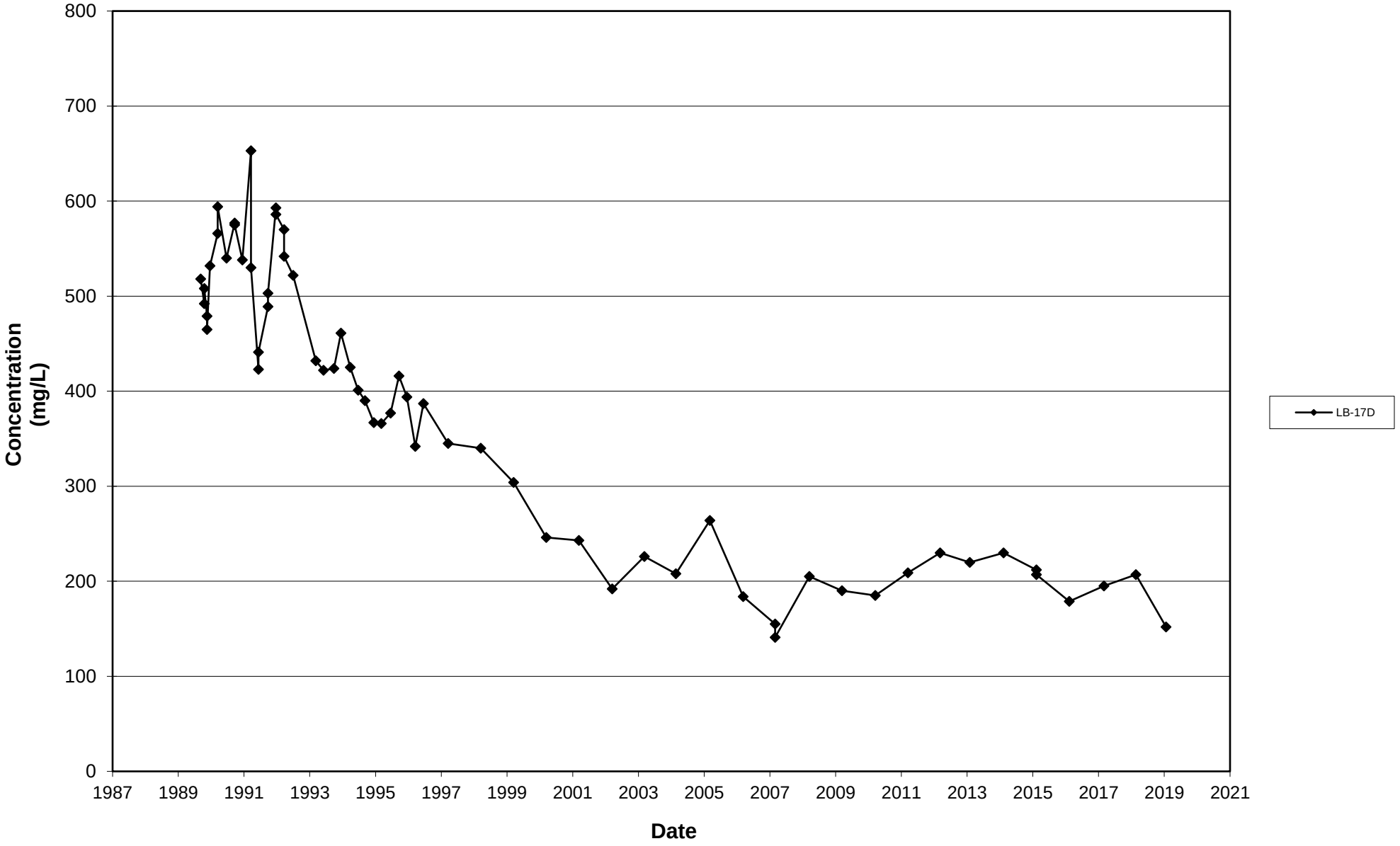
Leichner Landfill
Total Dissolved Solids, LB-13D
1987 - 2019



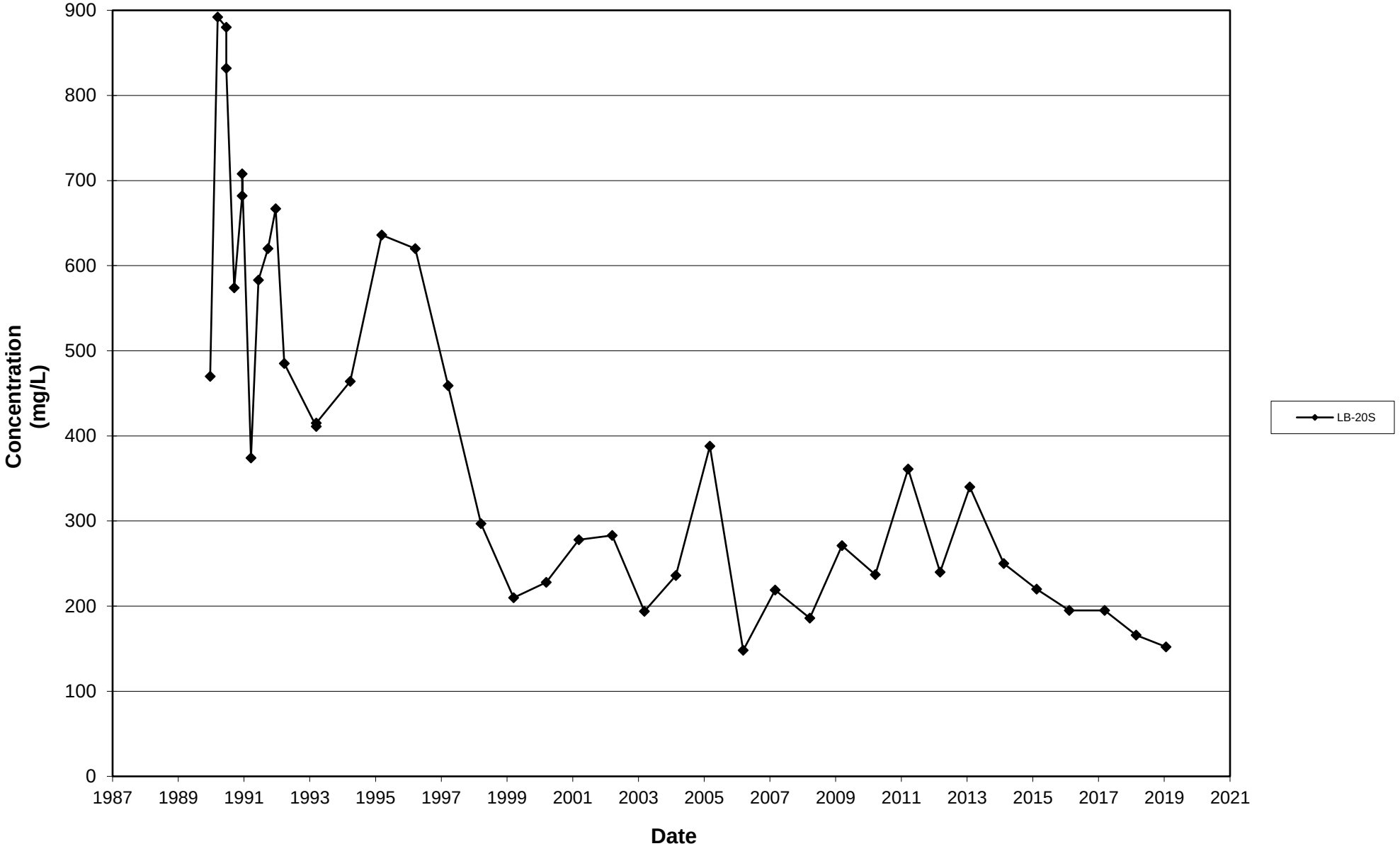
Leichner Landfill
Total Dissolved Solids, LB-17I
1987 - 2019



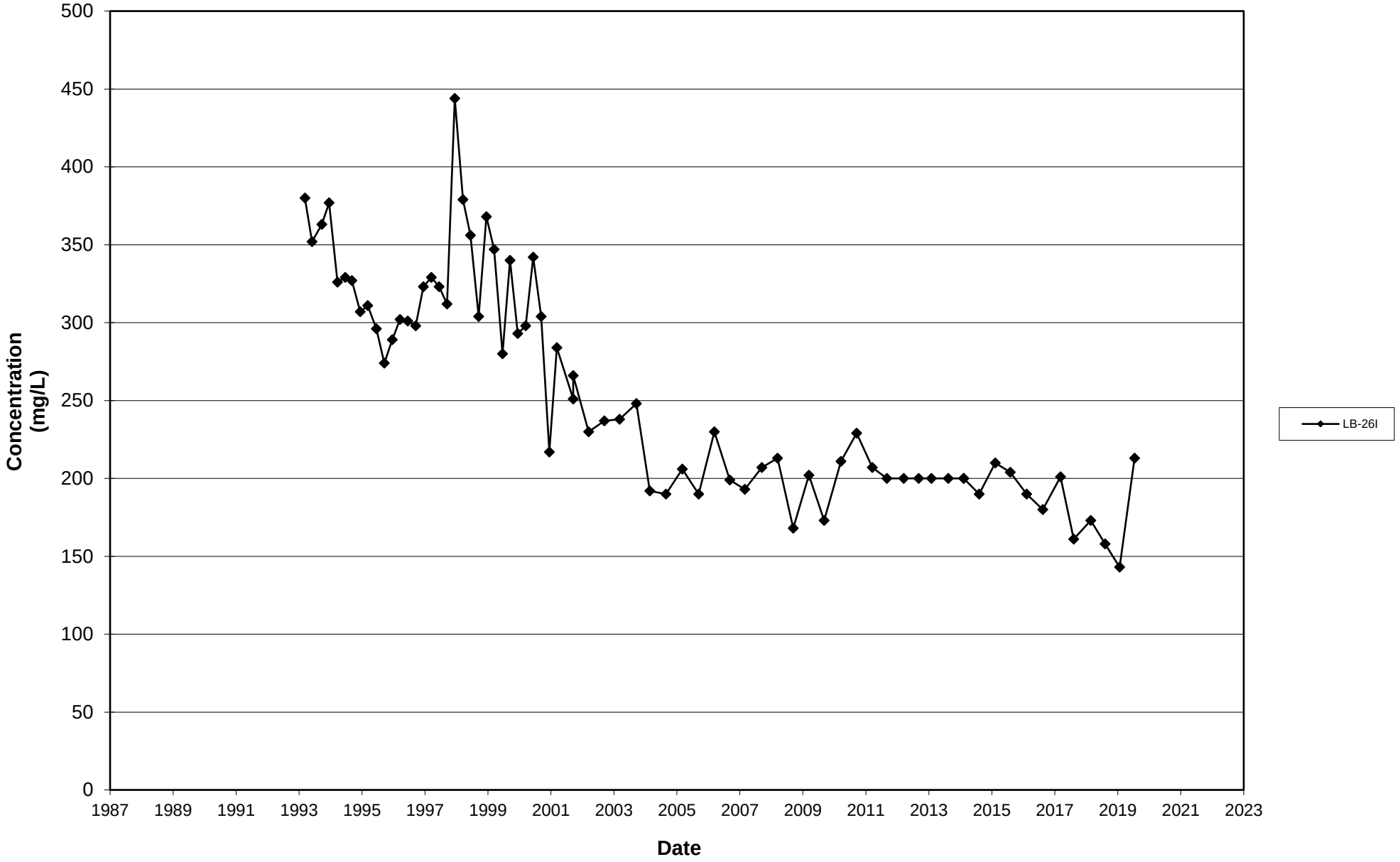
Leichner Landfill
Total Dissolved Solids, LB-17D
1987 - 2019



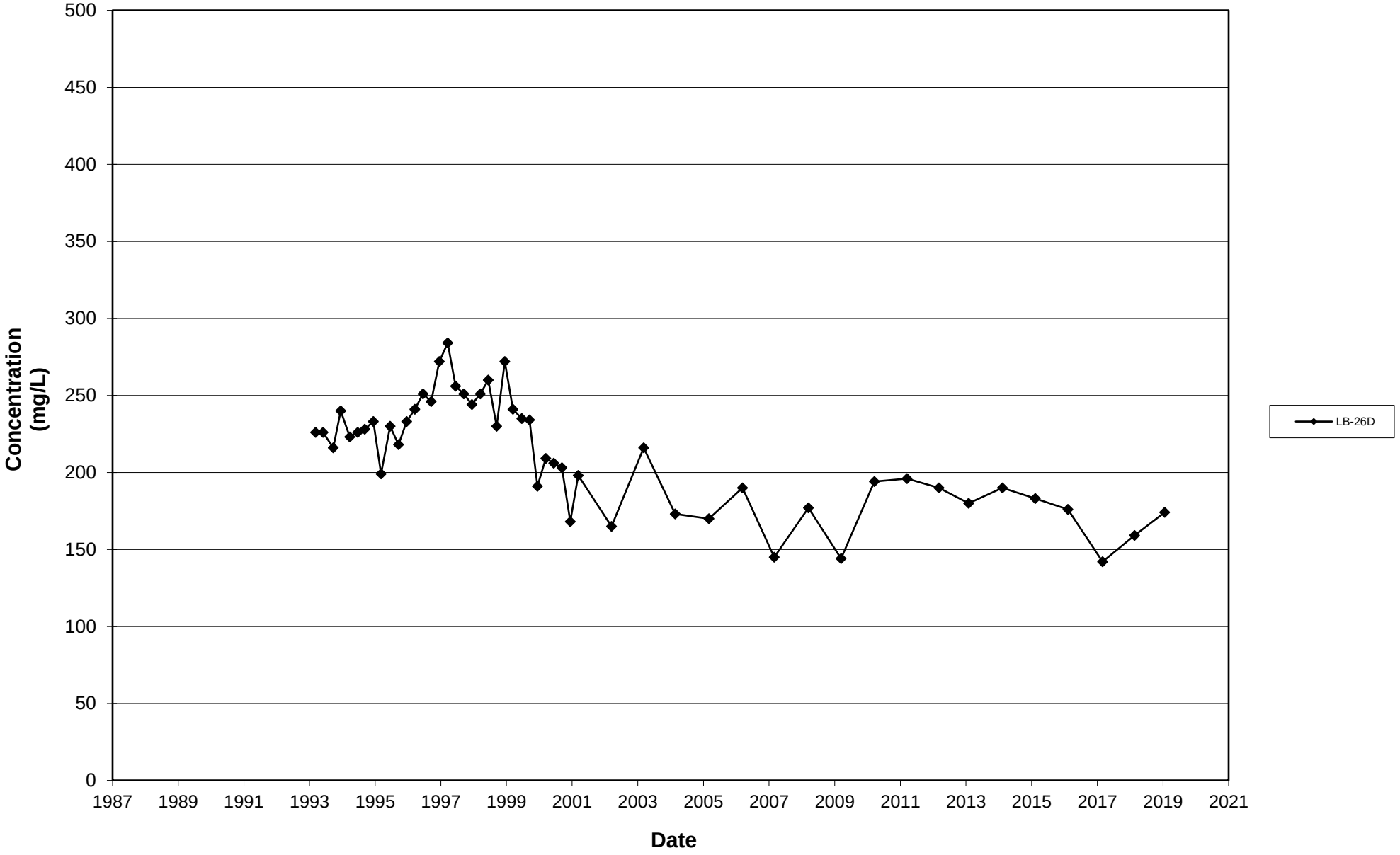
Leichner Landfill
Total Dissolved Solids, LB-20S
1987 - 2019



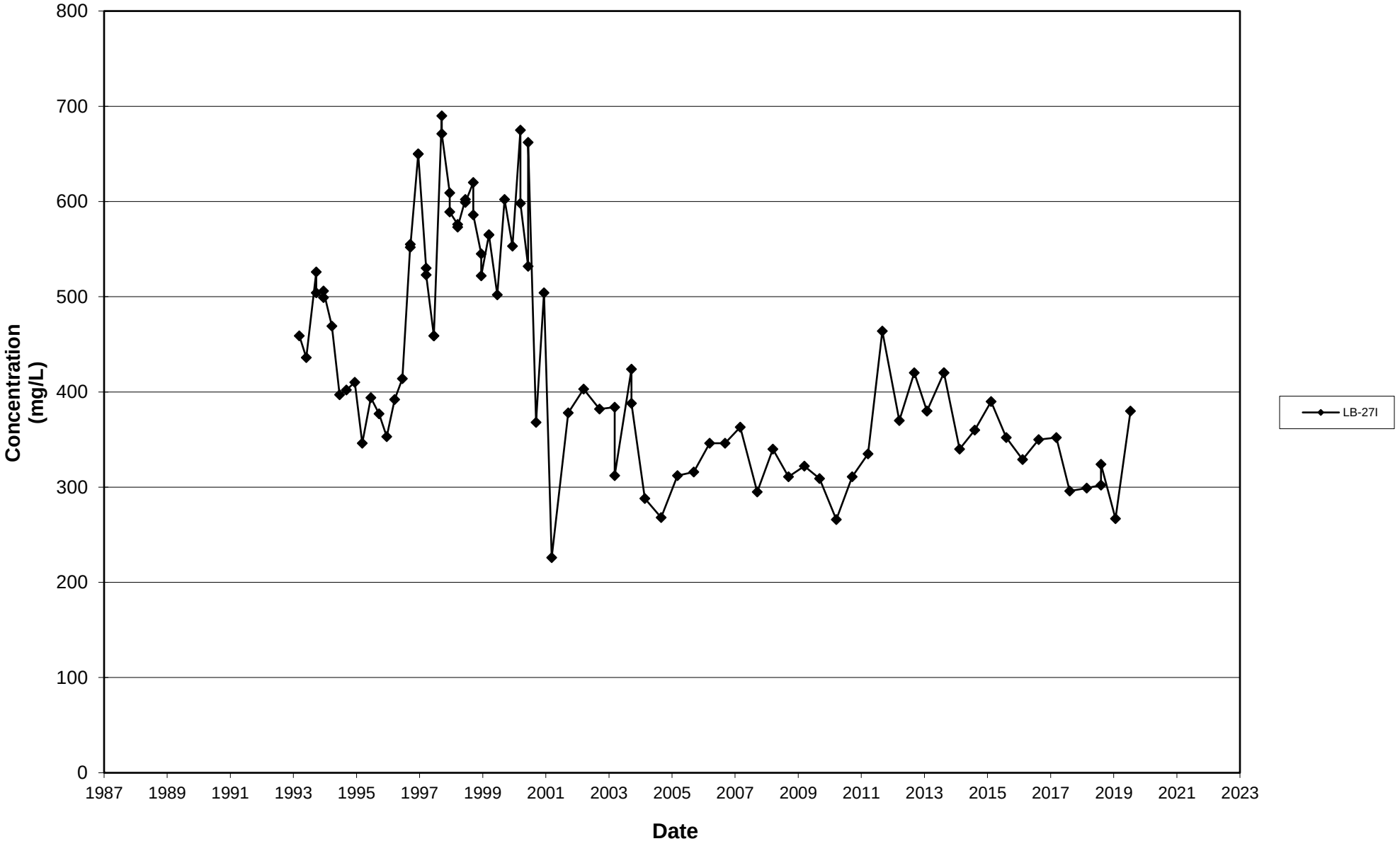
Leichner Landfill
Total Dissolved Solids, LB-26I
1987 - 2019



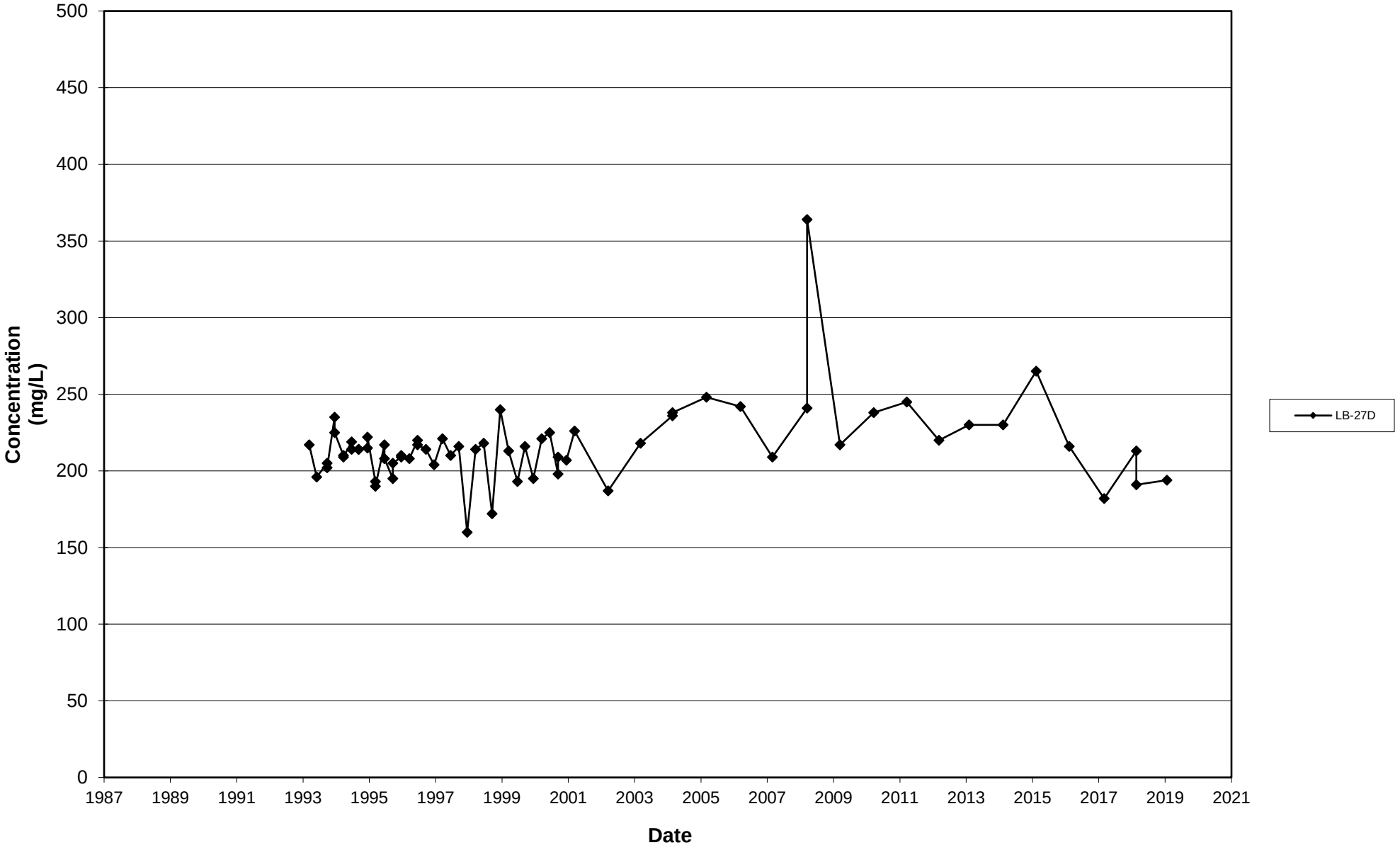
Leichner Landfill
Total Dissolved Solids, LB-26D
1987 - 2019



Leichner Landfill
Total Dissolved Solids, LB-27I
1987 - 2019

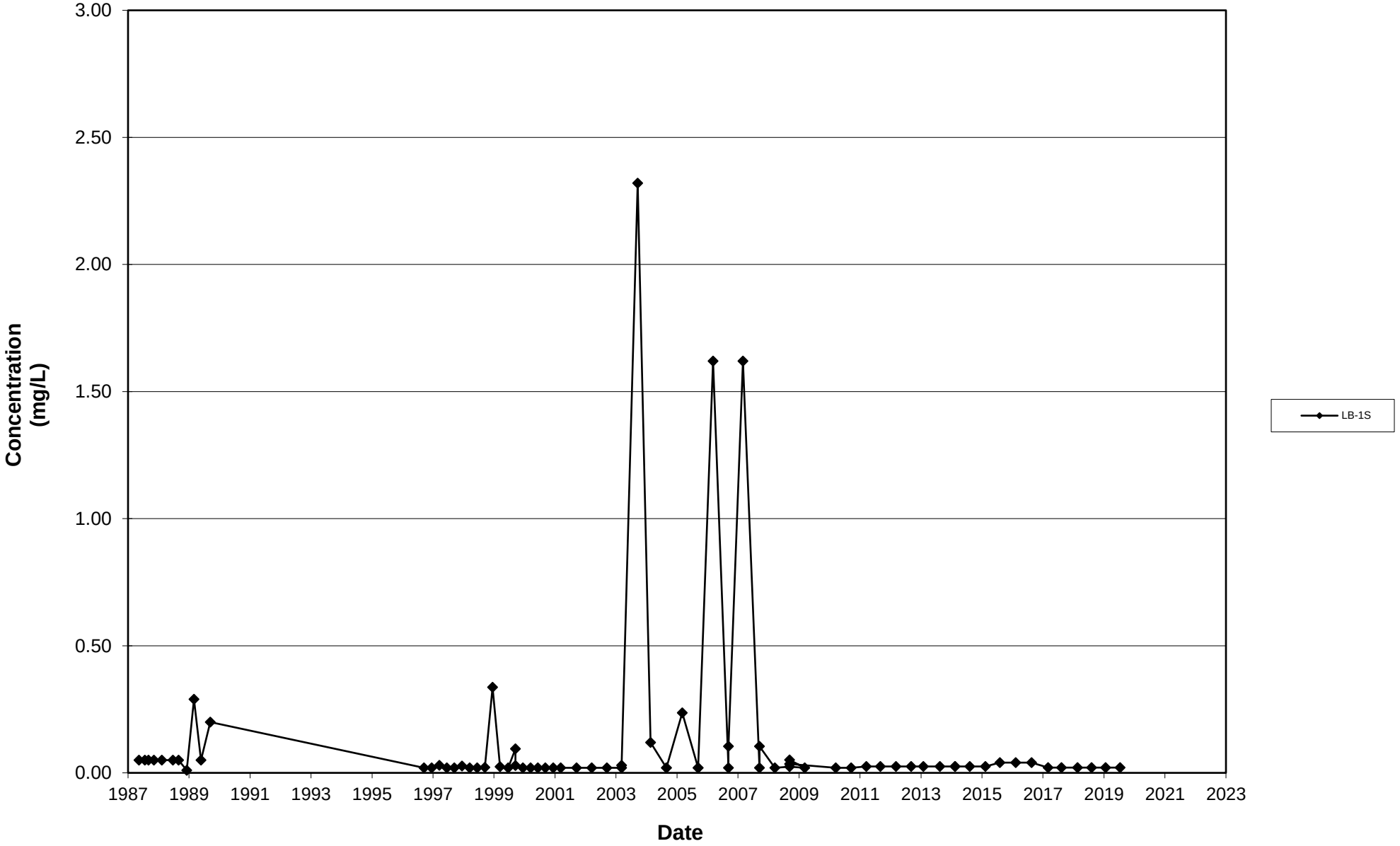


Leichner Landfill
Total Dissolved Solids, LB-27D
1987 - 2019

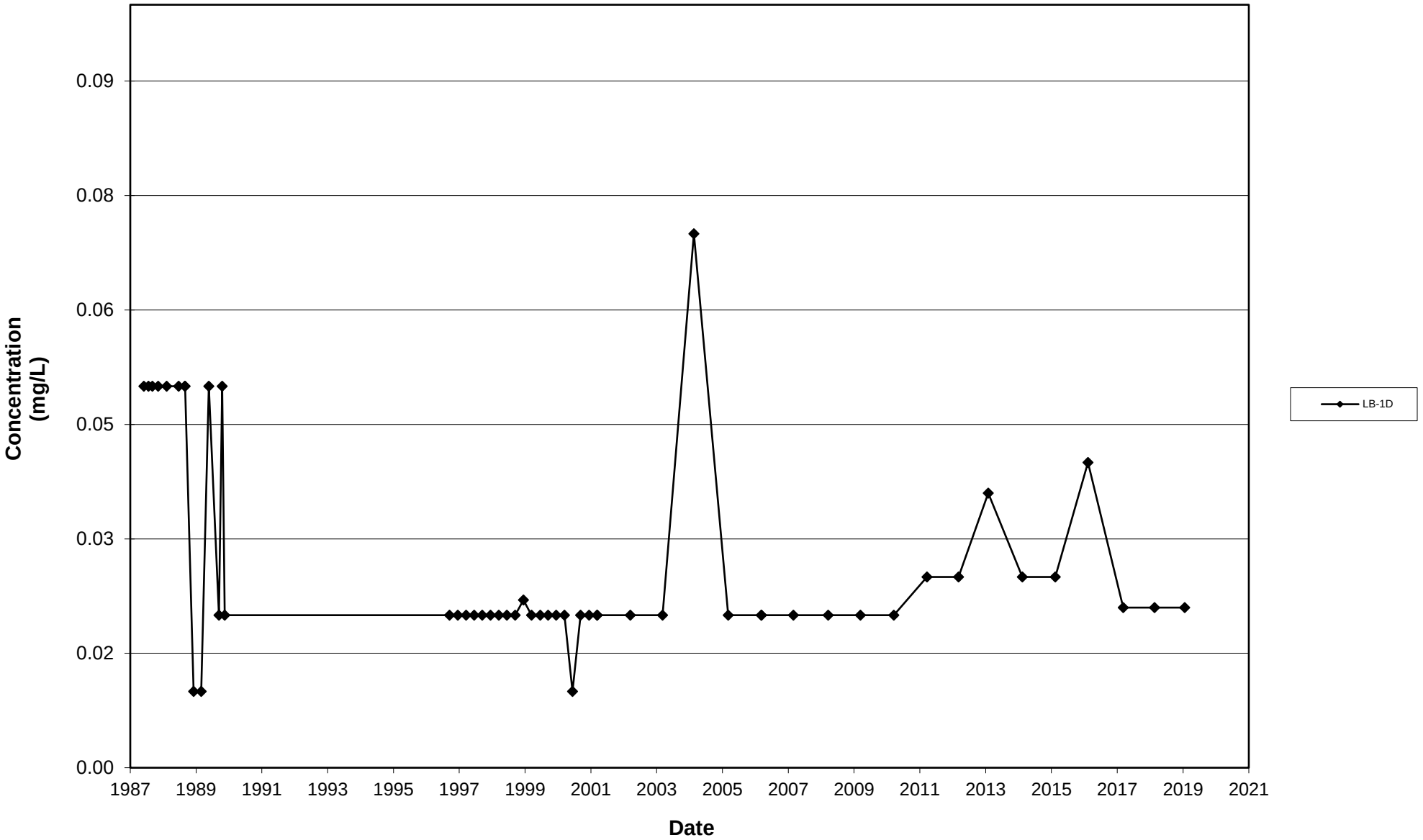


Dissolved Iron

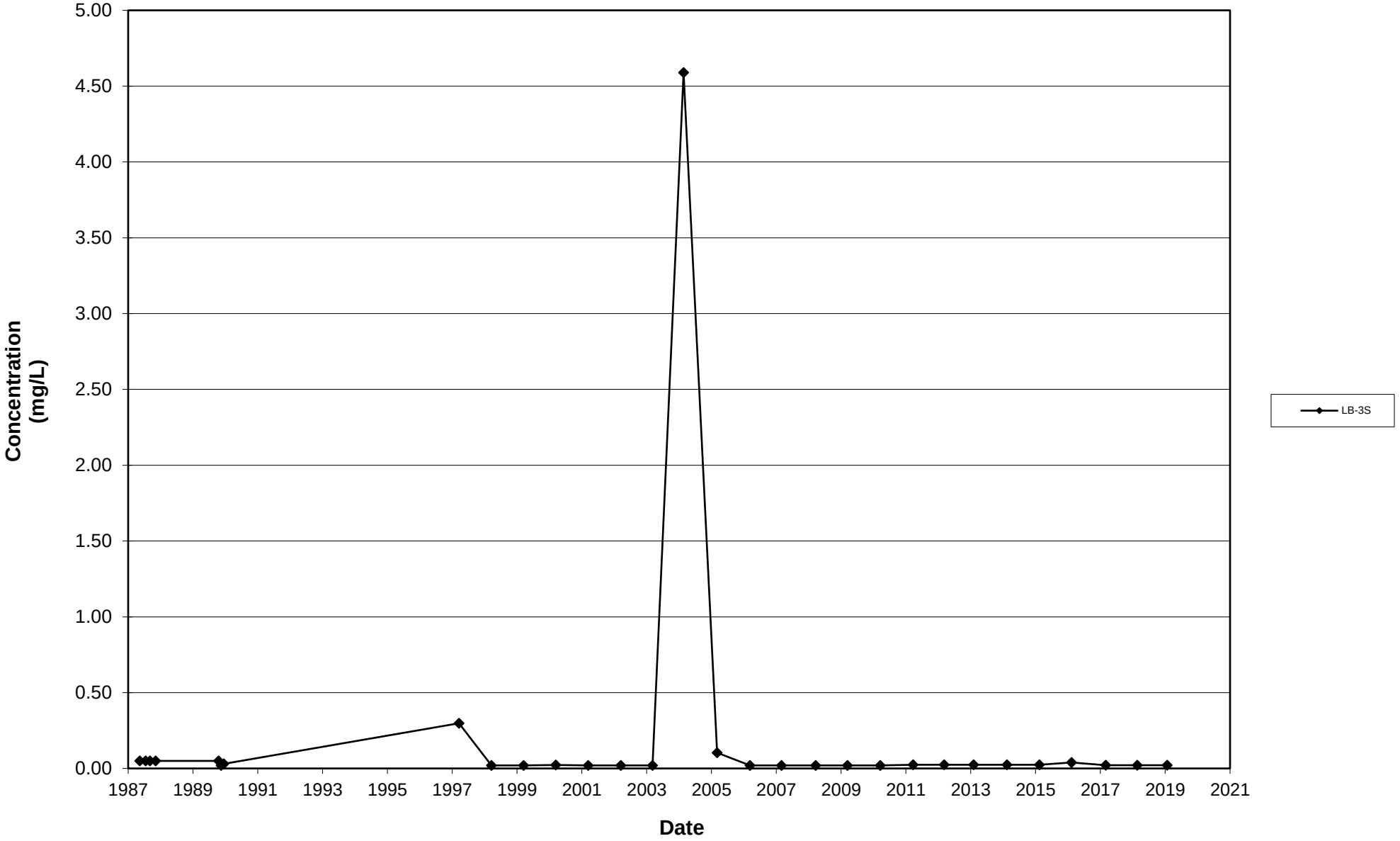
Leichner Landfill
Dissolved Iron, LB-01S
1987 - 2019



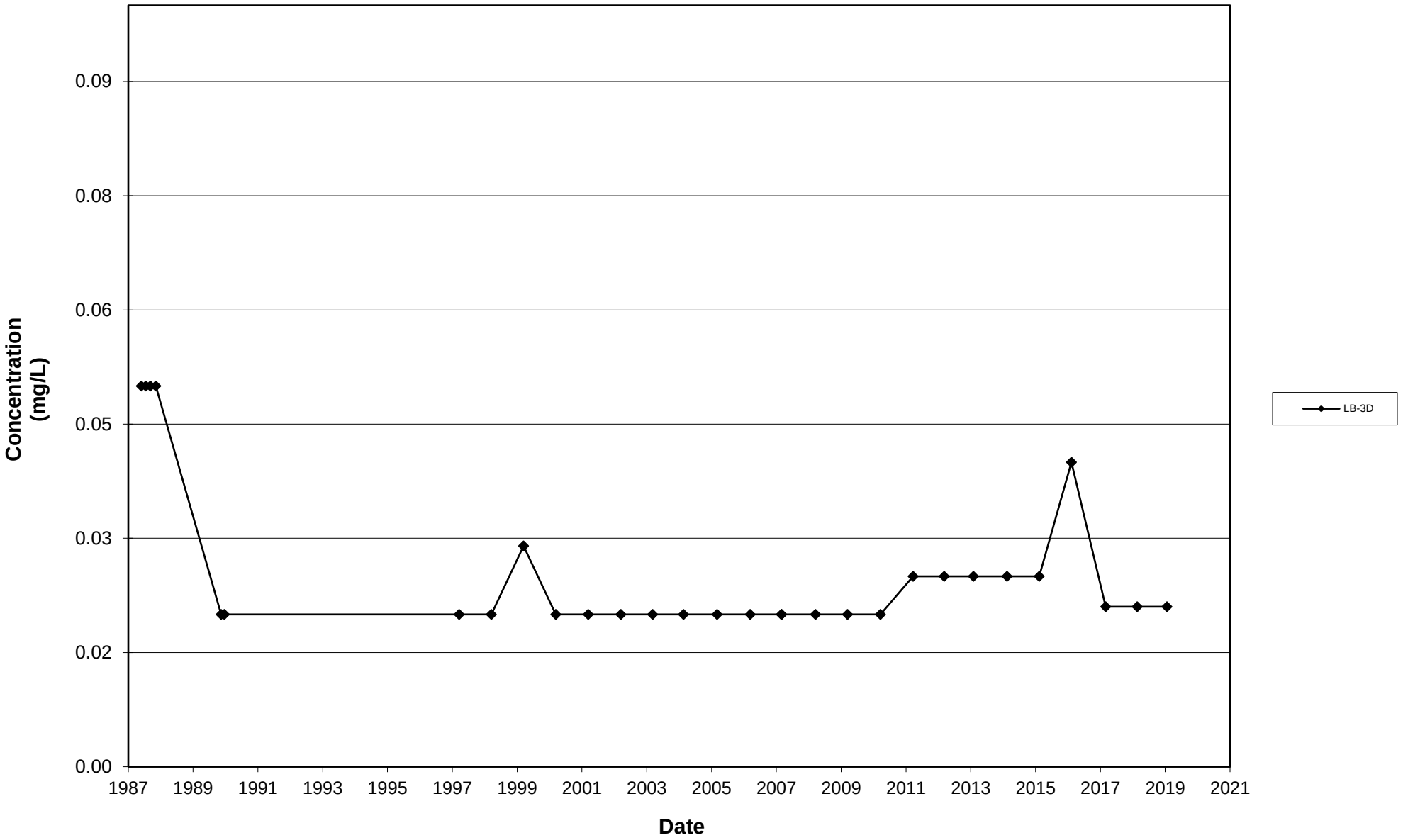
Leichner Landfill
Dissolved Iron, LB-01D
1987 - 2019



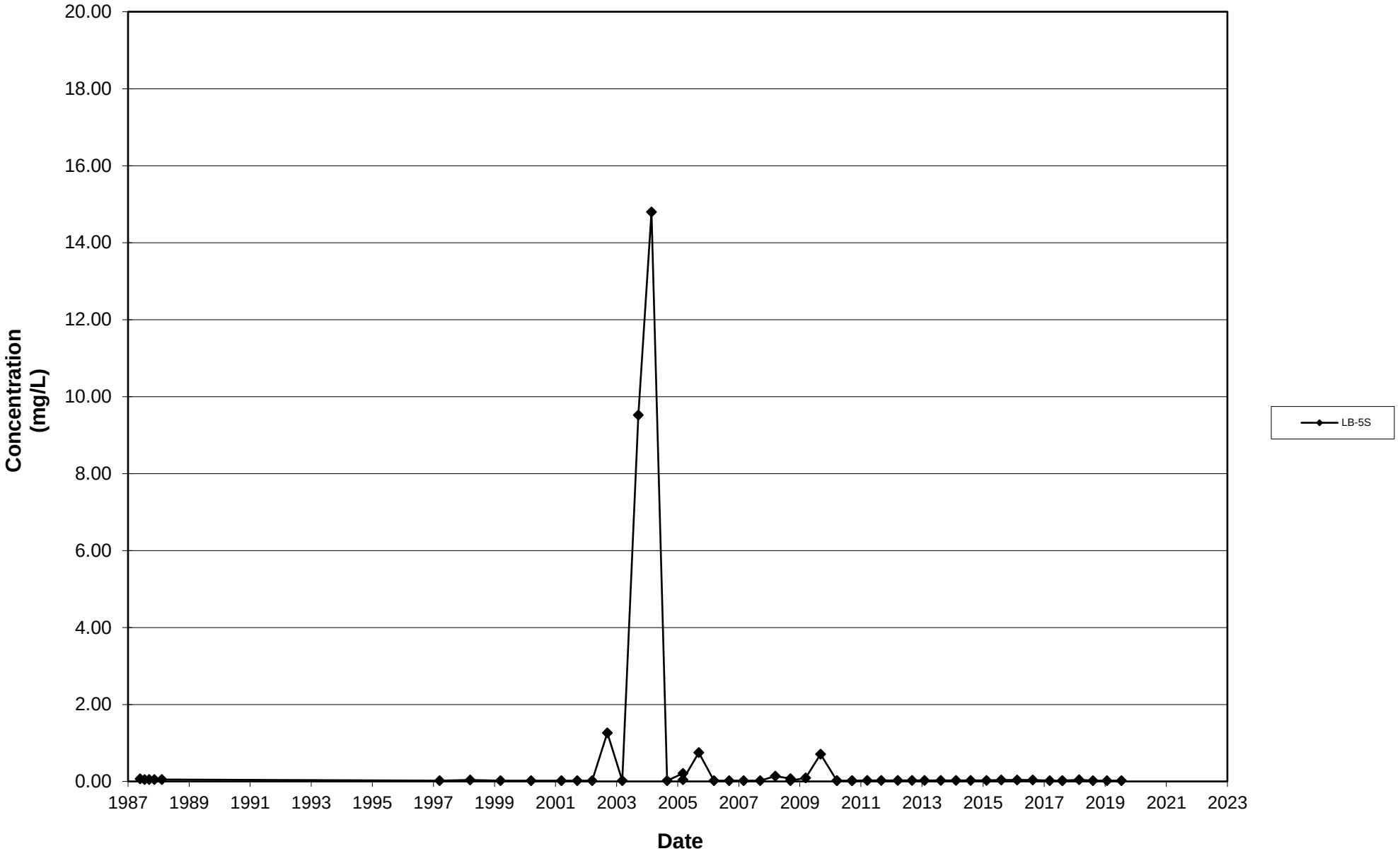
Leichner Landfill
Dissolved Iron, LB-03S
1987 - 2019



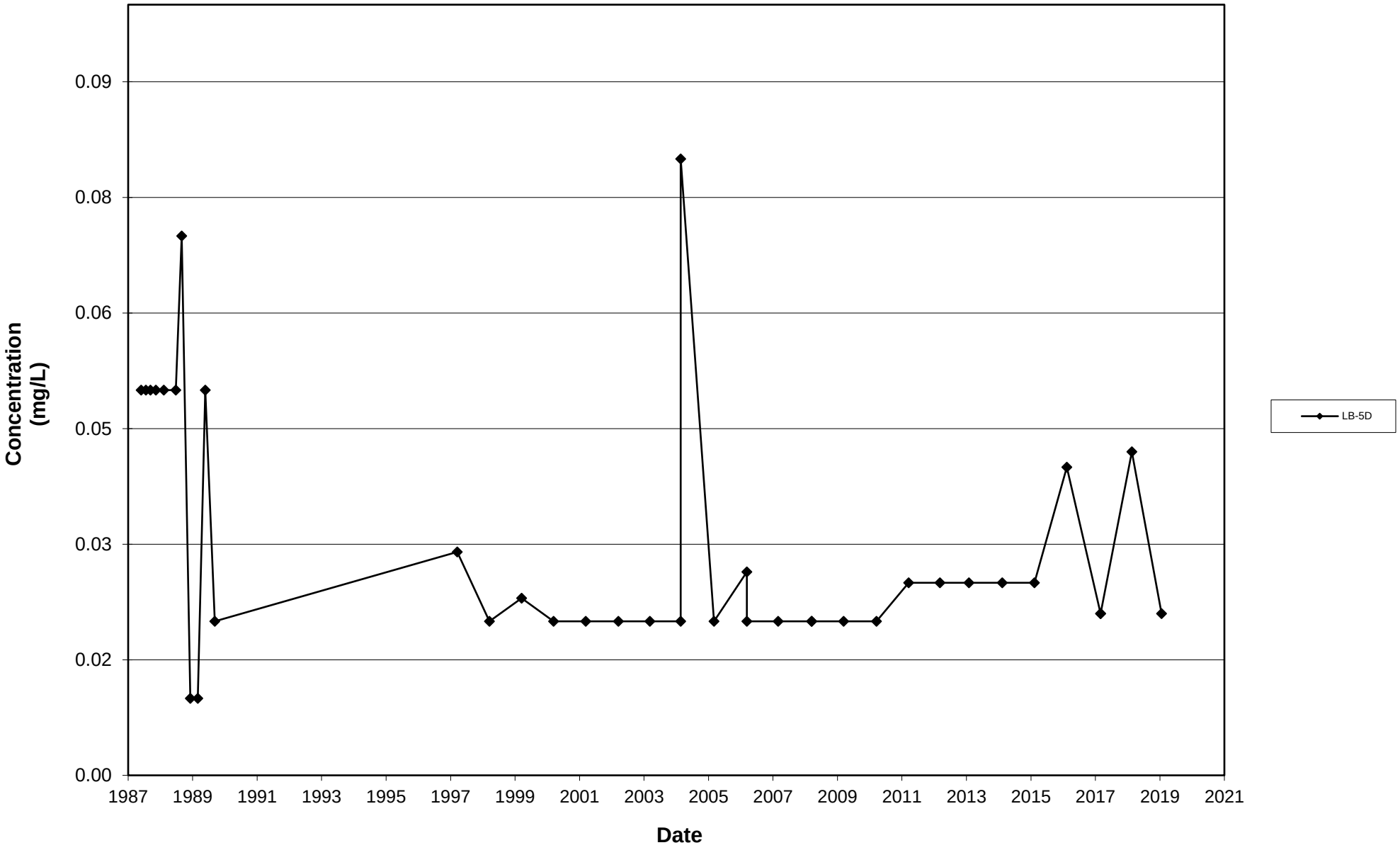
Leichner Landfill
Dissolved Iron, LB-03D
1987 - 2019



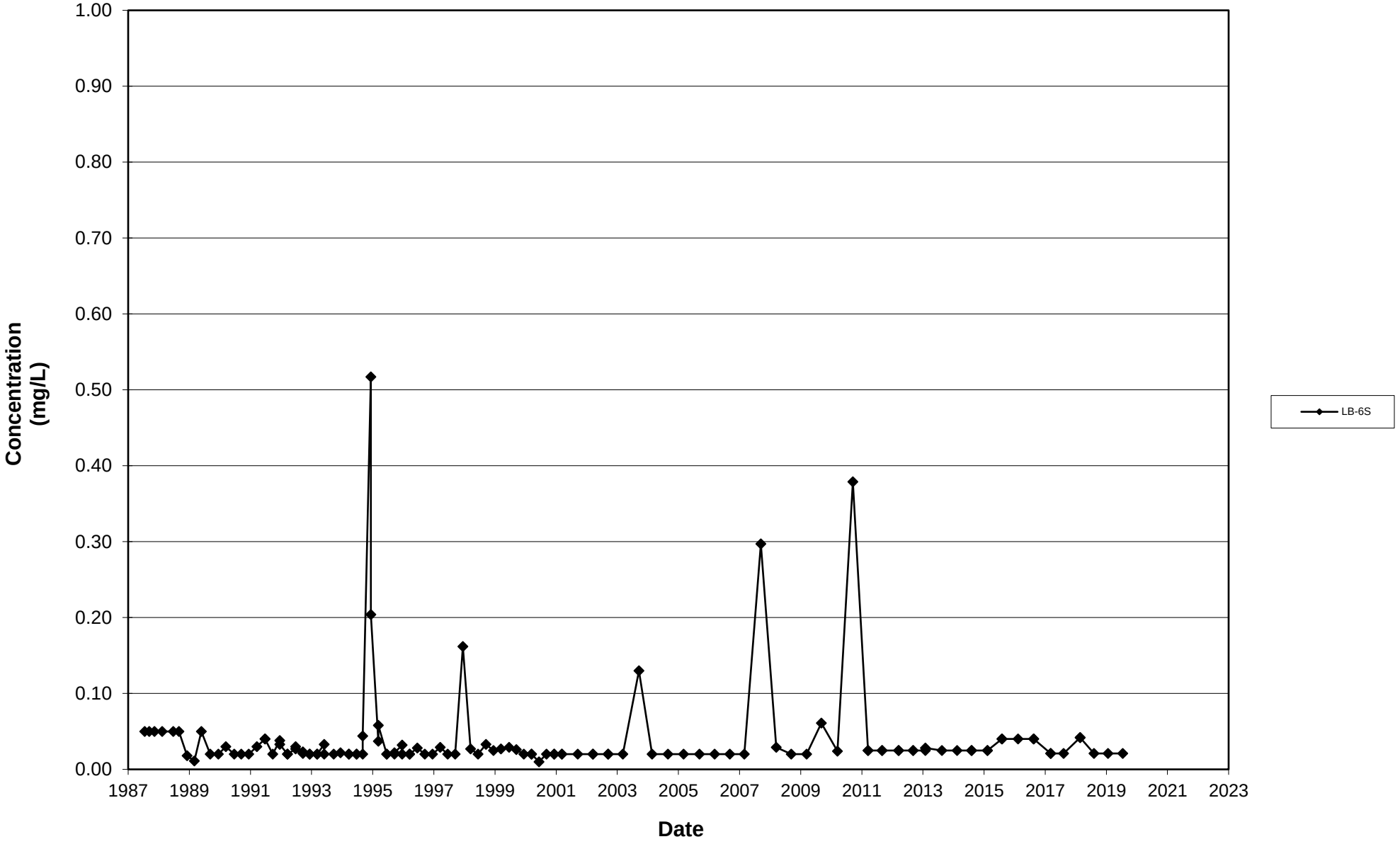
Leichner Landfill
Dissolved Iron, LB-05S
1987 - 2019



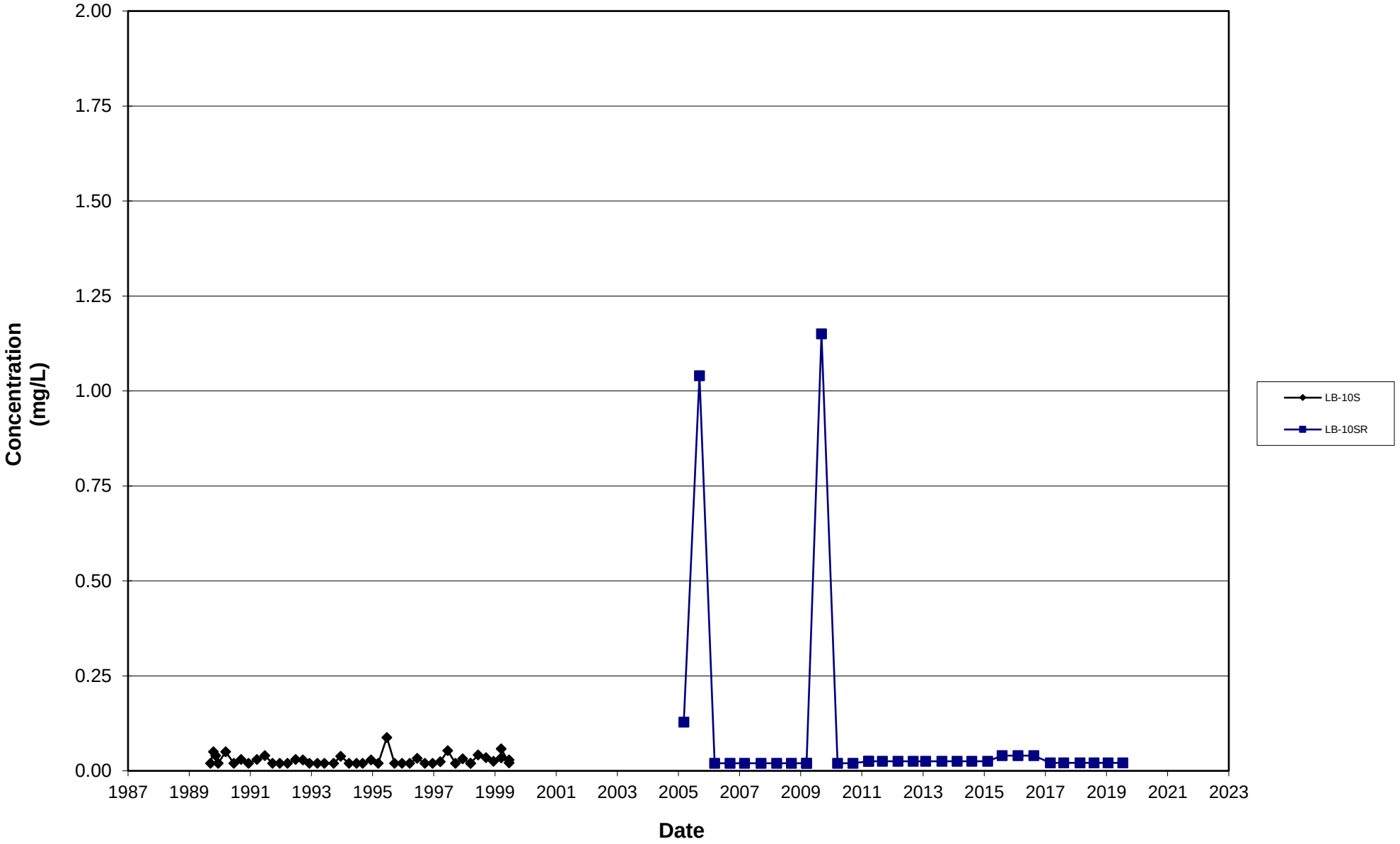
Leichner Landfill
Dissolved Iron, LB-05D
1987 - 2019



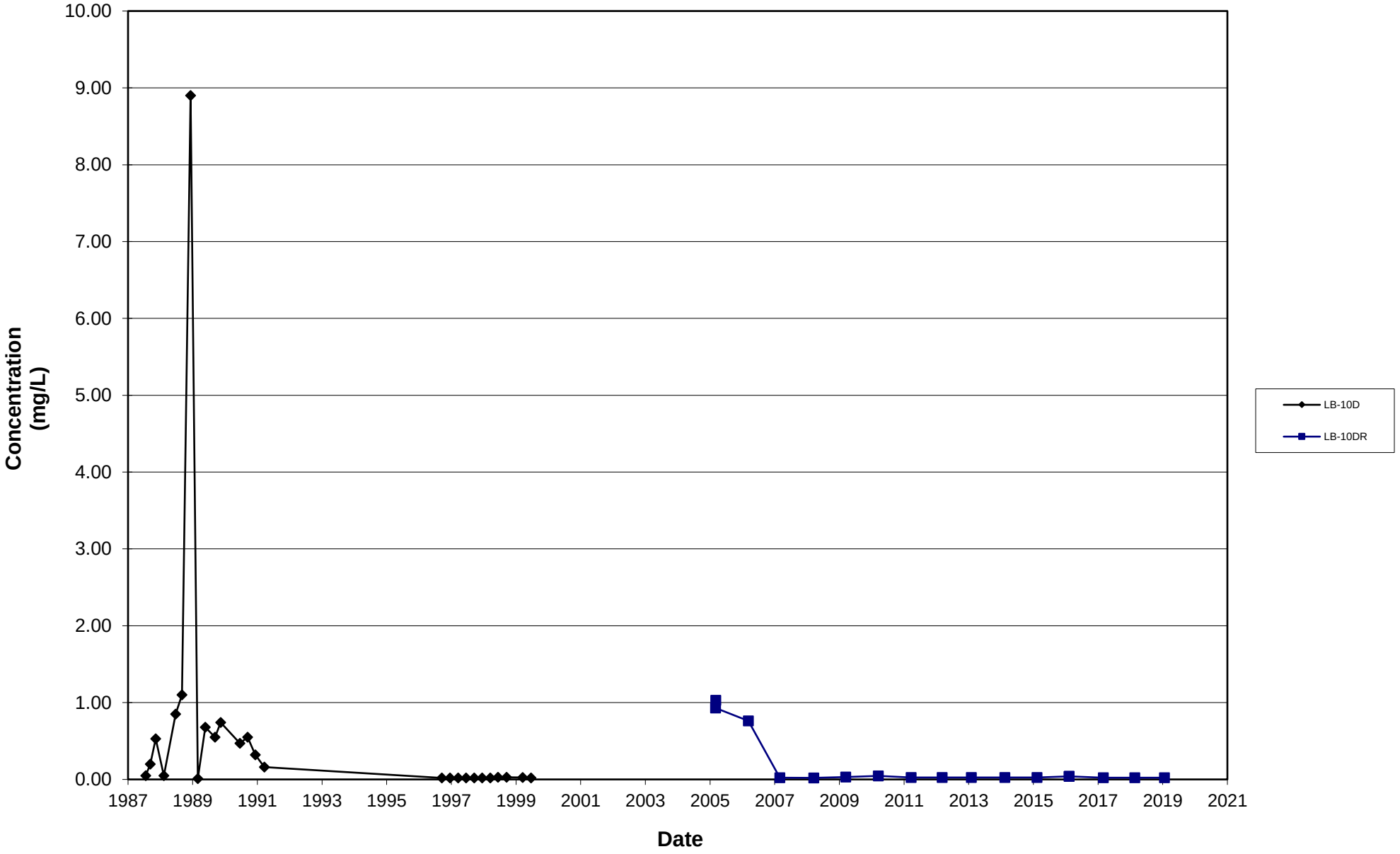
Leichner Landfill
Dissolved Iron, LB-06S
1987 - 2019



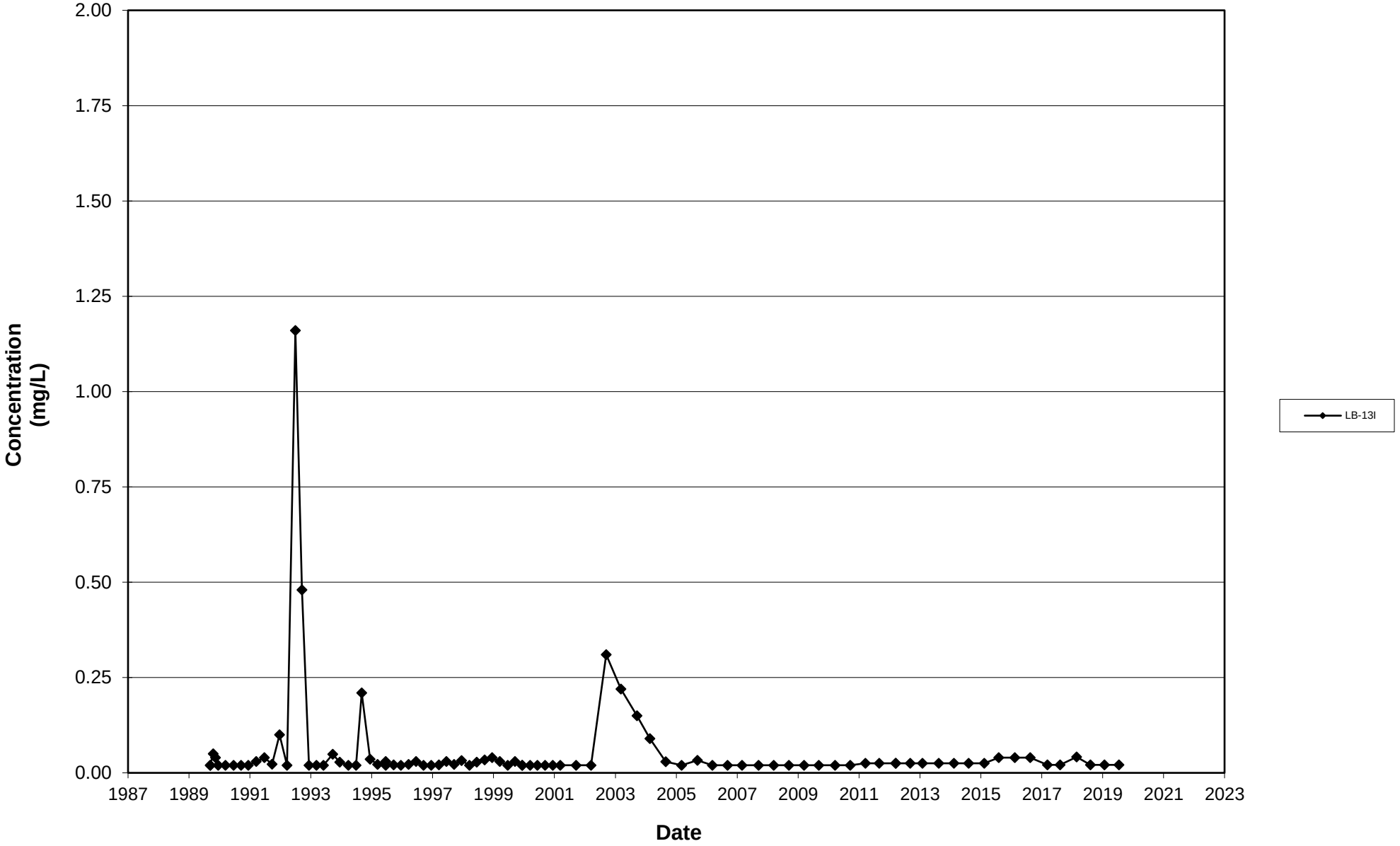
Leichner Landfill
Dissolved Iron, LB-10S and LB-10SR
1987 - 2019



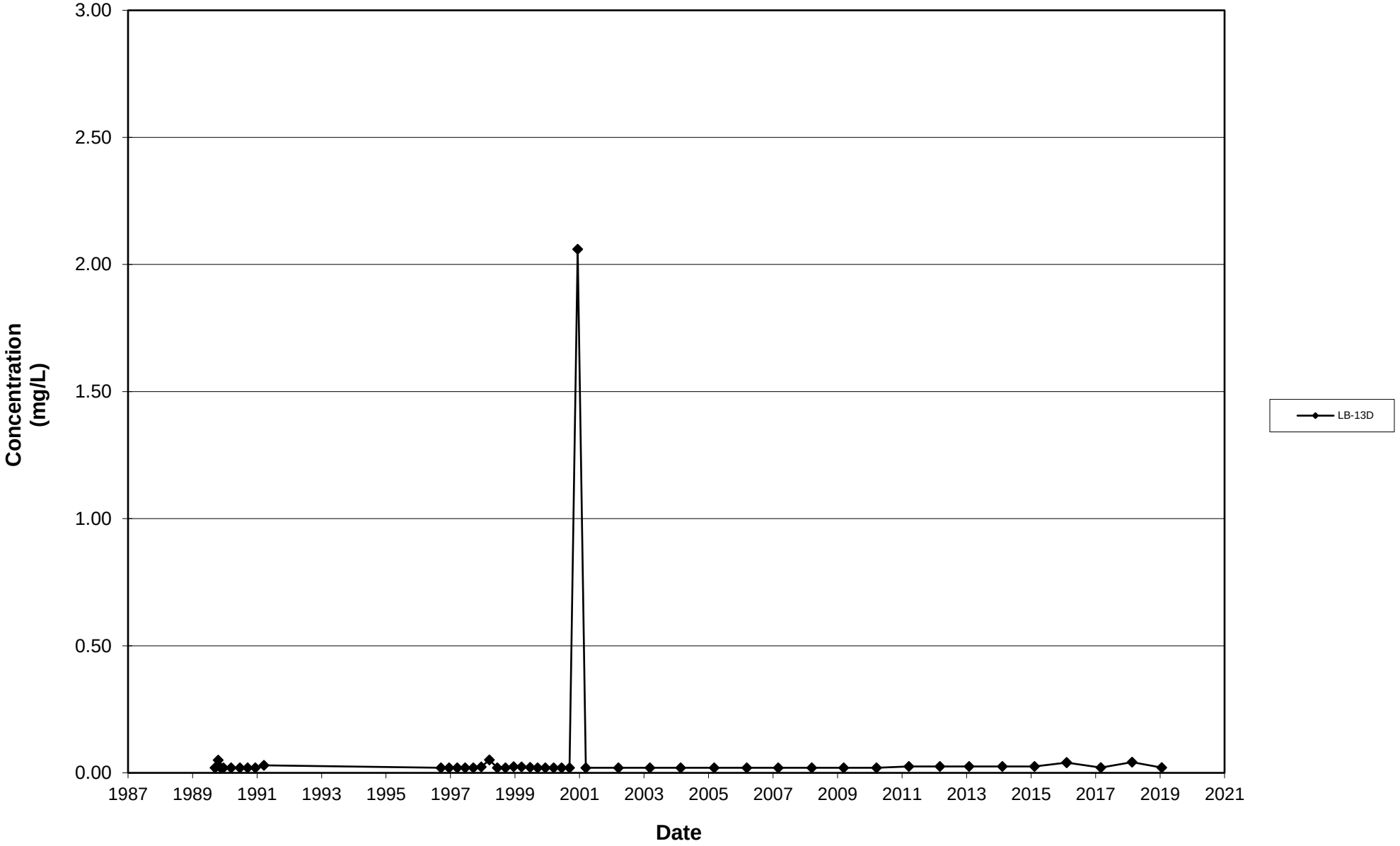
Leichner Landfill
Dissolved Iron, LB-10D and LB-10DR
1987 - 2019



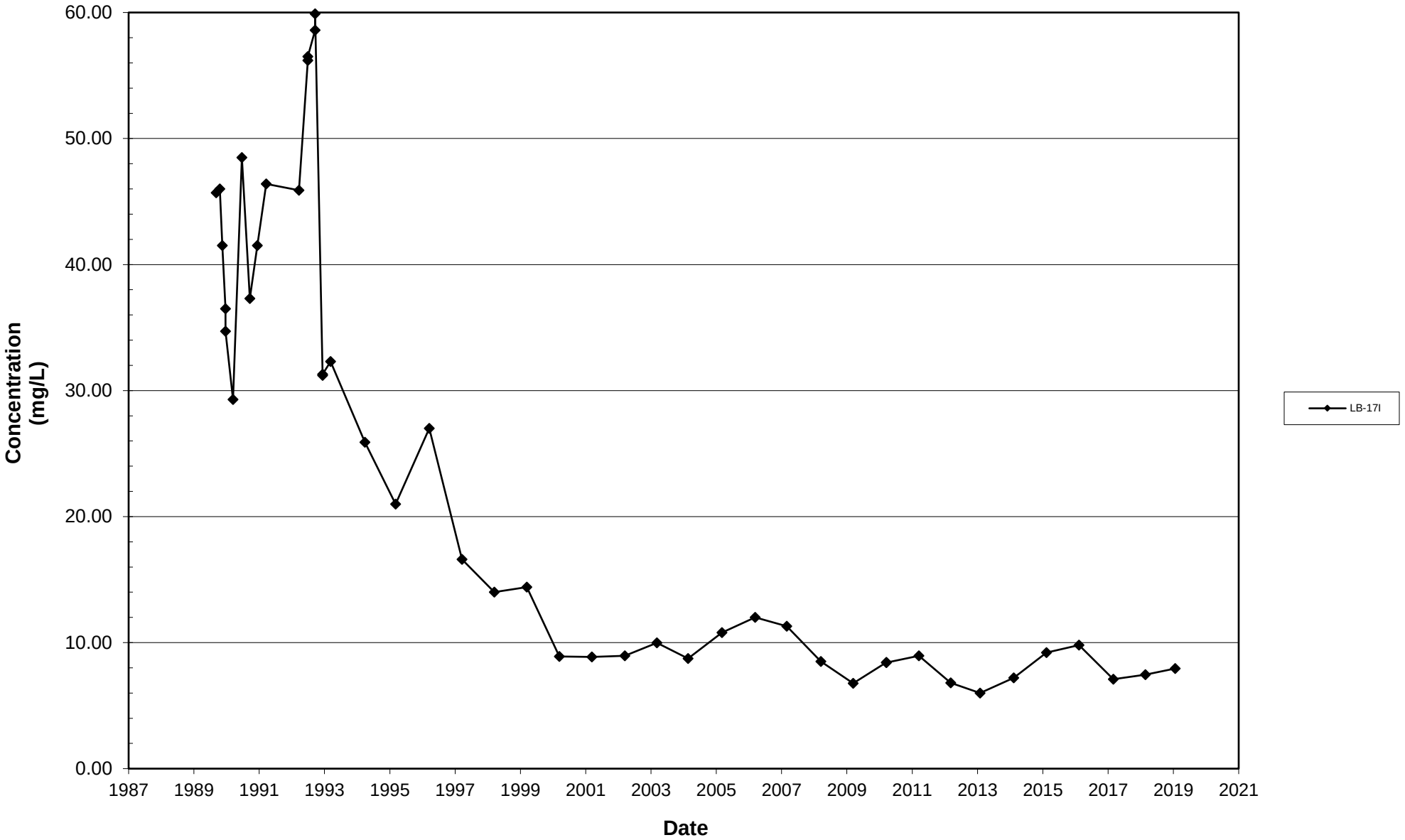
Leichner Landfill
Dissolved Iron, LB-13I
1987 - 2019



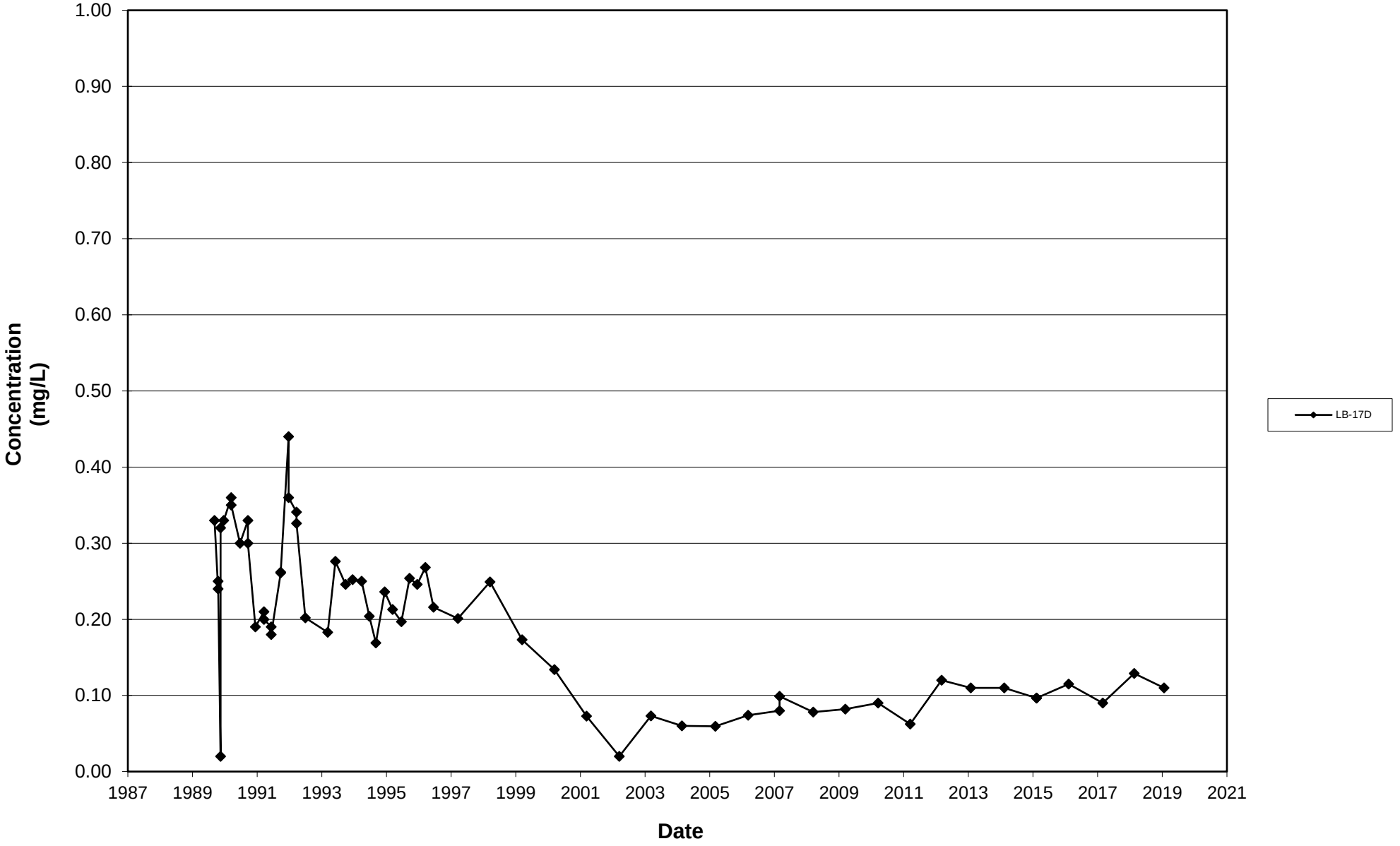
Leichner Landfill
Dissolved Iron, LB-13D
1987 - 2019



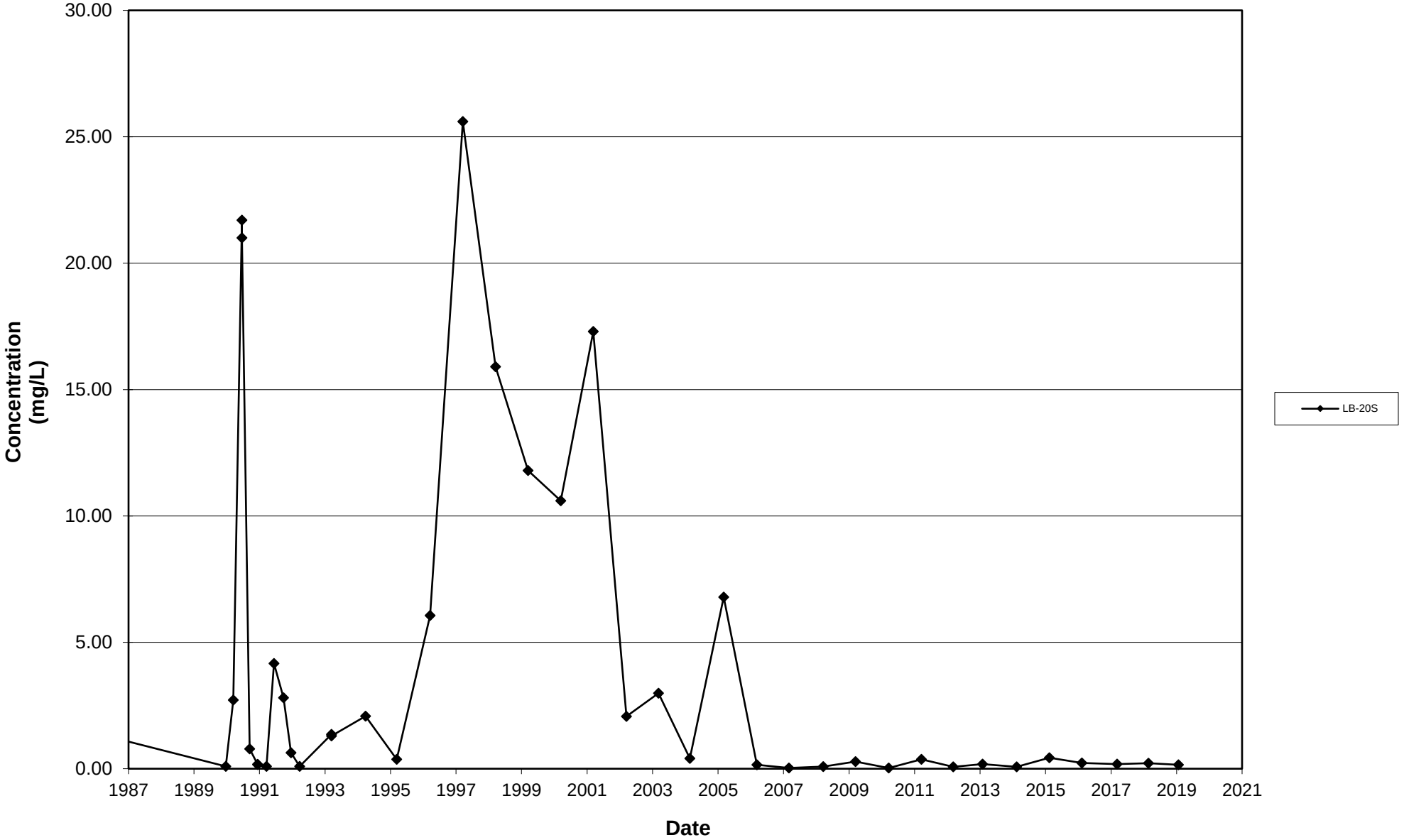
Leichner Landfill
Dissolved Iron, LB-17I
1987 - 2019



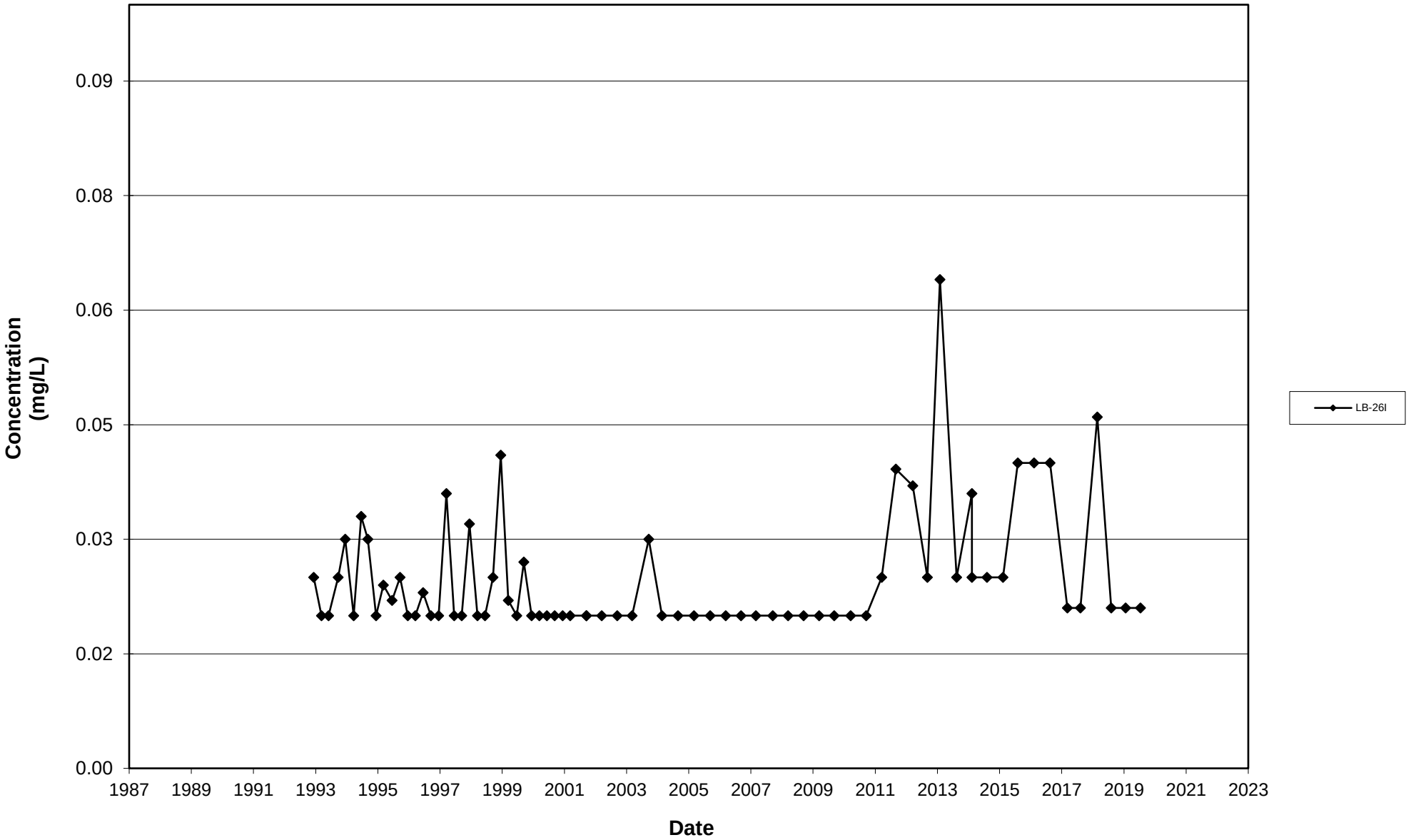
Leichner Landfill
Dissolved Iron, LB-17D
1987 - 2019



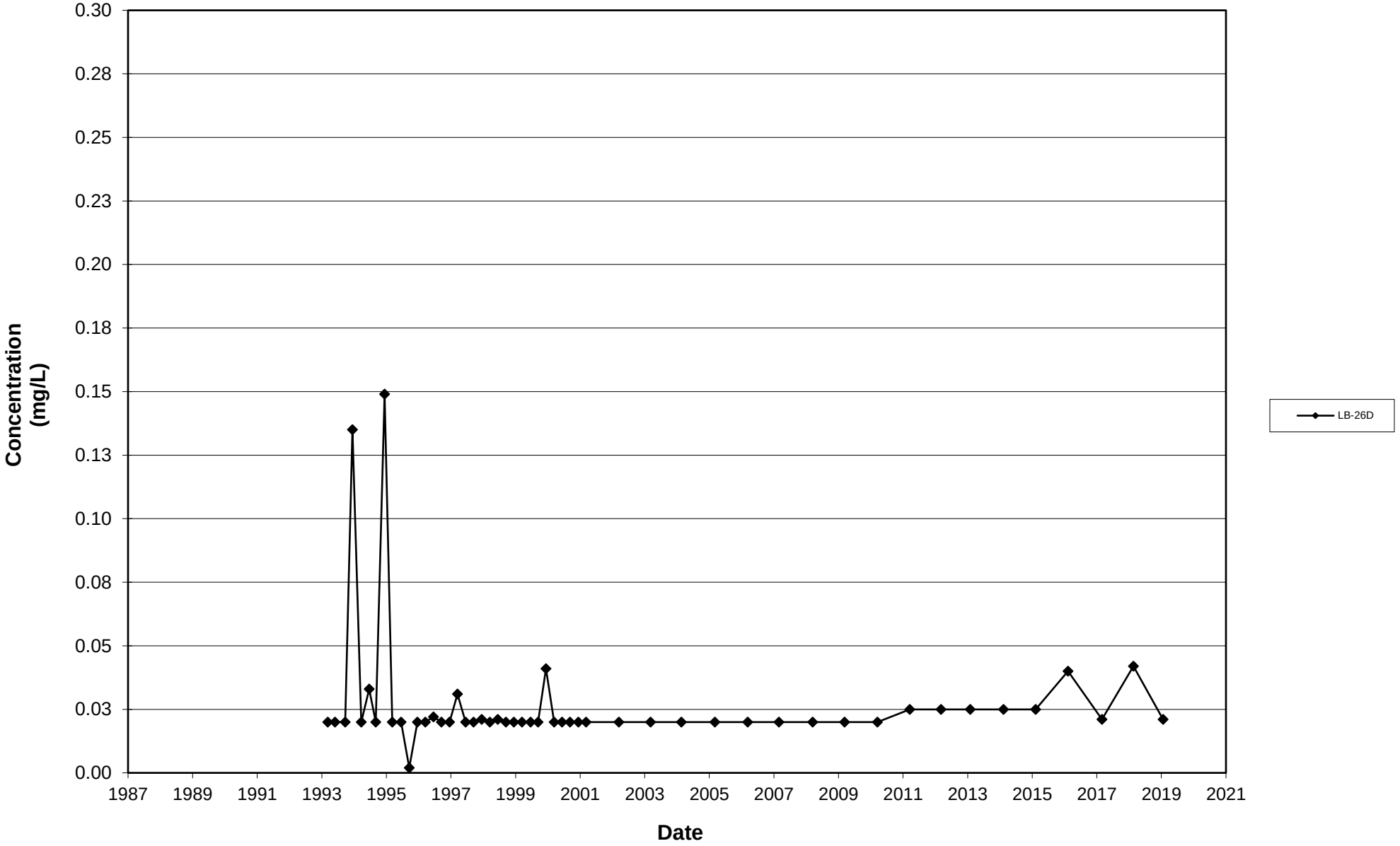
Leichner Landfill
Dissolved Iron, LB-20S
1987 - 2019



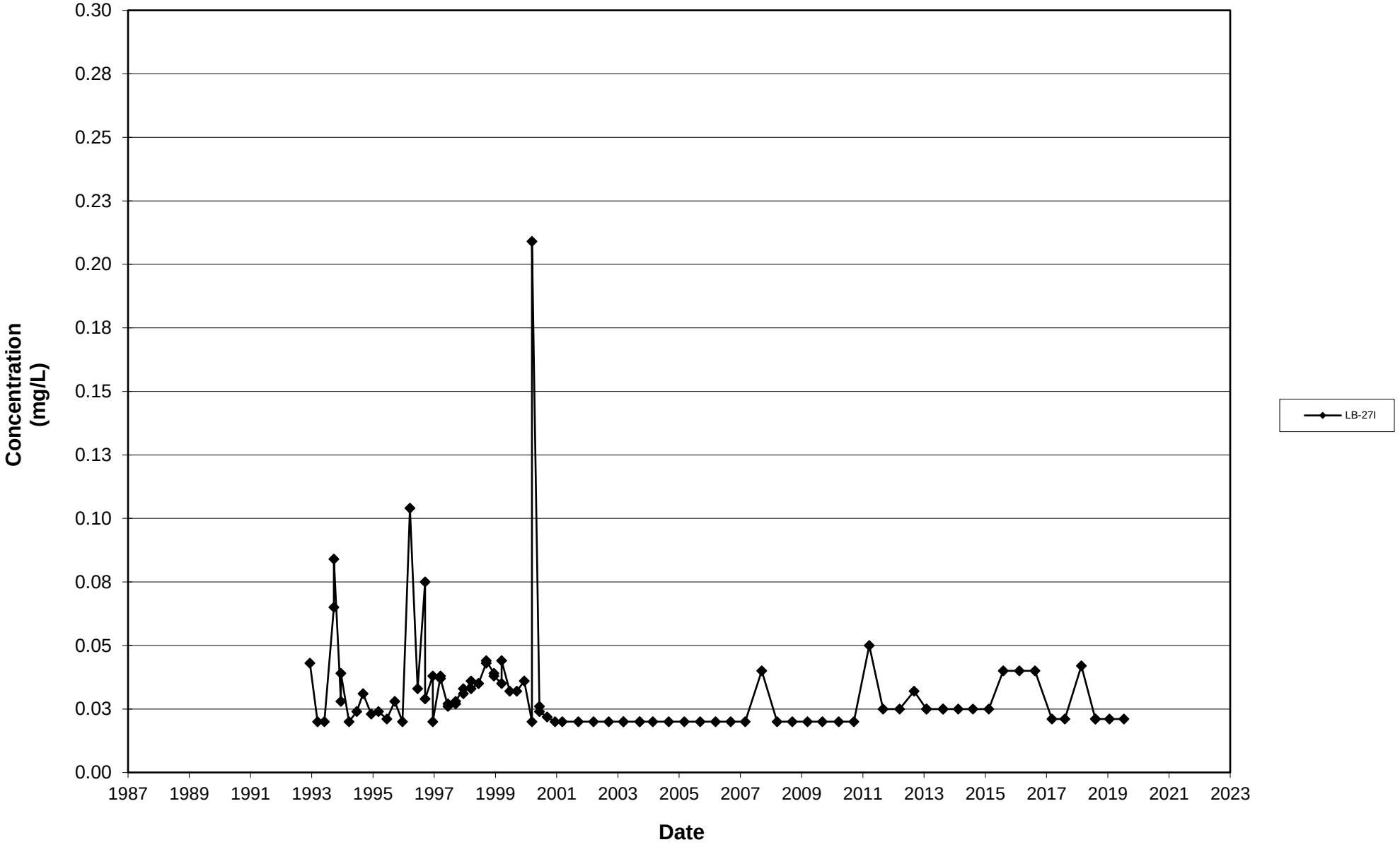
Leichner Landfill
Dissolved Iron, LB-26I
1987 - 2019



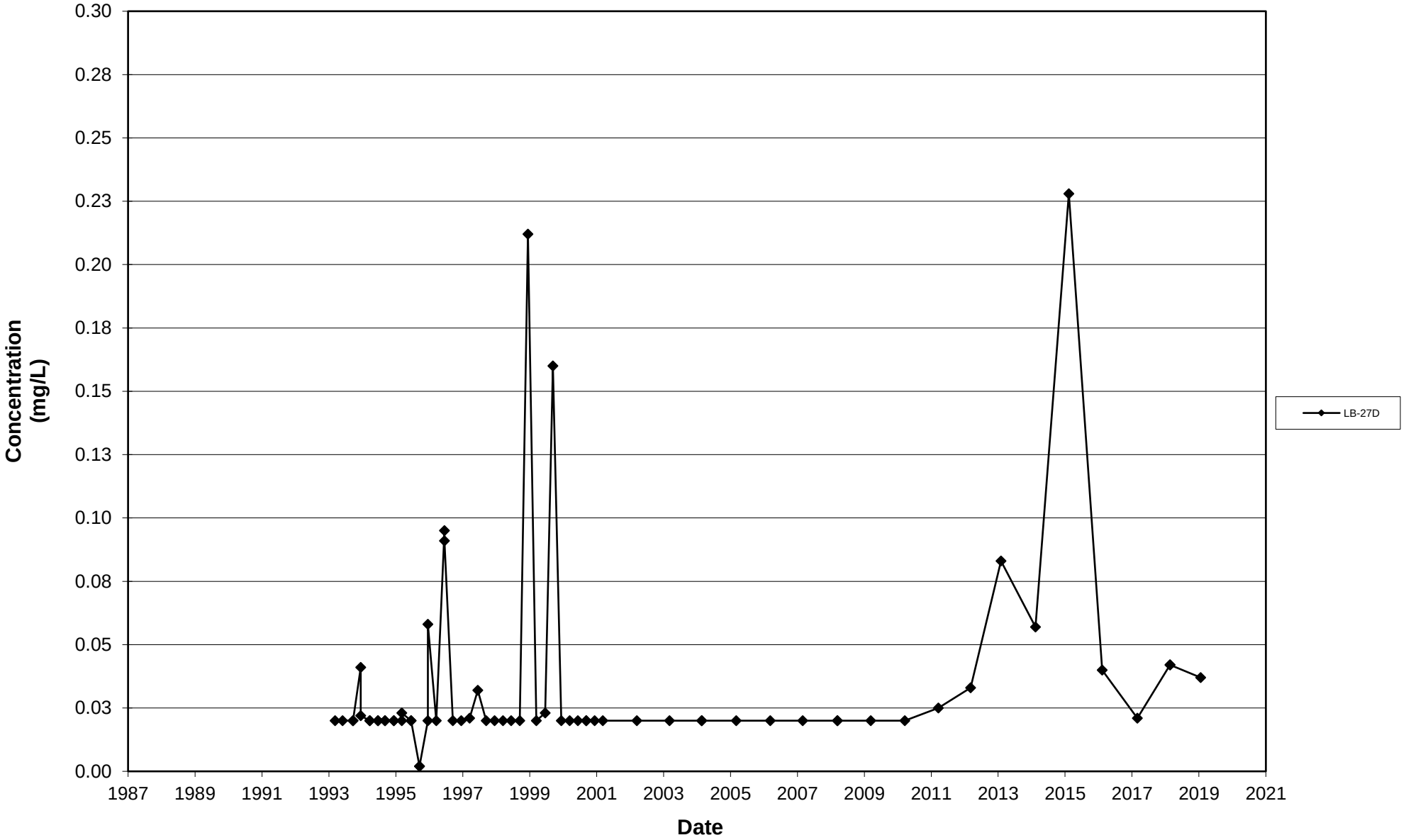
Leichner Landfill
Dissolved Iron, LB-26D
1987 - 2019



Leichner Landfill
Dissolved Iron, LB-27I
1987 - 2019

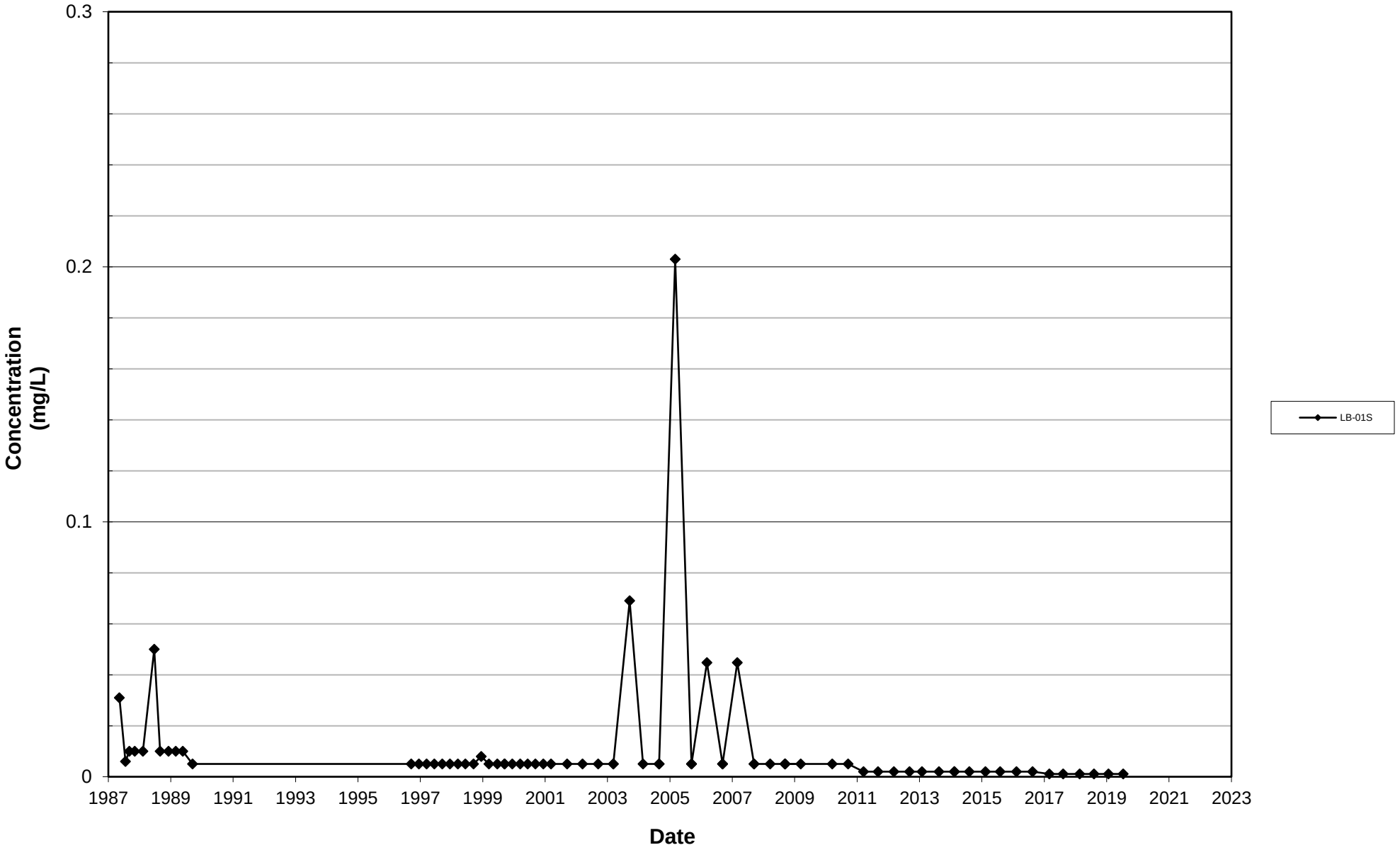


Leichner Landfill
Dissolved Iron, LB-27D
1987 - 2019

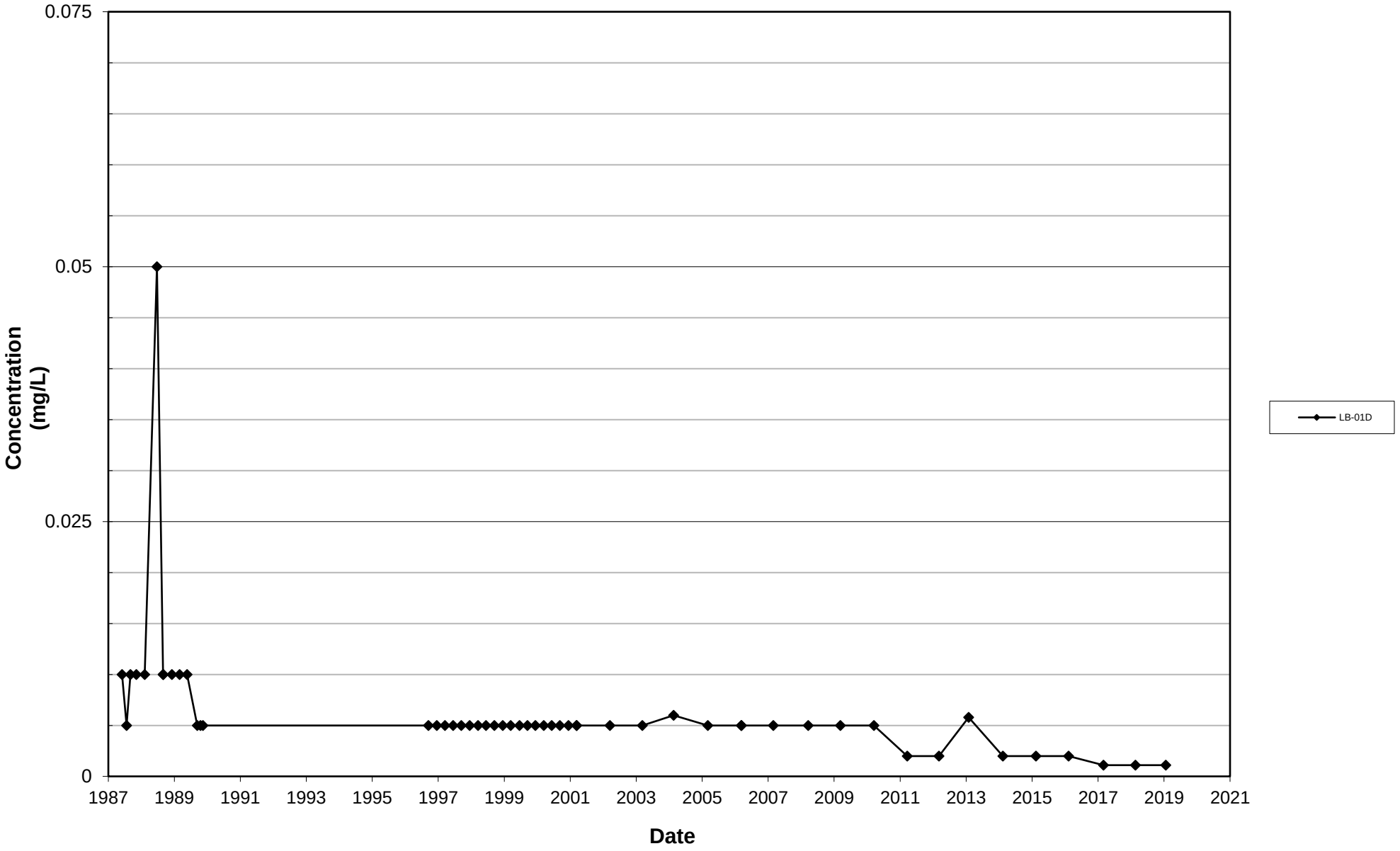


Dissolved Manganese

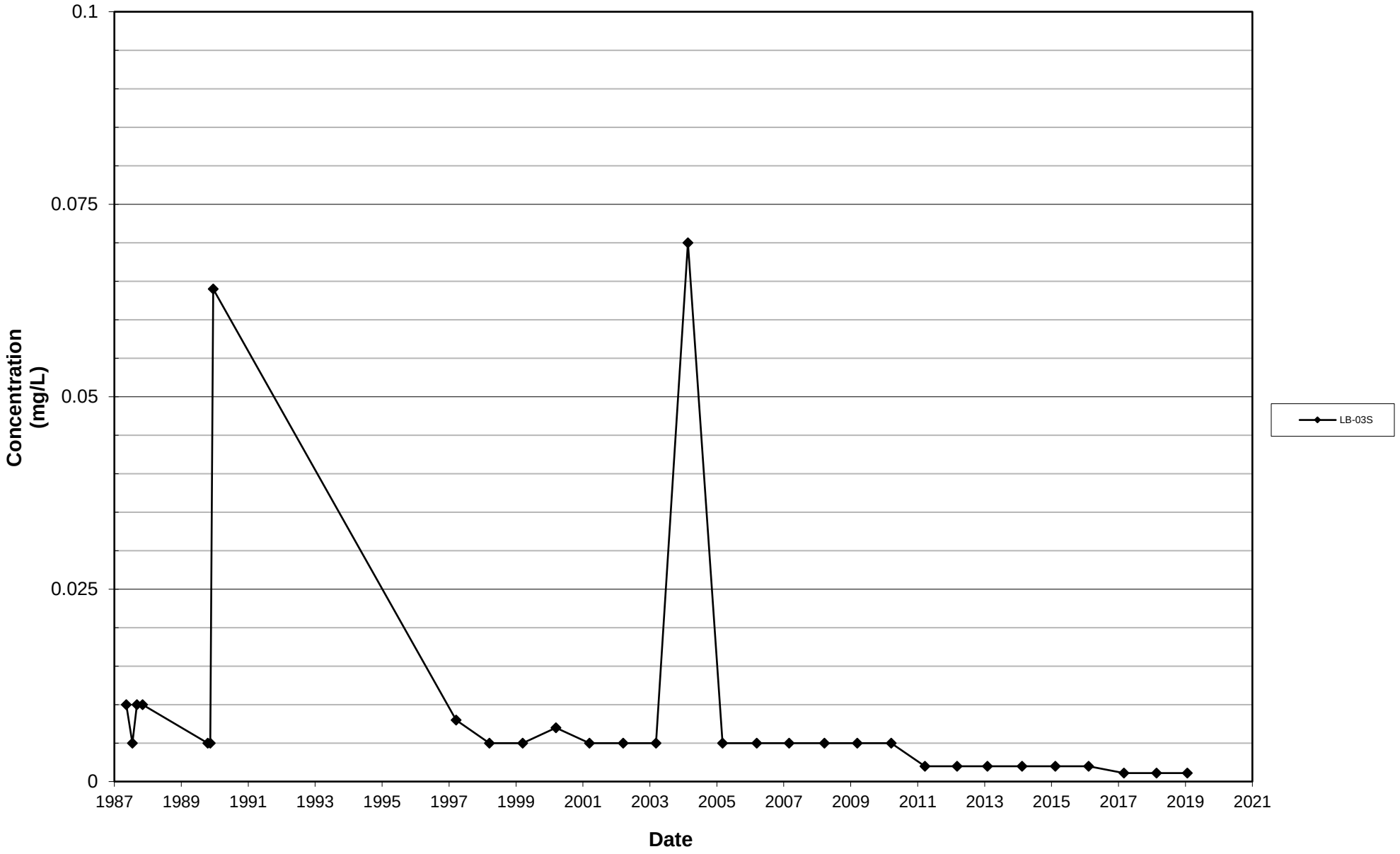
Leichner Landfill
Dissolved Manganese, LB-01S
1987 - 2019



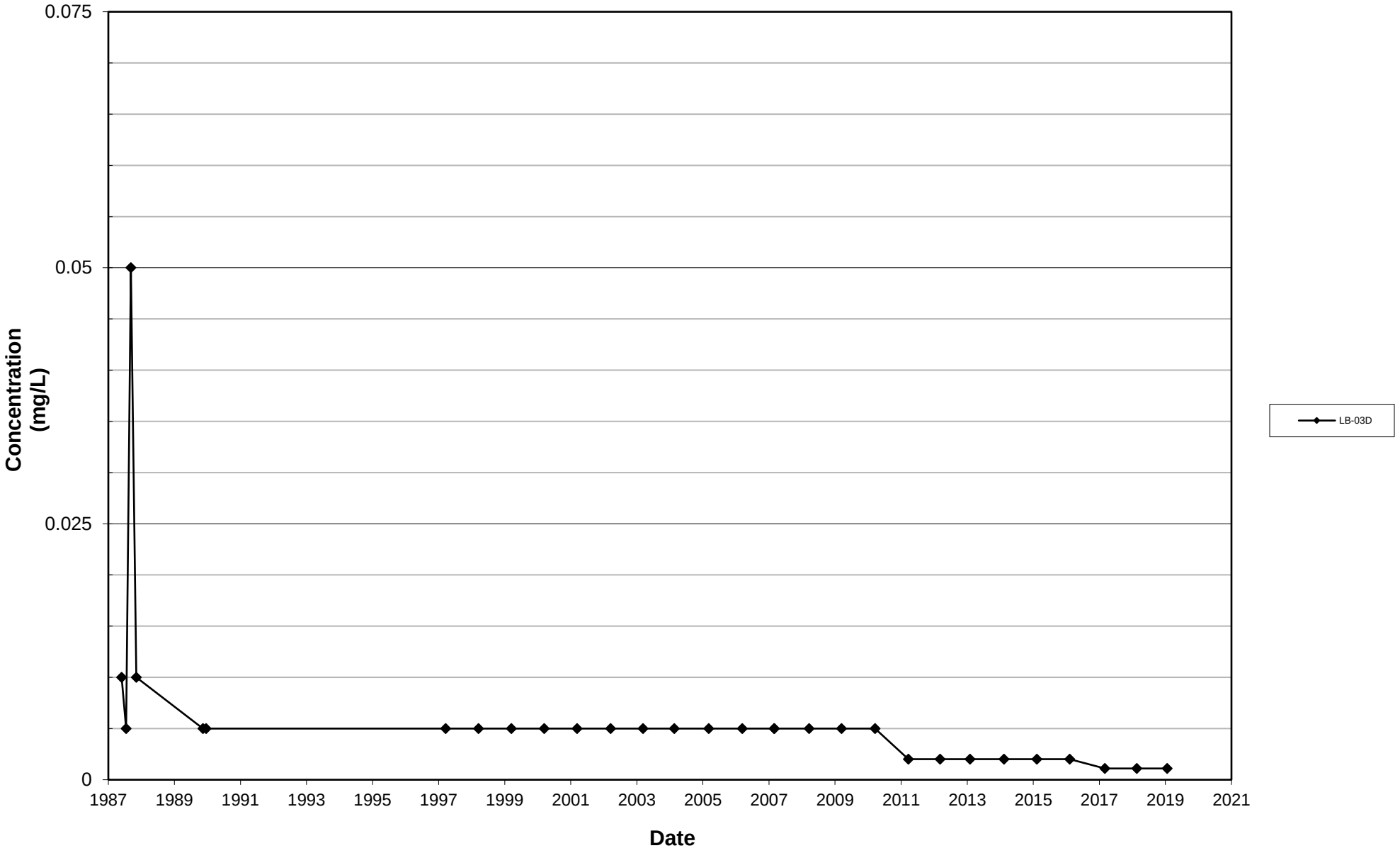
Leichner Landfill
Dissolved Manganese, LB-01D
1987 - 2019



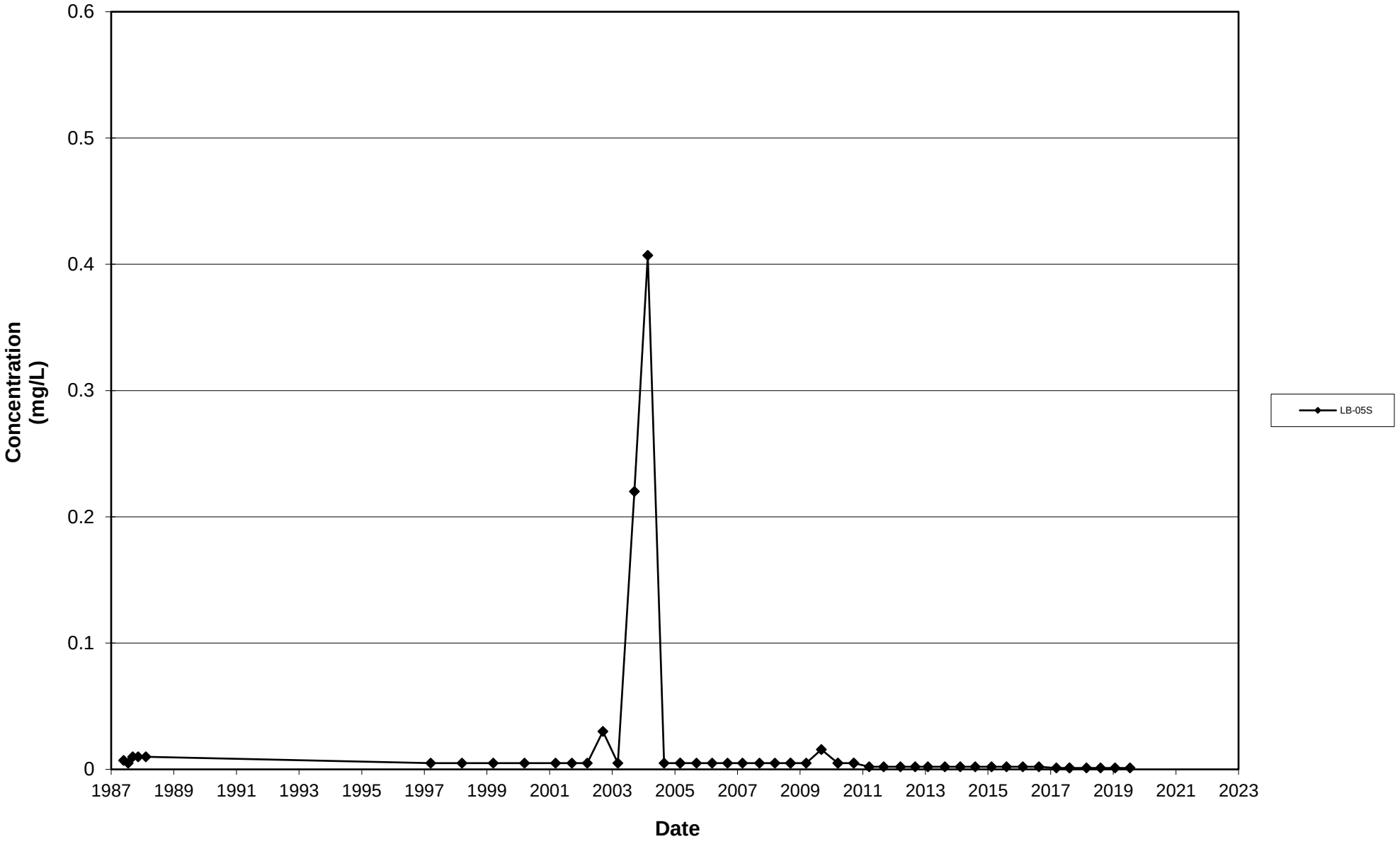
Leichner Landfill
Dissolved Manganese, LB-03S
1987 - 2019



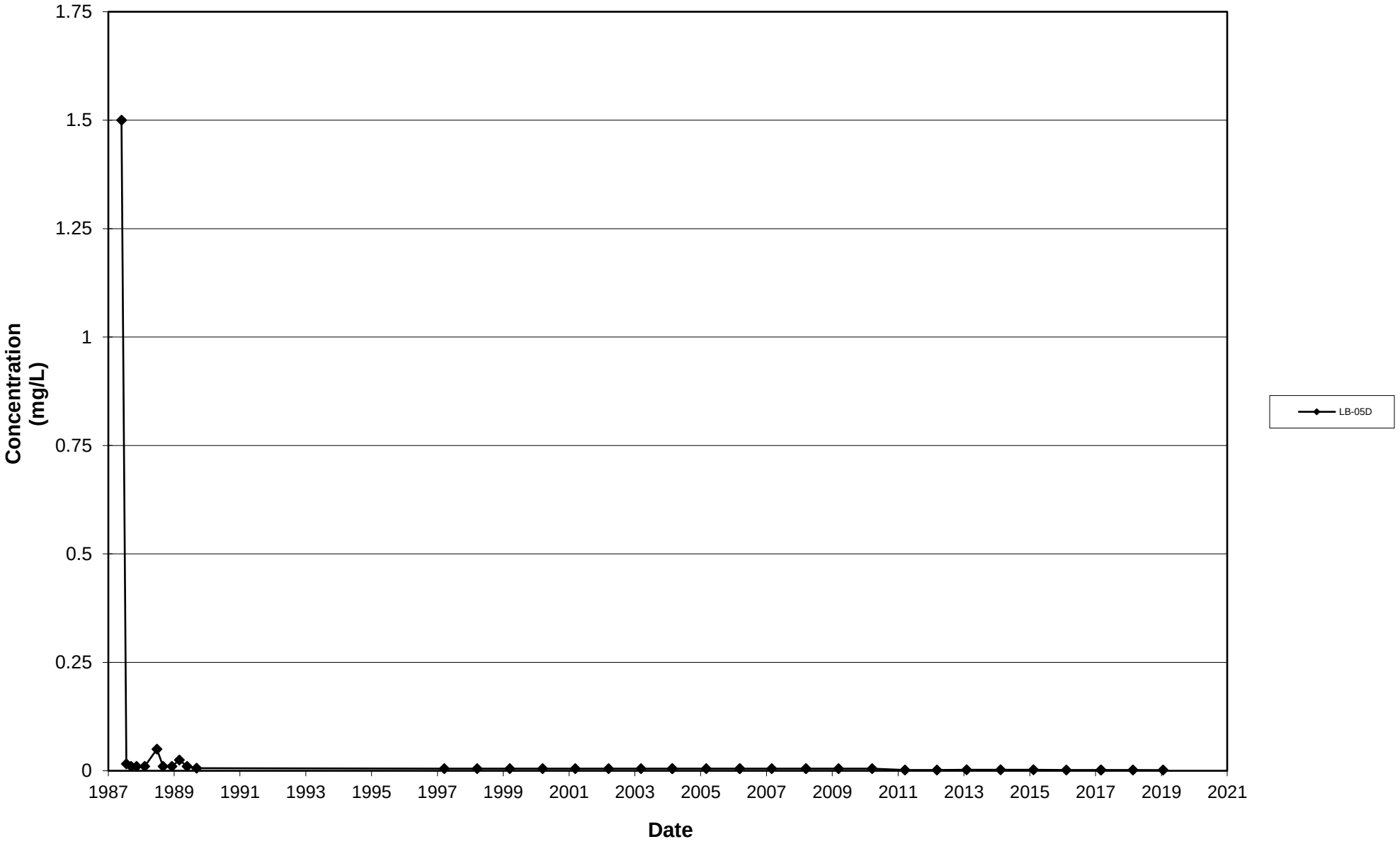
Leichner Landfill
Dissolved Manganese, LB-03D
1987 - 2019



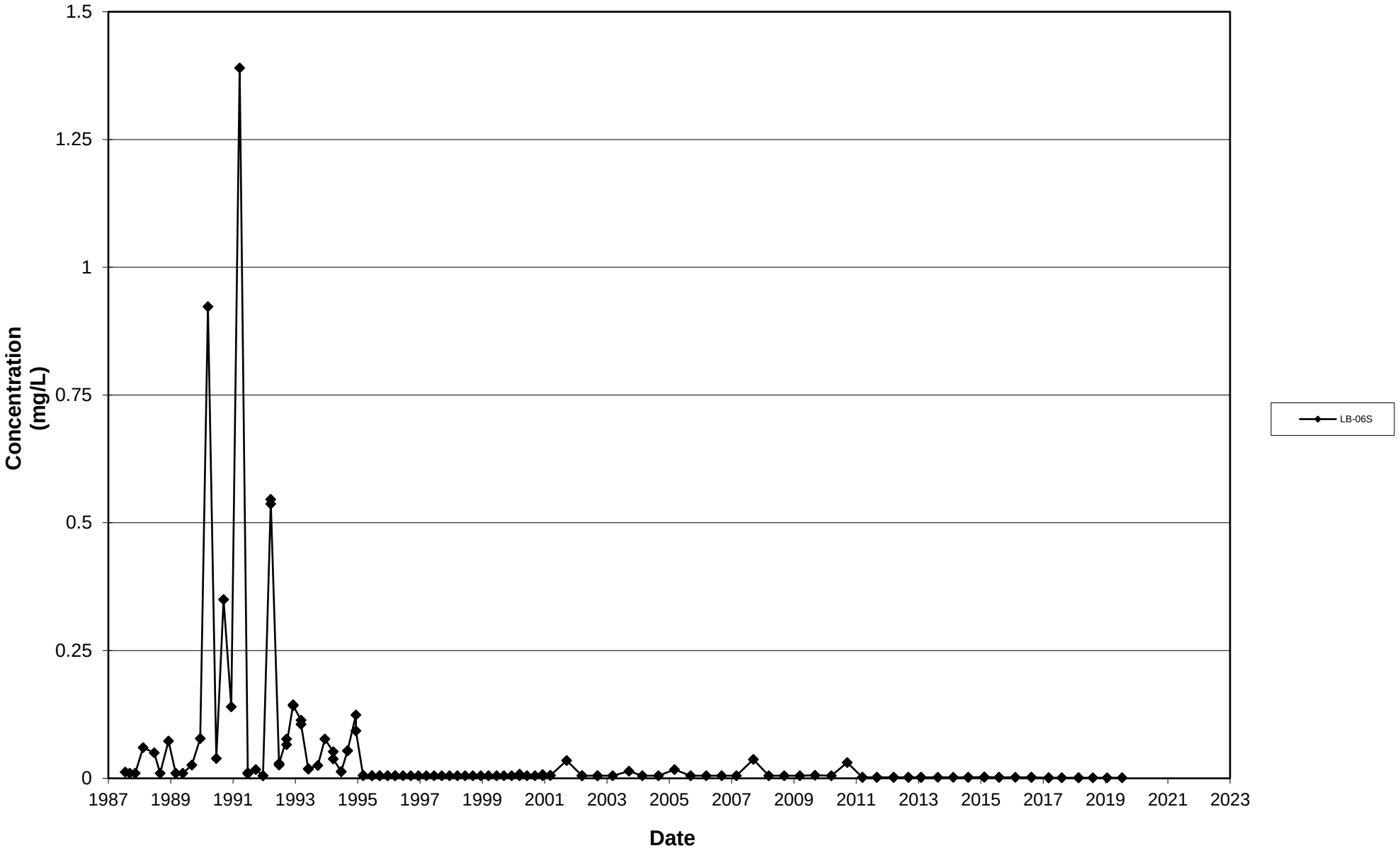
Leichner Landfill
Dissolved Manganese, LB-05S
1987 - 2019



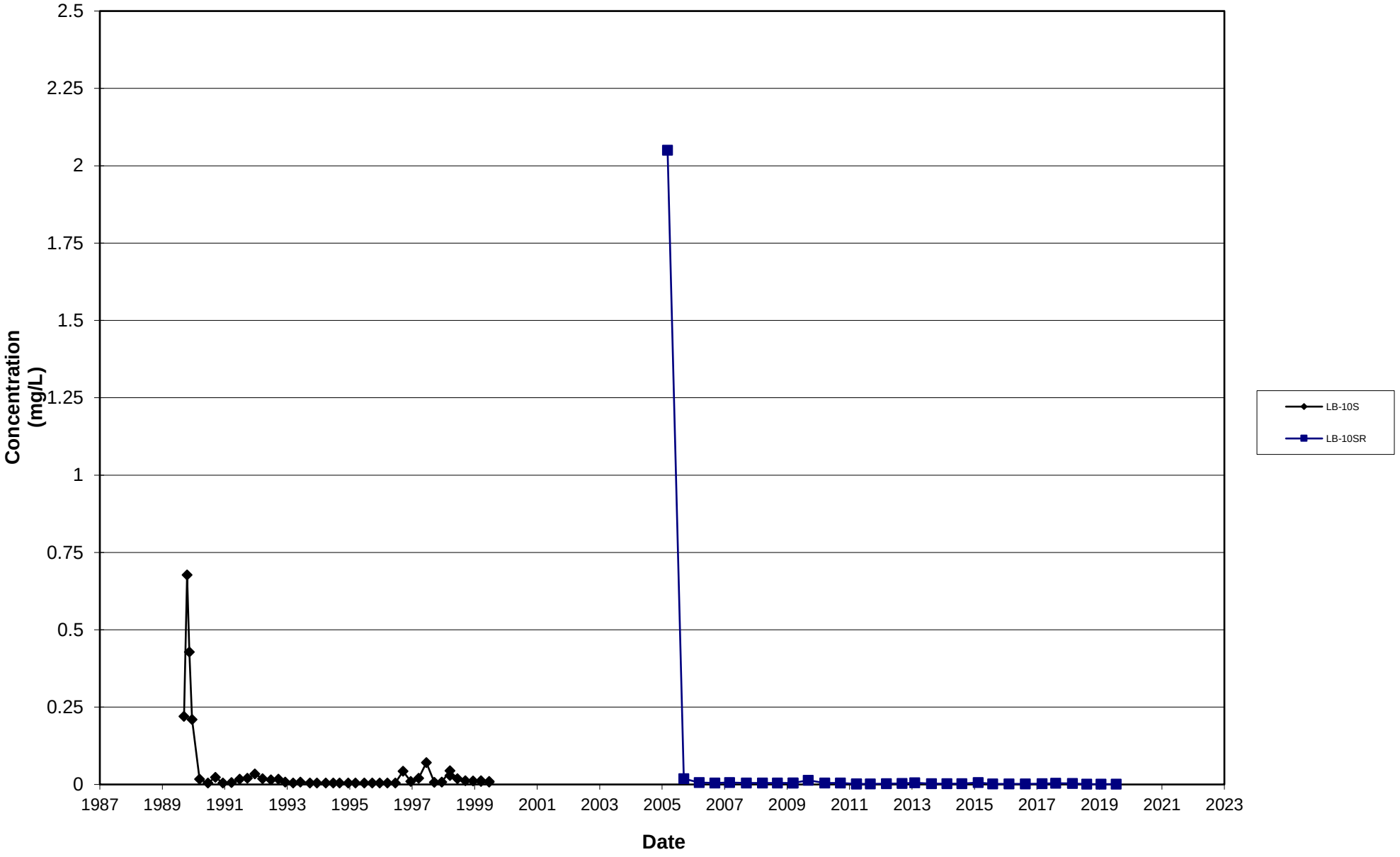
Leichner Landfill
Dissolved Manganese, LB-05D
1987 - 2019



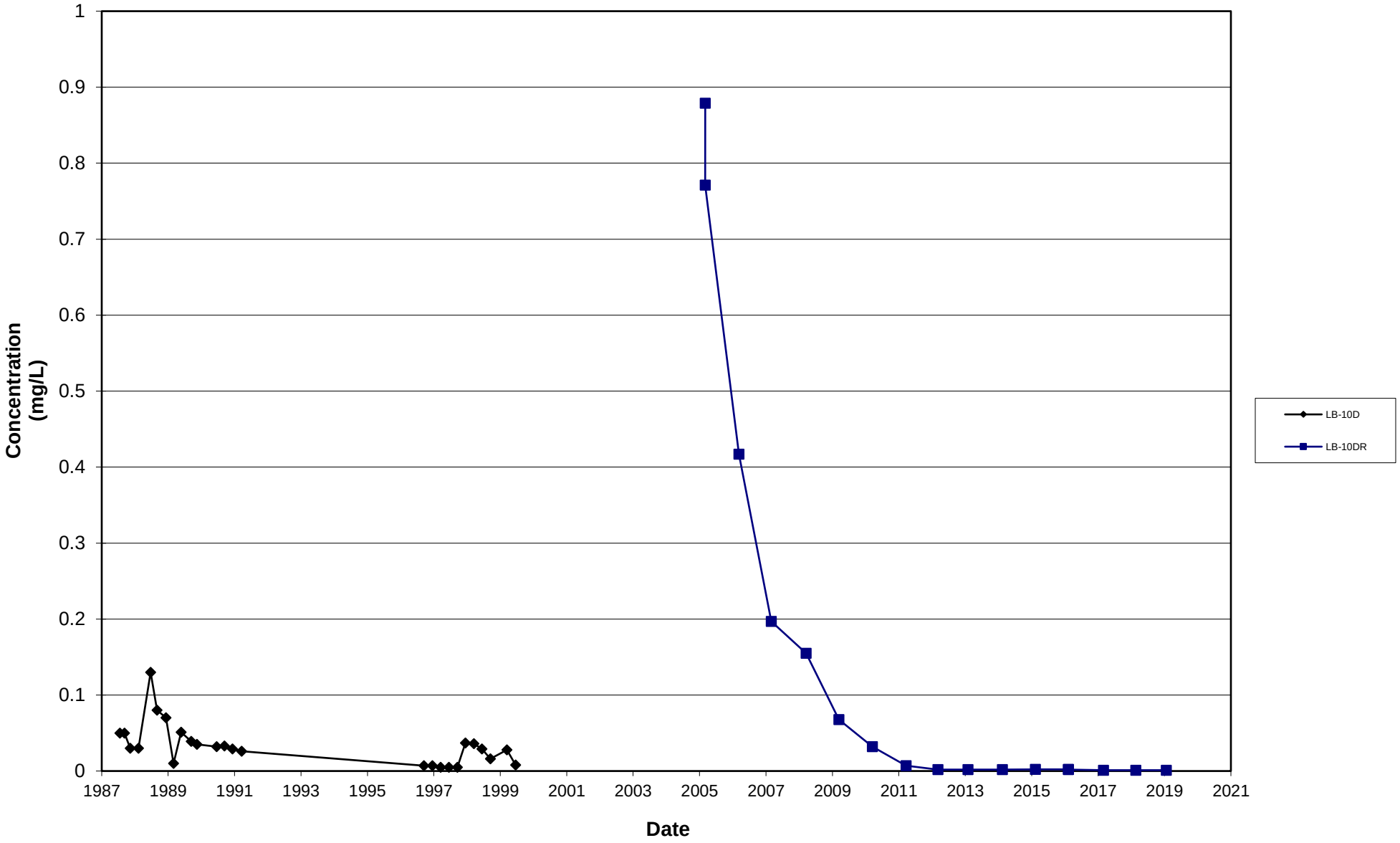
Leichner Landfill
Dissolved Manganese, LB-06S
1987 - 2019



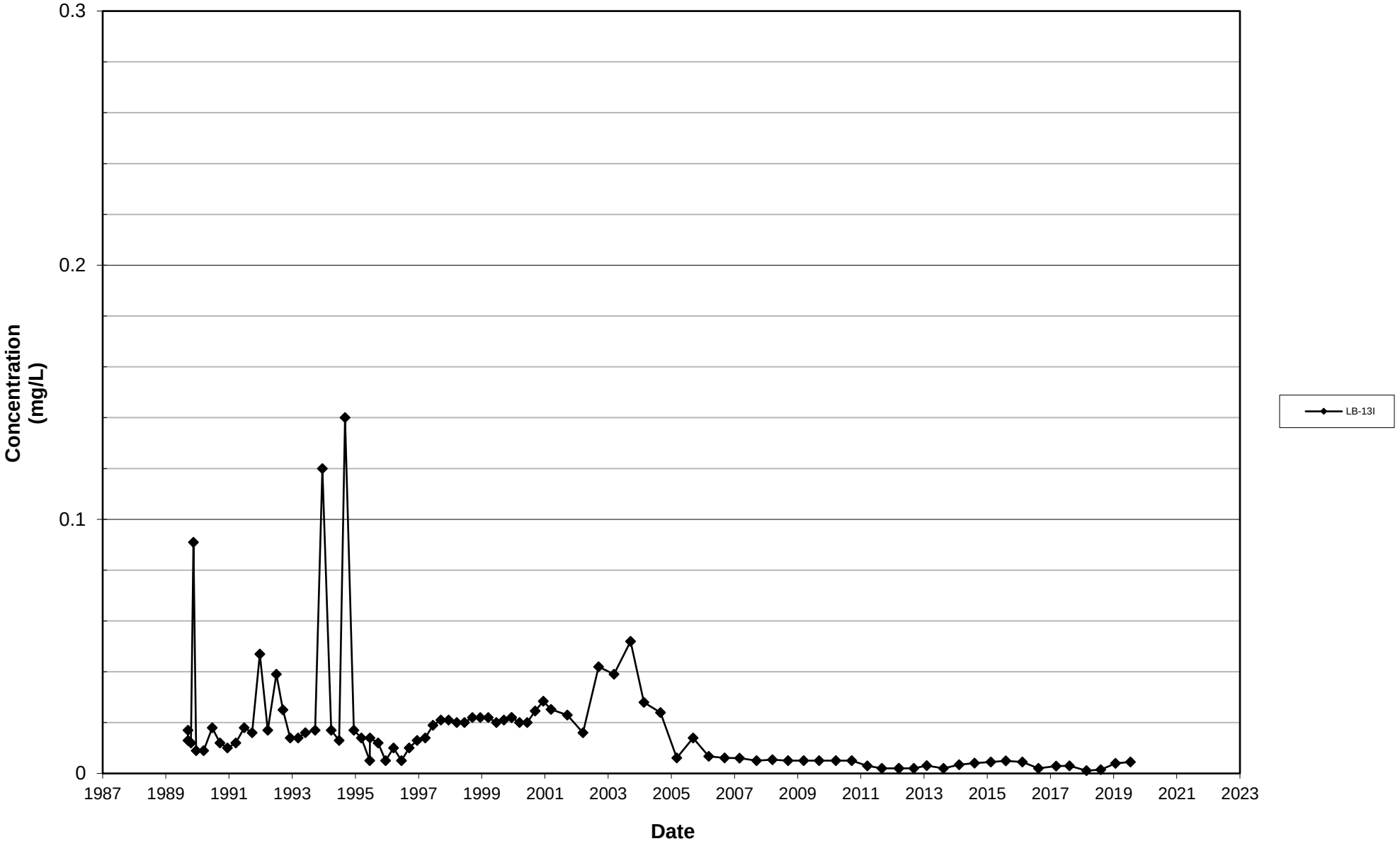
Leichner Landfill
Dissolved Manganese, LB-10S and LB-10SR
1987 - 2019



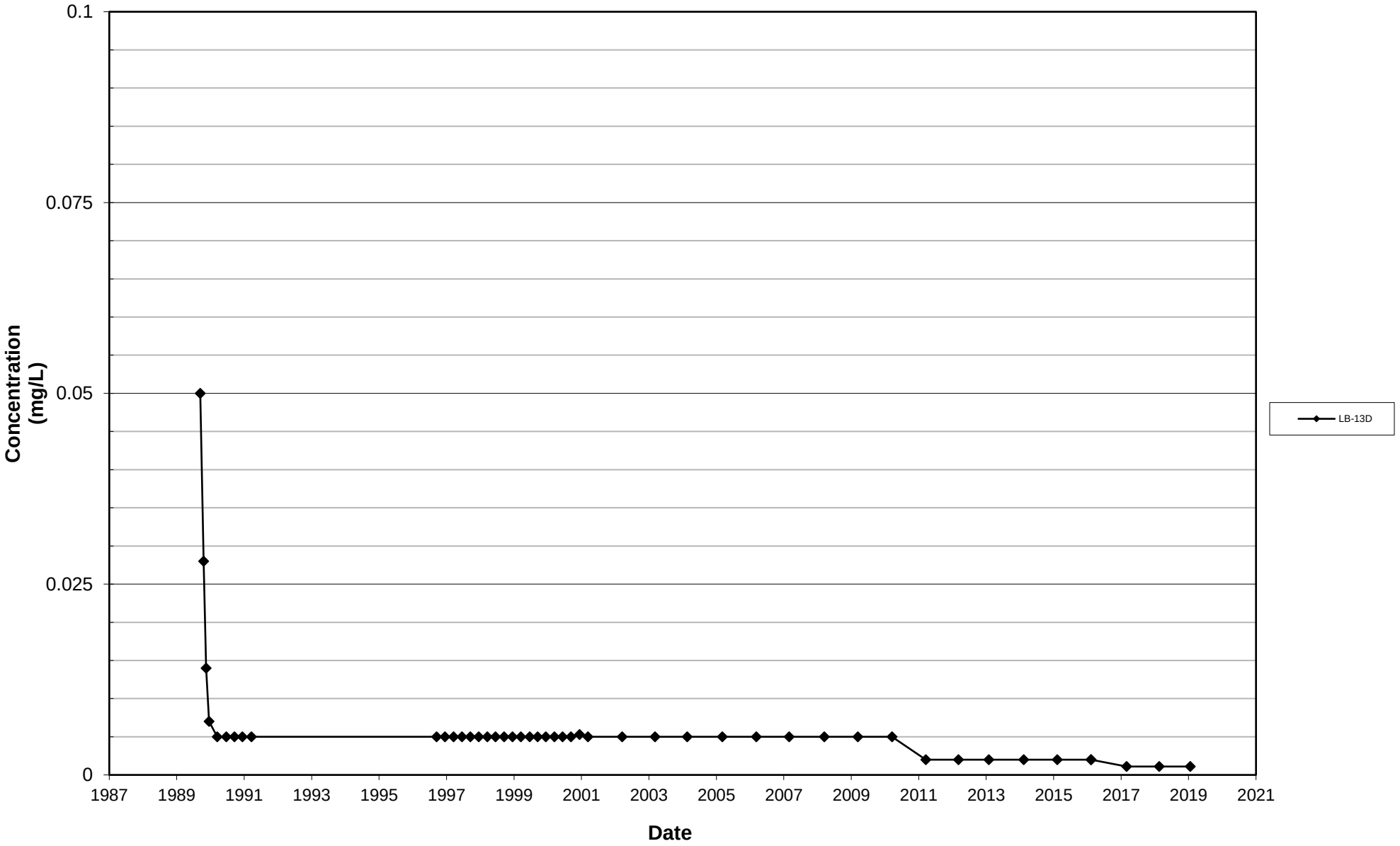
Leichner Landfill
Dissolved Manganese, LB-10D and LB-10DR
1987 - 2019



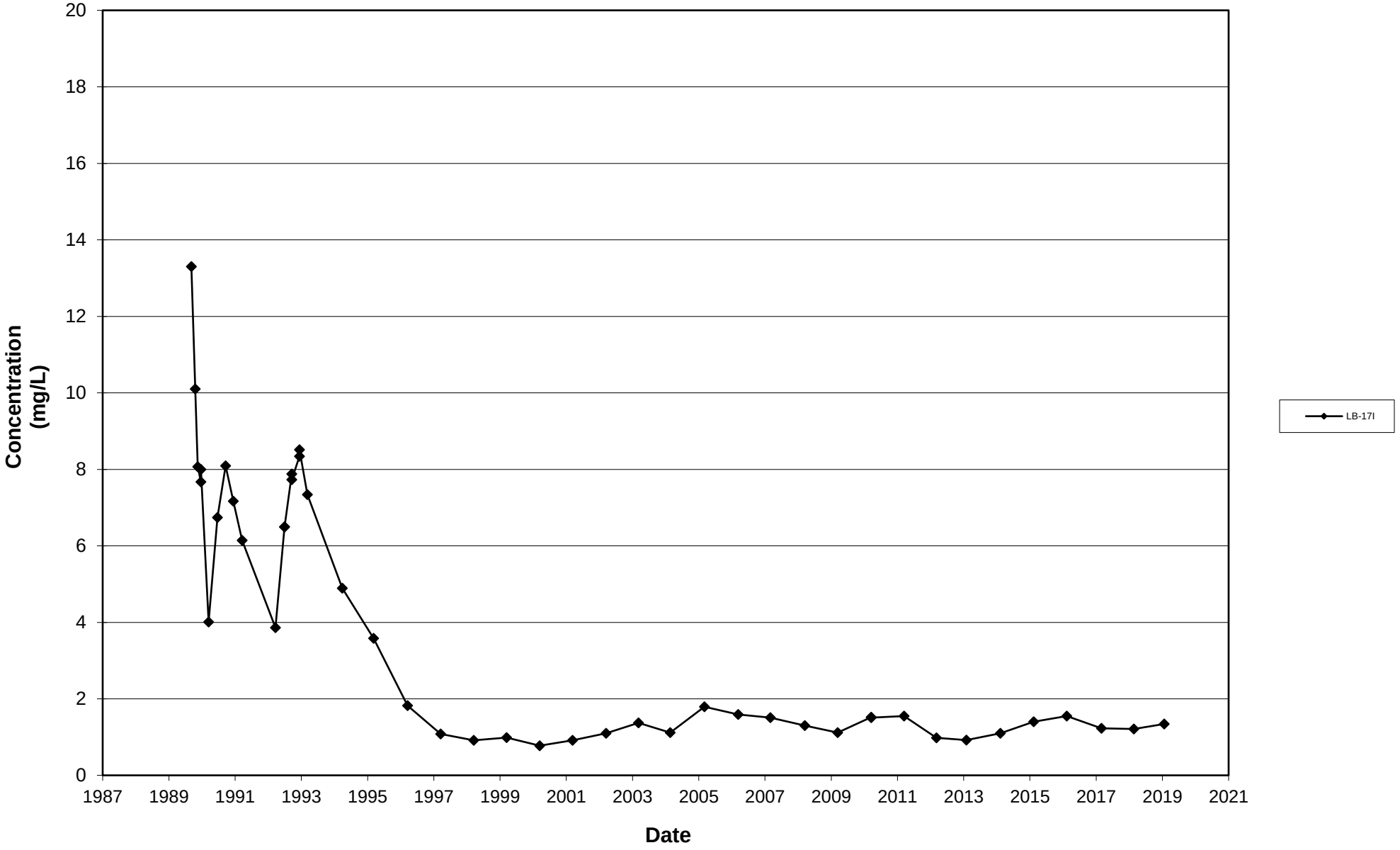
Leichner Landfill
Dissolved Manganese, LB-13I
1987 - 2019



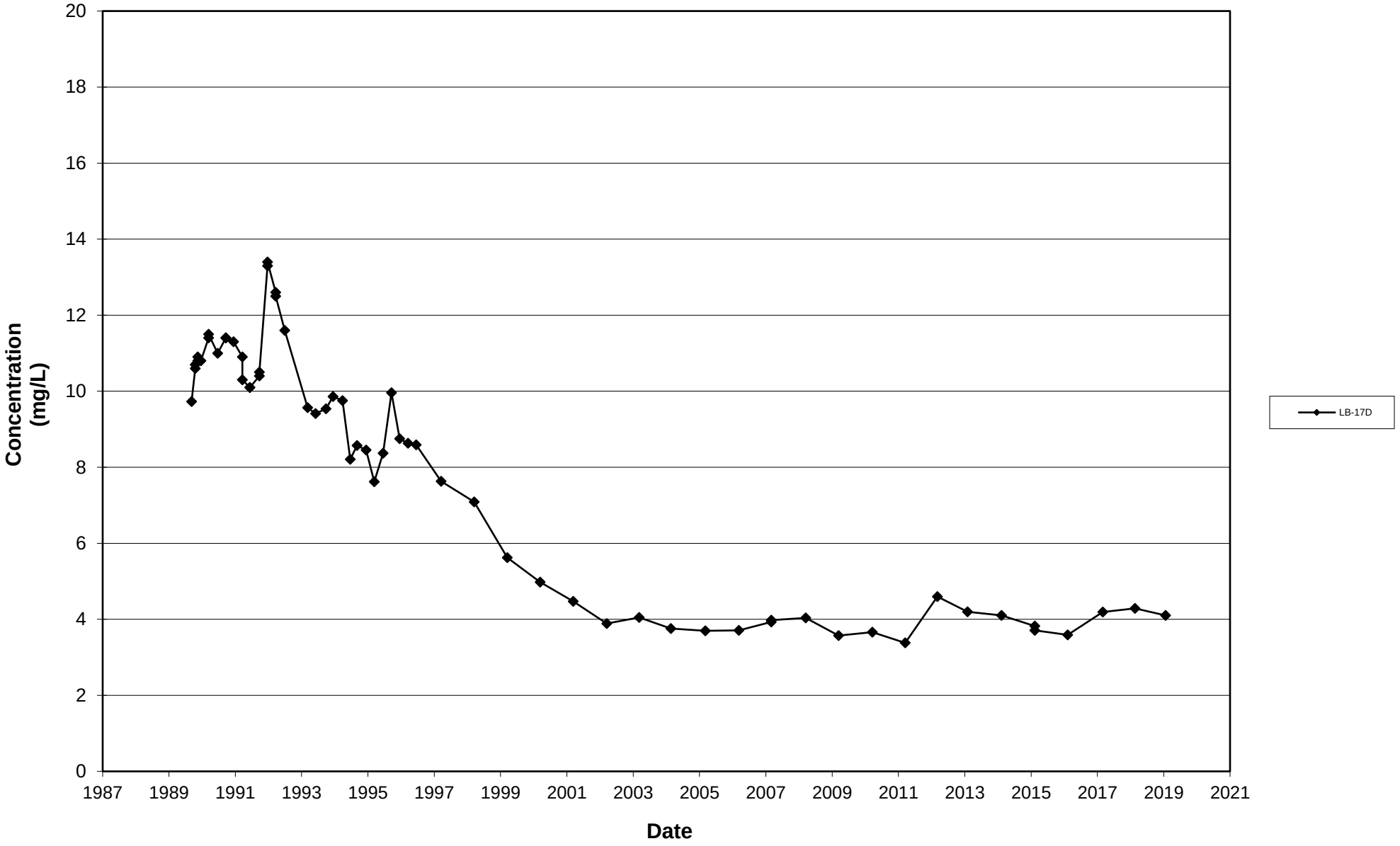
Leichner Landfill
Dissolved Manganese, LB-13D
1987 - 2019



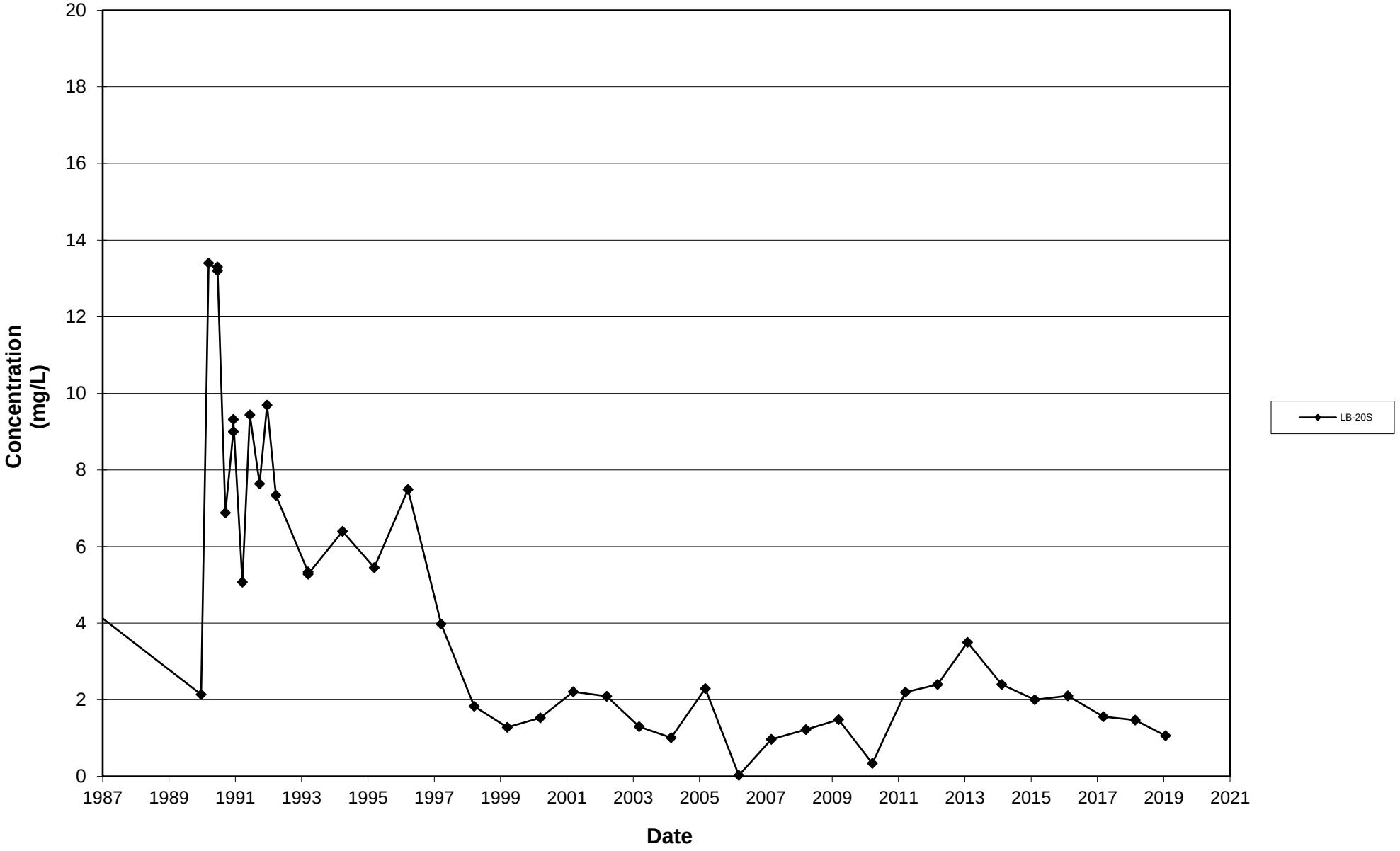
Leichner Landfill
Dissolved Manganese, LB-17I
1987 - 2019



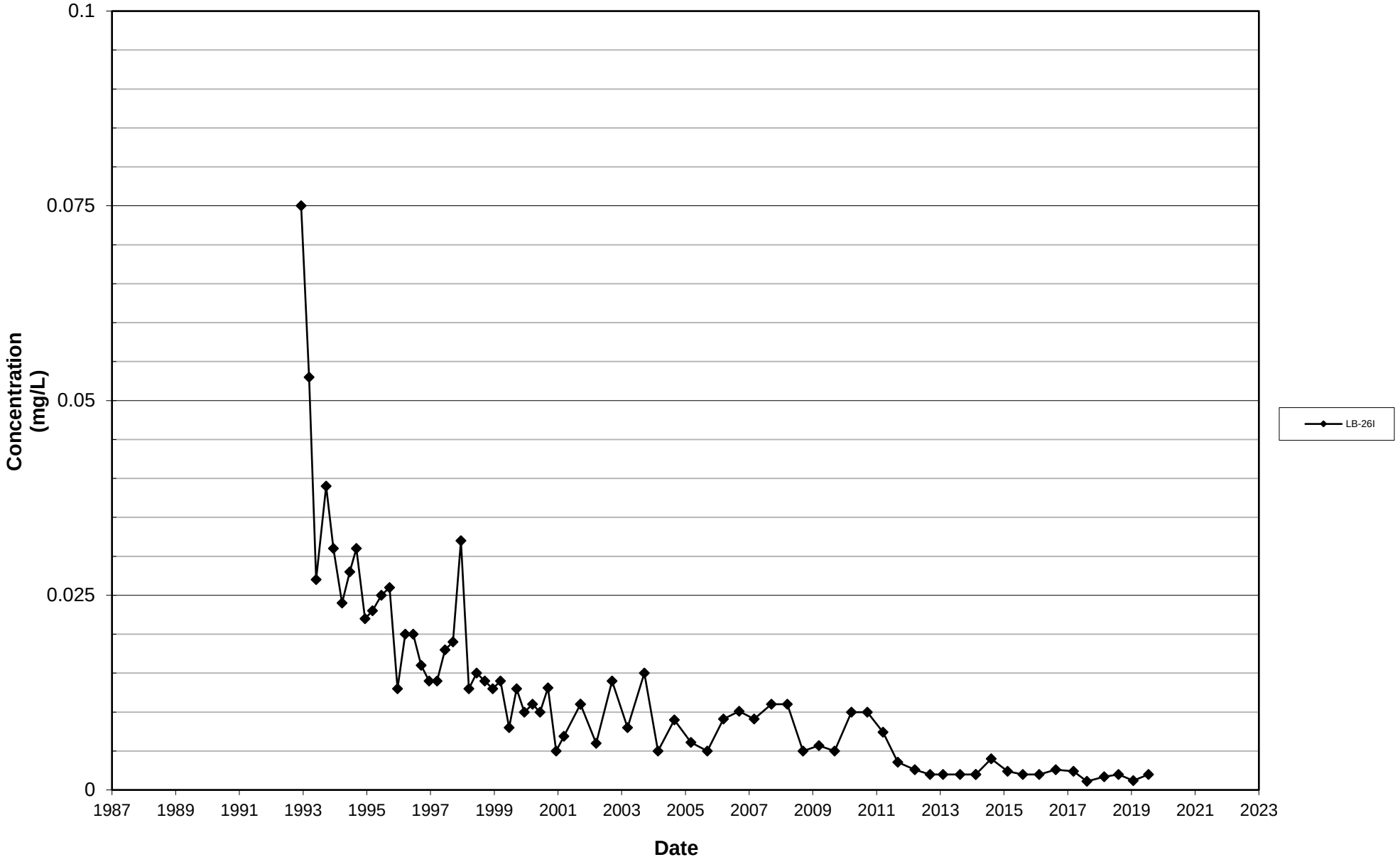
Leichner Landfill
Dissolved Manganese, LB-17D
1987 - 2019



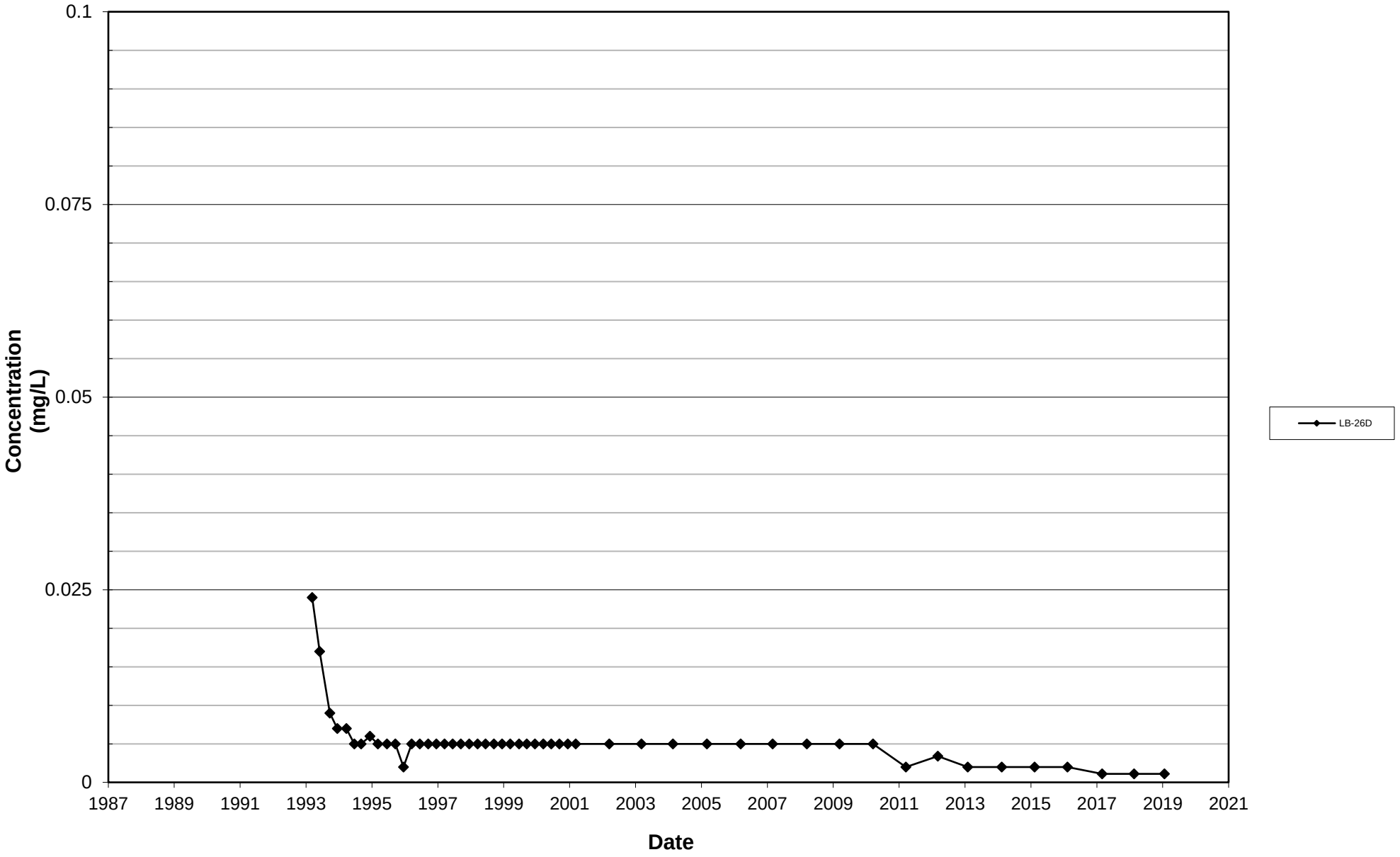
Leichner Landfill
Dissolved Manganese, LB-20S
1987 - 2019



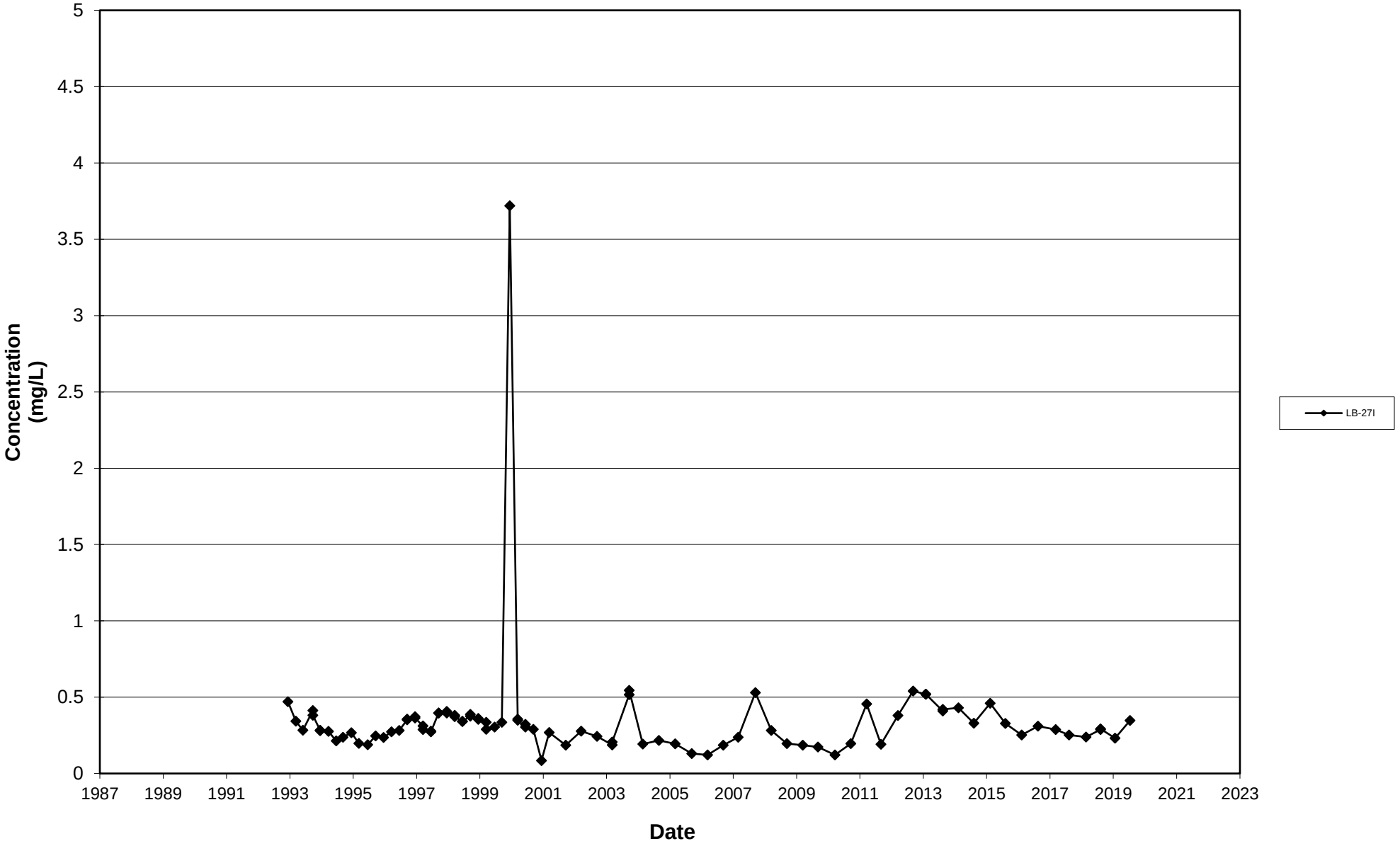
Leichner Landfill
Dissolved Manganese, LB-26I
1987 - 2019



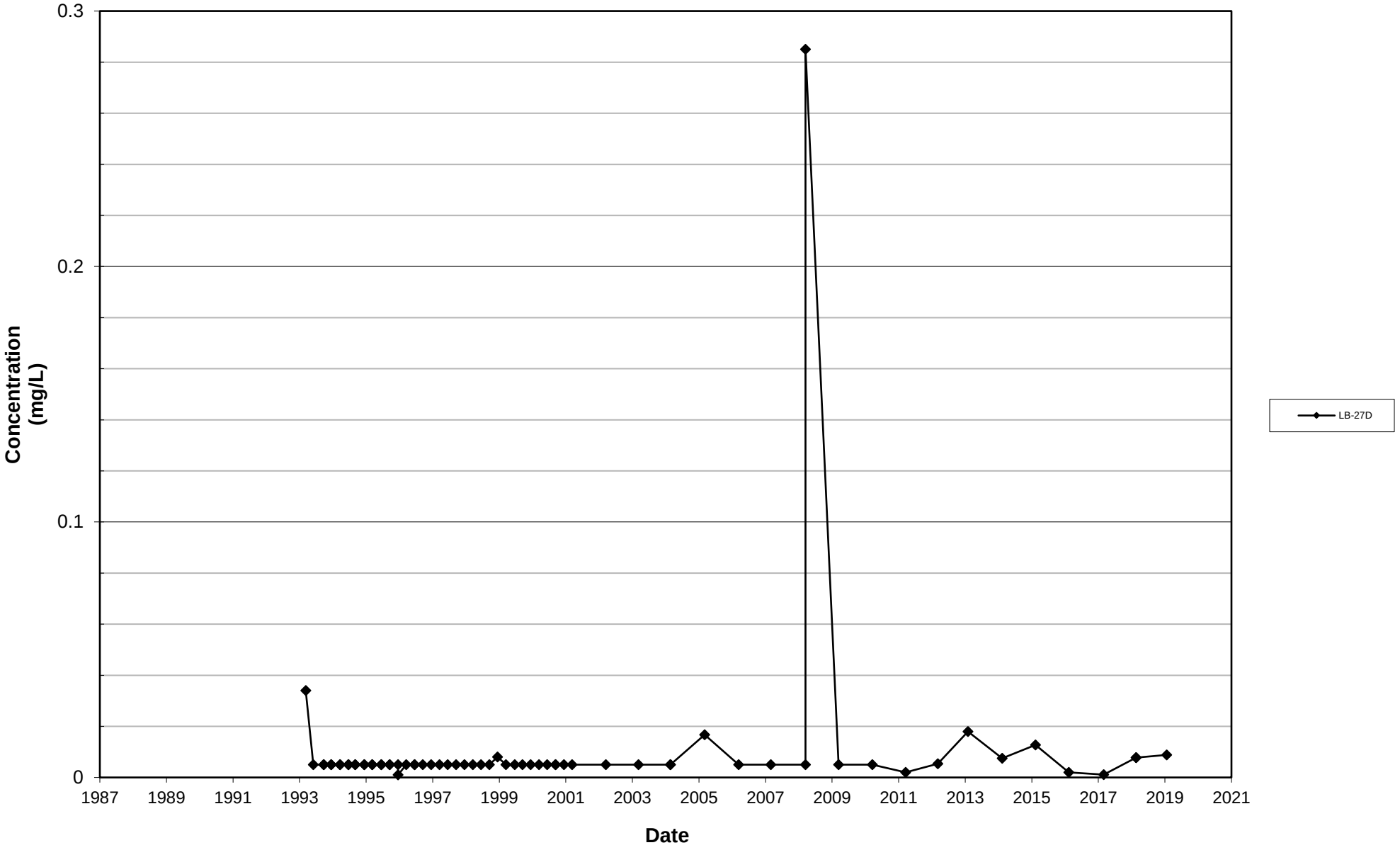
Leichner Landfill
Dissolved Manganese, LB-26D
1987 - 2019



Leichner Landfill
Dissolved Manganese, LB-27I
1987 - 2019



Leichner Landfill
Dissolved Manganese, LB-27D
1987 - 2019



APPENDIX G

Summary of 2019 Groundwater Statistical Calculations

Table G-1
Groundwater Statistics - 2015 through 2019 Data
95 Percent Upper Confidence Limits on the Mean
Leichner Landfill

Parameter	LB-1S					LB-1D				
	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]
Inorganics										
Chloride (mg/L)	10	10	Non	8.04	M(12.2)	5	5	Lognormal	6.81	7.17
Nitrate (mg/L)	10	10	Lognormal	5.38	6.30	5	5	Non	6.19	M(7.09)
TDS (mg/L)	10	10	Lognormal	189.50	205.69	5	5	Lognormal	162.00	208.95
Metals (mg/L)										
Iron (dissolved)	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Manganese (dissolved)	10	0	NC	NC	All ND	5	1	NC	0.001	M(0.001)
VOCs (µg/L)										
1,4-Dichlorobenzene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Tetrachloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Trichloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND

Parameter	LB-3S					LB-3D				
	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]
Inorganics										
Chloride (mg/L)	5	5	Non	3.61	M(4.14)	5	5	Non	4.70	M(5.32)
Nitrate (mg/L)	5	5	Non	3.59	M(3.90)	5	5	Non	4.50	M(5.12)
TDS (mg/L)	5	5	Lognormal	146.80	187.10	5	5	Lognormal	158.40	183.71
Metals (mg/L)										
Iron (dissolved)	5	0	NC	NC	All ND	5	0	NC	NC	All ND
Manganese (dissolved)	5	0	NC	NC	All ND	5	0	NC	NC	All ND
VOCs (µg/L)										
1,4-Dichlorobenzene	5	0	NC	NC	All ND	5	0	NC	NC	All ND
Tetrachloroethene	5	0	NC	NC	All ND	5	0	NC	NC	All ND
Trichloroethene	5	0	NC	NC	All ND	5	0	NC	NC	All ND

Table G-1
Groundwater Statistics - 2015 through 2019 Data
95 Percent Upper Confidence Limits on the Mean
Leichner Landfill

Parameter	LB-5S					LB-5D				
	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]
Inorganics										
Chloride (mg/L)	10	10	Lognormal	4.17	4.67	5	5	Lognormal	8.41	9.63
Nitrate (mg/L)	10	10	Lognormal	5.26	5.94	5	5	Non	0.62	M(0.82)
TDS (mg/L)	10	10	Non	154.55	M(182)	5	5	Lognormal	211.40	227.02
Metals (mg/L)										
Iron (dissolved)	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Manganese (dissolved)	10	0	NC	NC	All ND	5	4	Normal	0.002	0.0024
VOCs (µg/L)										
1,4-Dichlorobenzene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Tetrachloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Trichloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND

Parameter	LB-6S					LB-20S				
	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]
Inorganics										
Chloride (mg/L)	10	10	Lognormal	4.55	5.92	5	5	Lognormal	11.96	M(35)
Nitrate (mg/L)	10	9	Normal	1.68	2.00	5	0	NC	ND	All ND
TDS (mg/L)	10	10	Normal	142.45	165.31	5	5	Lognormal	185.60	241.90
Metals (mg/L)										
Iron (dissolved)	10	0	NC	NC	All ND	5	5	Non	0.24	M(0.43)
Manganese (dissolved)	10	0	NC	NC	All ND	5	5	Lognormal	1.64	2.28
VOCs (µg/L)										
1,4-Dichlorobenzene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Tetrachloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Trichloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND

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	LB-10SR					LB-10DR				
Parameter	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]
Inorganics										
Chloride (mg/L)	10	10	Lognormal	15.90	21.60	5	5	Lognormal	12.52	16.62
Nitrate (mg/L)	10	10	Lognormal	3.43	13.58	5	5	Non	2.71	M(3.7)
TDS (mg/L)	10	10	Normal	257.20	280.00	5	5	Lognormal	234.40	283.57
Metals (mg/L)										
Iron (dissolved)	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Manganese (dissolved)	10	7	Normal	0.003	0.0030	5	1	NC	0.002	M(0.002)
VOCs (µg/L)										
1,4-Dichlorobenzene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Tetrachloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Trichloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND

	LB-13I					LB-13D				
Parameter	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]
Inorganics										
Chloride (mg/L)	10	10	Lognormal	8.50	9.43	5	5	Non	5.92	M(10.8)
Nitrate (mg/L)	10	10	Normal	3.16	3.75	5	5	Non	4.79	M(5.23)
TDS (mg/L)	10	10	Lognormal	184.50	196.90	5	5	Non	162.60	M(185)
Metals (mg/L)										
Iron (dissolved)	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Manganese (dissolved)	10	8	Normal	0.004	0.0034	5	0	NC	NC	All ND
VOCs (µg/L)										
1,4-Dichlorobenzene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Tetrachloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Trichloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND

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Groundwater Statistics - 2015 through 2019 Data
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Leichner Landfill

Parameter	LB-17I					LB-17D				
	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]
Inorganics										
Chloride (mg/L)	5	5	Lognormal	10.20	10.85	5	5	Normal	9.44	15.84
Nitrate (mg/L)	5	0	NC	NC	All ND	5	0	NC	NC	All ND
TDS (mg/L)	5	5	Lognormal	196.20	249.94	5	5	Lognormal	189.00	218.04
Metals (mg/L)										
Iron (dissolved)	5	5	Lognormal	8.30	9.60	5	5	Lognormal	0.108	0.126
Manganese (dissolved)	5	5	Lognormal	1.35	1.49	5	5	Lognormal	4.00	4.30
VOCs (µg/L)										
1,4-Dichlorobenzene	5	0	NC	NC	All ND	5	0	NC	NC	All ND
Tetrachloroethene	5	0	NC	NC	All ND	5	0	NC	NC	All ND
Trichloroethene	5	0	NC	NC	All ND	5	0	NC	NC	All ND

Parameter	LB-26I					LB-26D				
	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]
Inorganics										
Chloride (mg/L)	10	10	Lognormal	8.26	9.00	5	5	Non	5.24	M(5.88)
Nitrate (mg/L)	10	10	Lognormal	3.63	3.94	5	5	Non	5.03	M(5.76)
TDS (mg/L)	10	10	Lognormal	183.30	199.34	5	5	Lognormal	166.80	185.2
Metals (mg/L)										
Iron (dissolved)	10	1	NC	0.046	M(0.046)	5	0	NC	NC	All ND
Manganese (dissolved)	10	7	Normal	0.002	M(0.0026)	5	0	NC	NC	All ND
VOCs (µg/L)										
1,4-Dichlorobenzene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Tetrachloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Trichloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND

Table G-1
Groundwater Statistics - 2015 through 2019 Data
95 Percent Upper Confidence Limits on the Mean
Leichner Landfill

	LB-27I					LB-27D				
Parameter	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]	No. Analyses	No. Detected	Distribution[a]	Mean	UCL 95[b]
Inorganics										
Chloride (mg/L)	10	10	Lognormal	27.28	31.70	5	5	Non	8.19	M(8.88)
Nitrate (mg/L)	10	3	NC	0.57	M(0.91)	5	5	Non	3.75	M(4.25)
TDS (mg/L)	10	10	Lognormal	331.70	357.46	5	5	Lognormal	214.00	249.09
Metals (mg/L)										
Iron (dissolved)	10	0	NC	NC	All ND	5	2	NC	0.13	M(0.228)
Manganese (dissolved)	10	10	Lognormal	0.300	0.342	5	3	Non	0.01	M(0.0127)
VOCs (µg/L)										
1,4-Dichlorobenzene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Tetrachloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Trichloroethene	10	0	NC	NC	All ND	5	0	NC	NC	All ND

Notes:

mg/L = milligrams per liter; µg/L = micrograms per liter; NC = not calculated, more than 50% samples were non-detect; Non = neither normal nor lognormal distribution;

M = default to maximum value per Statistical Guidance for Ecology Site Managers

for the following scenarios: (a) more than 50% non-detect values, (b) both normal and lognormal distributions were rejected by MTCAStat,

and (c) UCL calculated using MTCAStat was higher than the maximum value of the data set.

[a] Distribution was determined using MTCAStat 97 program and Statistical Guidance for Ecology Site Managers.

[b] UCL 95 was calculated using MTCAStat 97 program and Statistical Guidance for Ecology Site Managers.