

2018 Annual Report
Closed Leichner Landfill
Vancouver, Washington
Consent Decree 96-2-03081-7
Facility ID No. 1017

Clark County Public Health
1601 E. Fourth Plains Blvd., Bldg. 17
P.O. Box 9825
Vancouver, WA 98666-8825
(360) 397-2323

SCS ENGINEERS

04219030.14 | February 22, 2019

15940 SW 72nd Avenue
Portland, OR 97224

2018 Annual Report
Closed Leichner Landfill
Vancouver, Washington
Consent Decree 96-2-03081-7
Facility ID No. 1017

Clark County Public Health
1601 E. Fourth Plains Blvd., Bldg. 17
P.O. Box 9825
Vancouver, WA 98666-8825
(360) 397-2323



David Lamadrid

David Lamadrid, L.G., 562
Senior Project Geologist
SCS ENGINEERS

SCS ENGINEERS

04219030.14 | February 22, 2019

Louis Caruso, L.G., L.H.G., 1329
Project Director
SCS ENGINEERS

Table of Contents

Section	Page
List of Figures, Tables and Appendices	iii
1.0 Introduction	1
1.1 Site Description	1
1.2 Site Hydrogeology	1
2.0 GROUNDWATER MONITORING	2
2.1 Groundwater Monitoring Network and Schedule	2
2.2 Groundwater Elevations and Flow Direction.....	2
2.3 Data Quality Review	3
2.4 Groundwater Quality Results	3
2.4.1 Volatile Organic Compounds.....	3
2.4.2 Inorganic Parameters and Dissolved Metals.....	4
2.4.2.1 Statistical Analysis of Groundwater Analytical Data	4
2.4.2.2 Trend Analysis of Groundwater Data	5
3.0 STORMWATER MONITORING	7
4.0 LANDFILL GAS MONITORING	8
4.1 Compliance LFG Monitoring Probe Network and Schedule.....	8
4.2 Compliance LFG Monitoring Results.....	8
4.3 LFG Extraction Wells.....	9
4.4 LFG Flare Monitoring.....	9
4.5 Greenhouse Gas Monitoring.....	9
4.6 Evaluation of GCCS Performance and Conceptual Redesign of GCCS	10
5.0 MAINTENANCE AND REPAIR OF LANDFILL POST-CLOSURE SYSTEMS	11
5.1 Routine Activities.....	11
5.2 Non-Routine Activities	11
5.2.1 First Quarter 2018	11
5.2.2 Second Quarter 2018	12
5.2.3 Third Quarter 2018	12
5.2.4 Fourth Quarter 2018.....	13
6.0 References	14

Figures

- Figure 1-1 Site Location Map
- Figure 2-1 Groundwater Monitoring Locations
- Figure 2-2 Groundwater Potentiometric Surface Contours, Alluvial WBZ, February 26, 2018
- Figure 2-3 Groundwater Potentiometric Surface Contours, Troutdale Formation Aquifer, February 26, 2018
- Figure 2-4 Groundwater Potentiometric Surface Contours, Alluvial WBZ, August 13, 2018
- Figure 2-5 Groundwater Potentiometric Surface Contours, Troutdale Formation Aquifer, August 13, 2018
- Figure 4-1 Landfill Gas Probe and Extraction Well Locations

Tables

- Table 2-1 Statistical Summary of Groundwater Quality Data from 2014 to 2018

Appendices

- Appendix A 2018 Field Sampling Data Sheets
- Appendix B Summary Tables of 2018 Groundwater Field Parameter Measurements and Analytical Data
- Appendix C 2018 Laboratory Analytical Data Reports (provided on the attached CD only)
- Appendix D 2018 Groundwater Elevation Data and Groundwater Elevation Hydrographs
- Appendix E Quality Assurance/Quality Control Reviews of 2018 Laboratory Analytical Data
- Appendix F: Groundwater Time-Concentration Graphs
- Appendix G: Summary of 2018 Groundwater Statistical Calculations
- Appendix H: 2018 Landfill Gas Probe Monitoring Data

A complete copy of this report is provided on the attached CD

1.0 INTRODUCTION

This report presents and evaluates the results of groundwater and landfill gas (LFG) compliance monitoring performed during 2018 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 2018. 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 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).

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, and included 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 Lechner 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 monitoring well network components:

- 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 site groundwater monitoring wells were sampled annually or semiannually in 2018. Groundwater samples were collected from the following 18 wells during the annual monitoring event conducted in February and March 2018: 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 seven wells during the semiannual monitoring event conducted in August 2018: 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. Historical 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 TestAmerica Laboratories, Inc., (TAL) 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 February 26 and August 13, 2018, and converted to groundwater elevations for interpreting groundwater potentiometric surface contours and groundwater flow in the alluvial WBZ and the Troutdale Formation water-bearing zones (see Figures 2-2 through 2-5). Groundwater elevation data are summarized in Appendix D, along with historical elevations.

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 (see Figures 2-3 and 2-5). The 2018 groundwater flow directions are consistent with historical interpretations of groundwater flow at Lechner Landfill.

Groundwater elevation hydrographs are provided in Appendix D. The 2018 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 silt aquitard (sandy silt and clayey silt). 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 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. TAL 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 (see Appendix E). The QA/QC reviews indicated that the groundwater analytical data were acceptable for their intended use.

2.4 GROUNDWATER QUALITY RESULTS

Laboratory analytical results of groundwater samples collected from site monitoring wells in 2018 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 in this section of the report and include the following:

- No VOCs were detected at concentrations above method reporting limits (or above compliance levels).
- The concentrations of most inorganic indicator parameters in groundwater samples collected from monitoring wells located downgradient of the former waste cells (1) are below regulatory compliance levels, with only a few exceptions, and (2) have either remained generally stable or showed decreasing trends.

2.4.1 Volatile Organic Compounds

No VOCs were detected above the laboratory method reporting limits (MRLs) in the groundwater samples collected in the first and third quarters of 2018, 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).¹

¹ 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 after two years of testing for these two

The 2018 VOC analytical results continued to demonstrate that the post-closure measures implemented at the closed Lechner 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 the MRLs.

2.4.2 Inorganic Parameters and Dissolved Metals

The 2018 and historical analytical data for the inorganic parameters (nitrate, Cl, and TDS) and dissolved metals (Mn and Fe) are summarized in Appendix B (see Table B-3), and time-concentration diagrams for these parameters are provided in Appendix F. The 2018 groundwater analytical results for inorganic parameters and dissolved metals were generally consistent with historical data.

The 2018 laboratory analytical results indicated that Fe and/or Mn concentrations were above their respective compliance levels in groundwater collected from (1) a few wells located downgradient and in close proximity to the landfill (i.e., LB-17I, LB-17D, and LB-20S), and (2) well LB-27I located along the southwest corner of the site (see Figure 2-1)². 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 Table B-3).
- 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 shown variability and have typically been below the compliance level (see time-concentration diagrams in Appendix F).
- Concentrations of Fe and/or Mn 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) are 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).

2.4.2.1 Statistical Analysis of Groundwater Analytical Data

Lechner Landfill groundwater quality data from 2014 to 2018 for inorganic parameters (nitrate, Cl, and TDS) and dissolved cations (Mn and Fe) were statistically evaluated using the MTCA Stat97 program.³ The program identifies if the data show a normal, lognormal, or non-parametric

VOCs using a low-level EPA Method 8260B, these compounds were not detected above their respective compliance levels.

² It should be noted that Fe concentrations in samples collected from well LB-27I have been historically above the compliance level but very stable since monitoring began at this well in 1996, ranging from approximately 0.1 to 0.5 milligrams per liter (mg/L).

³ MTCA Stat97 was obtained from Ecology's website: <http://www.ecy.wa.gov/programs/tcp/tools/Mtca.exe>.

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 UCL-95 values that exceeded the range of concentrations for the following inorganic parameters and monitoring wells: (1) Cl data for well LB-20S, (2) nitrate data for well LB-10DR, and (3) TDS data for wells LB-1D and LB-3D. In these cases, the highest reported values from the last 5 monitoring years (2014 to 2018) were selected (see Table 2-1).

The following summarizes the results of the statistical evaluation:

- The calculated UCL-95 values for nitrate, Cl, and TDS were pronouncedly below their respective compliance levels.
- The calculated UCL-95 values, or default highest reported values, for dissolved Fe were below the compliance of 0.3 mg/L, except the values for groundwater from well LB-17I (9.8 mg/L) and LB-20S (0.7 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 the values for groundwater from wells LB-17I (1.5 mg/L), LB-17D (4.2 mg/L), LB-20S (2.4 mg/L), and LB-27I (0.4 mg/L).

2.4.2.2 Trend Analysis of Groundwater 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, 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 below the regulatory compliance level of 10 mg/L.

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, exhibit pronounced decreasing concentration trends generally from about 1991 and 2001 (see time-concentration plots in Appendix F). These decreasing concentration trends were likely in response to the construction, operation, and maintenance of Leichner Landfill's post-closure systems, including the landfill cover system and the stormwater control and collection system, which significantly reduced the potential for leachate to be generated. The concentrations of these inorganic

parameters in groundwater samples collected from these wells have remained relatively constant since about 2001 (except for Cl in well LB-20S as noted above). Additionally, as was 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 and quarterly monitoring are no longer required, and these activities were suspended in the first quarter of 2018. Consequently, storm water monitoring results are not required to be presented or discussed in the annual report.

SCS performed monthly visual inspections in January through March 2018 during storm events, if any occurred that could result in stormwater being potentially discharged at Outfall 1. The inspections included examining stormwater discharge at Outfall 1 (if observed) and inspecting the stormwater conveyance system (drainage ditches and culverts) and areas where equipment and materials are stored (primarily at the blower-flare station [BFS]). No issues were identified during the monthly inspections.

Monthly inspections, along with quarterly stormwater sampling and analysis, were not performed after March 30, 2018 in response to termination of Leichner Landfill's General Permit.

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 Permit for at least three years from the date of termination.

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, and an integrated remote monitoring and control (RMC) system that 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 LFG flare and blower.

4.1 COMPLIANCE LFG MONITORING PROBE NETWORK AND SCHEDULE

The LFG compliance monitoring network is comprised of 50 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.

A new perimeter LFG probe (GP-39) was installed in early May 2018 to provide perimeter LFG migration monitoring along the western side of the landfill adjacent to the vacant Fleischer property (see Figure 4-1) in anticipation that this property will be transacted and developed in the future. The new probe was installed in accordance with a work plan (SCS, 2017b) that was approved by CCPH and the Washington State Department of Ecology (Ecology, 2017). A report documenting the installation of the new probe was submitted to Ecology and CCPH on May 30, 2018 (SCS, 2018). Probe GP-39 was incorporated into the routine (quarterly) LFG compliance monitoring program at Leichner Landfill beginning in June 2018.

Compliance LFG monitoring was performed quarterly in 2018 (March, June, September, and December).⁴

4.2 COMPLIANCE LFG MONITORING RESULTS

The quarterly, compliance LFG monitoring probe data for 2018 are provided in Appendix H (Table H-1). The data indicate that methane concentrations were below the MFS (Chapter 173-304 WAC) regulatory limit of 5 percent methane (by volume) in the site perimeter compliance probes.

⁴ Ecology approved modifying the compliance monitoring of the LFG perimeter probes from monthly to quarterly in 2011 (Ecology, 2011).

4.3 LFG EXTRACTION WELLS

The LFG extraction wells (see Figure 4-1) were monitored and adjusted (balanced) semi-monthly (twice a month) during 2018 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.

4.4 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 2018 and continuous through 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.

To meet the annual reporting requirements of the ADP, a separate 2018 annual flare emissions estimate report will be submitted to the SWCAA on or before March 15, 2019. The report will present flare monitoring data and evaluate flare performance in 2018.

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 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.

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 regulatory limit of 5 percent methane (by volume). No structures are nearby, and in the case of GP-07, it is not uncommon for this probe to show slightly elevated methane levels due to nearby in-place waste. 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 regulatory limit.

4.5 GREENHOUSE GAS MONITORING

In November 2013, SCS completed an evaluation 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 from future weekly monitoring) per the Washington State's GHG Rule. Consequently, weekly GHG monitoring was suspended beginning in January 2014.

4.6 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 needed to be collected to facilitate a redesign of the system.

In general, whenever an existing system is upgraded, retrofitted, and/or replaced, the level of effort for the design is much greater than if a system is designed from scratch because of the coordination/tie-ins to the existing infrastructure.

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 gas wells located in the interior of the landfill were targeted for flow monitoring because they are expected to collect more gas and have higher flow rates. The perimeter gas wells, in general, are shallower and will not collect as much landfill gas (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 in 2018.

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 the three key design options for upgrading the GCCS which consider the following:

- Replacing the existing (25-year old) polyvinyl chloride (PVC) conveyance piping with new, more robust, thermoplastic 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. The installation of new QED well heads in 2018 is noted in Section 5.2.2.

In 2018, the attention focused on evaluating the potential to replace the existing flare at the Leichner Landfill with a micro-flare that can handle lower LFG flow rates. To facilitate the evaluation, SCS prepared a detailed cost estimate for replacing the flare at the request of the LLOC. After its review and consideration, the LLOC approved installing a new flare and allocated funds in the 2019 budget to procuring, installing and begin operating the new flare in 2019.

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 2018 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 from the site condensate 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 2018 are described in this section.

5.2.1 First Quarter 2018

- Performed troubleshooting and repair of the Module 2 stormwater vault pumping system. The diaphragm pump in the stormwater vault was removed for repair, and a temporary replacement pump was installed in the stormwater vault. Cost estimates were also obtained and evaluated to repair or replace the diaphragm pump.
- Developed cost estimates to (1) install a 3-inch discharge line from the Module 2 stormwater vault pumping system, (2) install LFG well heads, and (3) replace condensate pumps.
- Prepared the 2018 Annual Flare Emission Estimate and submitted the final report to the SWCAA on March 8, 2018.

- Performed troubleshooting of the Phase 2 stormwater vault remote monitoring control system. Installed a new battery.

5.2.2 Second Quarter 2018

- Installed safety railing at the South Detention Pond pumping vault platform.
- Performed troubleshooting of the RMC system for the Module 2 stormwater vault pump.
- Prepared and submitted to the County a memorandum presenting the scope and budget to install a modified discharge pipe for the Module 2 stormwater vault pumping system.
- Performed a semiannual evaluation of the GCCS performance using monthly LFG extraction well and flare monitoring data extracted from SCS' RMC system and Data Services database for the Leichner Landfill. Evaluation was performed to assess what wells should be retrofitted with the three new QED well heads purchased this year.
- Reviewed blower operations and efficiency (blower performance curves, gas recovery estimates, and historical gas recovery) and made adjustments to the blower program to achieve increased vacuum.
- Repaired silt fencing in the Module 2 area.
- Evaluated sizing and associated cost for replacing the existing LFG blowers with new ones.
- Evaluated sizing and associated costs for purchasing a flow meter for the North Detention Pond pumping system.

5.2.3 Third Quarter 2018

- Continued evaluating information related to sizing and purchasing a flow meter for the North Detention Pond pumping system. Work included submitting a draft letter to the County presenting recommendations for collecting additional information for designing and selecting the flow meter.
- Performed a subsurface utility locate in the vicinity of the planned flow meter installation area to delineate the North Pond pumping system discharge line.
- Prepared a preliminary excavation plan for installing the flow meter and conducting some limited trenching to determine the configuration/delineation of North Pond discharge line.
- Installed a new 4-inch diameter discharge line for the high-capacity pump in the Module 2 stormwater collection vault.
- Purchased and installed a new (back-up) pneumatic pump for the Module 2 stormwater collection vault.
- Installed protection bollards around new LFG monitoring probe GP-39.
- Installed "No Trespassing" signs at entrance gate.
- Placed hay and drain rock in area of gas lines by condensate sump S-1.
- Repaired silt fence along south perimeter of Module 2 adjacent to the northern property line of the Waste Connection facility.

5.2.4 Fourth Quarter 2018

- Purchased, programmed, and installed one SDI Series liquid flow sensor on the existing 20-inch, steel, discharge pipe associated with the North Detention Pond pump station. The sensor was programmed to log instantaneous and totalized flow outputs on the existing RMC system to provide data for designing new stormwater control system associated with the 99th Street extension project.
- Prepared and submitted to the County a cost estimate installing a new micro-flare. The County approved the budget in 2019 and anticipates that the new flare will get installed in the third quarter of 2019. .
- Purchased two new LFG blowers as part of the blower/flare system upgrade. The new blowers were installed in November.
- Performed annual inspection and service of the on-site air compressor associated with the LFG condensate and Module 2 stormwater pumping systems.
- Installed a backup pump in the Module 2 stormwater collection vault with a new pump with lower pumping rate capability. The stormwater vault filled with water due to pump failure and a backup pump was retained to dewater the vault.
- Performed troubleshooting of RMC system due to a power failure at the site that resulted in operational failure of the LFG flare on approximately December 21. Worked performed included replacing the programmable logic card (PLC) and getting the LFG flare operational again which occurred on January 4, 2019.
- Loaded, hauled, and disposed of LFG condensate from the on-site tank.

6.0 REFERENCES

- Clark County (County), 2019, Email (re: Leichner Flare Issues, Closed Leichner Landfill), from M. Davis, Clark County, Vancouver, Washington, to M. Kourehdar, WDOE, Olympia, Washington, and M. Sutton, CCPH, Vancouver, Washington, January 4.
- SCS Engineers (SCS), 2013, Compliance Monitoring Plan, Leichner Landfill, Clark County, Washington, prepared by SCS, Inc., Portland, Oregon, for Clark County Department of Environmental Services, July 30.
- SCS Engineers, 2014, 2013 Fourth Quarter and Annual Monitoring Report, Closed Leichner Landfill, Vancouver, Washington, Consent Decree 96-2-03081-7, Facility ID No. 1017, prepared by SCS, Inc., Portland, Oregon, for Clark County Department of Environmental Services, February 27.
- SCS Engineers, 2016, 2015 Annual Report, Closed Leichner Landfill, Vancouver, Washington, Consent Decree 96-2-03081-7, Facility ID No. 1017, prepared by SCS, Inc., Portland, Oregon, for Clark County Department of Environmental Services, February 19.
- SCS Engineers, 2017a, Proposed Options and Estimated Costs for Upgrading the Landfill Gas Collection and Control System at the Leichner Landfill, Vancouver, Washington, prepared by SCS, Portland, Oregon, for Clark County, Vancouver, WA, October 26.
- SCS Engineers, 2017b, Work Plan to Install New Landfill Gas Compliance Monitoring at the Closed Leichner Landfill, Vancouver, Washington, prepared by SCS, Portland, Oregon. December 15.
- SCS Engineers, 2018, Landfill Gas Monitoring Probe GP-39 Installation Report, Closed Leichner Landfill, Vancouver, Washington, prepared by SCS, Portland, Oregon prepared by SCS, Portland, Oregon, for Clark County, Vancouver, WA. May 30.
- Washington State Department of Ecology (Ecology), 1992, Statistical Guidance for Ecology Site Managers, Publication No. 19-54, August.
- Washington State Department of Ecology, 2011, Periodic Review under Model Toxics Control Act (MTCA), Leichner Brothers Landfill, prepared by Ecology, Southwest Region Office, Toxics Cleanup Program, April 27.
- Washington State Department of Ecology, 2013, Email (re: Letter to WDOE requesting to Discontinue GW Sampling for VC and DCE) to M. Davis, Clark County Environmental Services, and L. Caruso, SCS Engineers, from M. Kourehdar, Ecology, Toxics Cleanup Program, February 12.
- Washington State Department of Ecology, 2017, Letter (re: Closed Leichner Landfill: Work Plan to Install Perimeter Landfill Gas Probe), from M. Kourehdar, WDOE, Olympia, Washington, to C. Harman, CCPH, Vancouver, Washington, and L. Caruso, SCS Engineers, Portland, Oregon, December 20.

Washington State Department of Ecology, 2018, Letter (re: Notice of Termination of Coverage under the Industrial Stormwater General Permit) to M. Davis, Clark County Public Health from V. McGowan, Ecology, Water Quality Program, Olympia, Washington, March 30.

U.S. Environmental Protection Agency (EPA), 2002, Calculating Upper Confidence Limits for Exposure Point Concentrations at Hazardous Waste Sites, EPA, office of Emergency and Remedial Response, December.

FIGURES

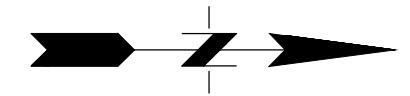


LEGEND:

- 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.



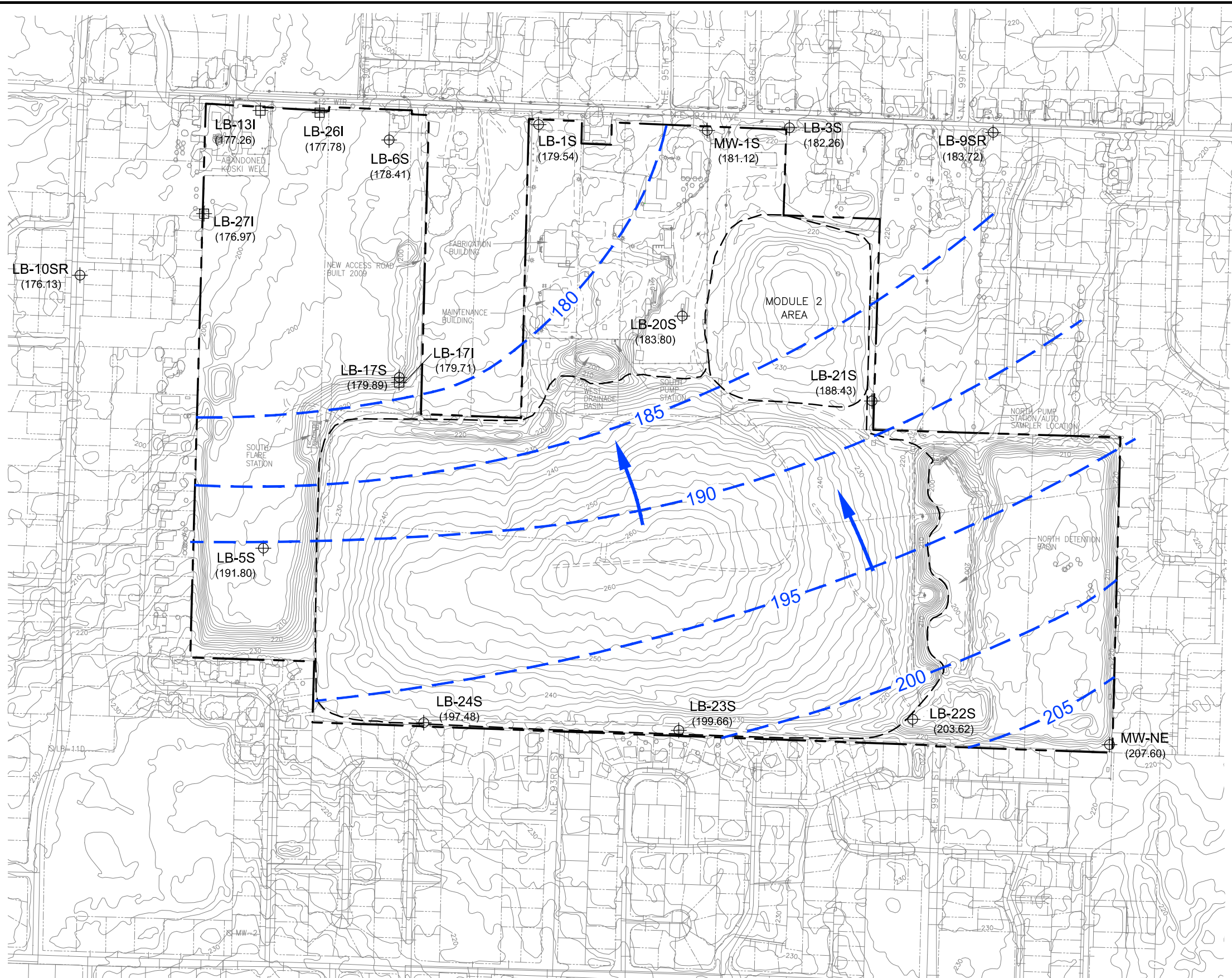
SCS ENGINEERS
 Environmental Consultants and Contractors
 15940 S.W. 72nd Avenue
 Portland, Oregon 97224
 (503) 639-9201 FAX: (503) 684-6948



PROJECT NO.	04219030.14	DES BY	E.F.
SCALE	AS SHOWN	CHK BY	D.L.
CAD FILE	FIGURE 2-1	APP BY	L.C.

GROUNDWATER MONITORING WELL LOCATIONS
 LEICHER LANDFILL
 VANCOUVER, WASHINGTON

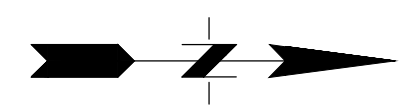
DATE MARCH 2019
 FIGURE 2-1



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
- (183.72) Groundwater Elevation Measured on February 26, 2018
- ➔ Inferred Groundwater Flow Direction

NOTE:
Topography Taken From Clark County GIS, December 2008



SCS ENGINEERS
Environmental Consultants and Contractors
15940 S.W. 72nd Avenue
Portland, Oregon 97224
(503) 639-9201 FAX: (503) 684-6948



PROJECT NO.	04219030.14	DES BY	E.F.
SCALE	AS SHOWN	CHK BY	D.L.
CAD FILE	FIGURE 2-2	APP BY	L.C.

GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS
ALLUVIAL WATER BEARING ZONE
FEBRUARY 26, 2018
LEICHER LANDFILL
VANCOUVER, WASHINGTON

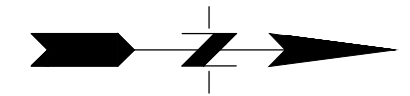
DATE MARCH 2019
FIGURE 2-2



LEGEND:

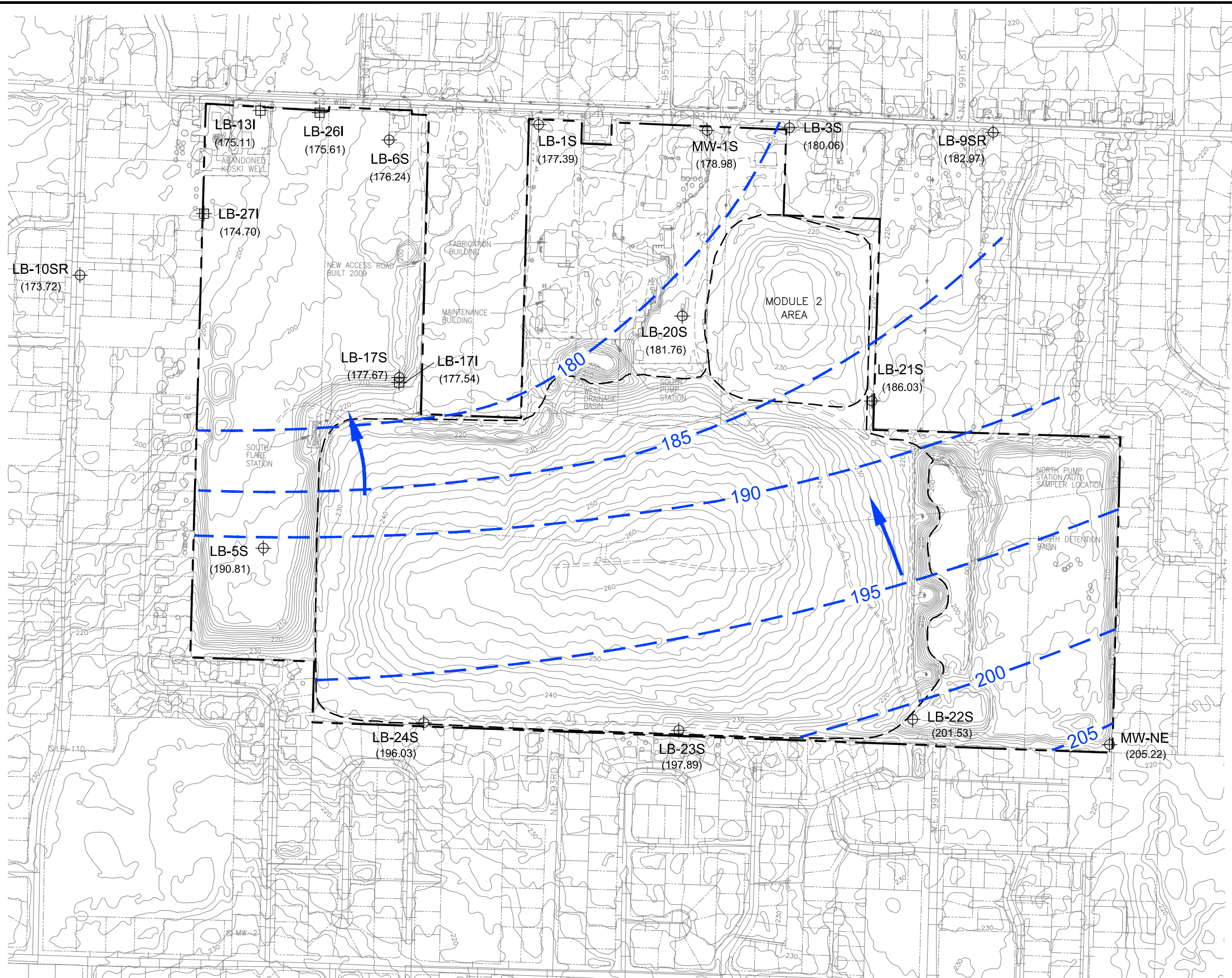
- LB-5D ⊗ Monitoring Well Location, Troutdale Aquifer
- Property Boundary
- - - - - Limit of Landfill Cover and Approximate Edge of Waste
- -180 - - - Groundwater Potentiometric Surface Contour, queried where uncertain
- (185.49) Groundwater Elevation Measured on February 26, 2018
- ➔ Inferred Groundwater Flow Direction

NOTE:
Topography Taken From Clark County GIS, December 2008



PROJECT NO.	04219030.14	DES BY	E.F.
SCALE	AS SHOWN	CHK BY	D.L.
CAD FILE	FIGURE 2-3	APP BY	L.C.

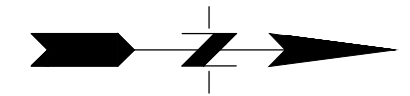
GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS
TROUTDALE FORMATION AQUIFER
FEBRUARY 26, 2018
LEICHTNER LANDFILL
VANCOUVER, WASHINGTON



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
- (178.98) Groundwater Elevation Measured on August 13, 2018
- ➔ Inferred Groundwater Flow Direction

NOTE:
Topography Taken From Clark County GIS, December 2008



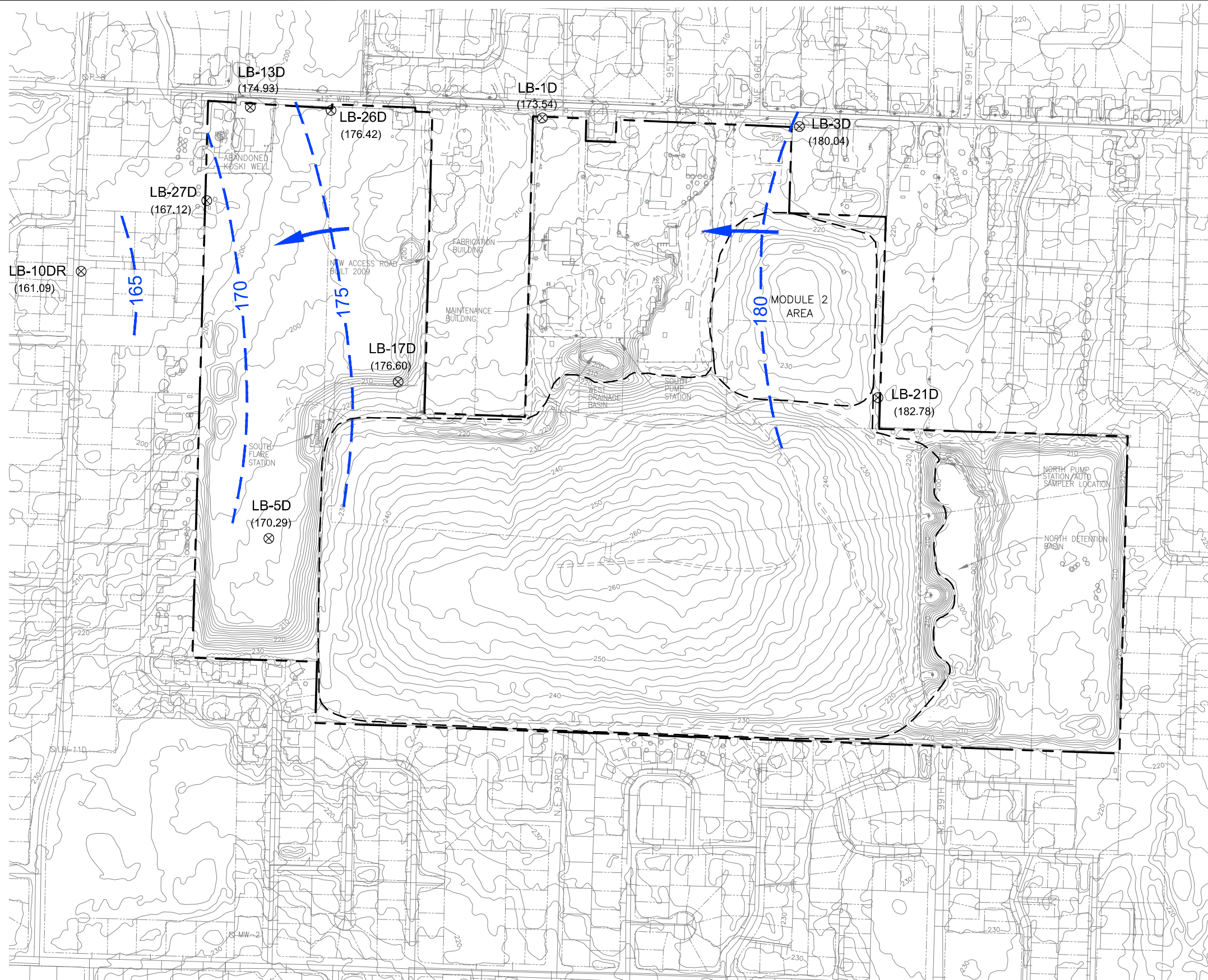
SCS ENGINEERS
Environmental Consultants and Contractors
15940 S.W. 72nd Avenue
Portland, Oregon 97224
(503) 639-9201 FAX: (503) 684-6948



PROJECT NO.	04219030.14	DES BY	E.F.
SCALE	AS SHOWN	CHK BY	D.L.
CAD FILE	FIGURE 2-4	APP BY	L.C.

GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS
ALLUVIAL WATER BEARING ZONE
AUGUST 13, 2018
LEICHER LANDFILL
VANCOUVER, WASHINGTON

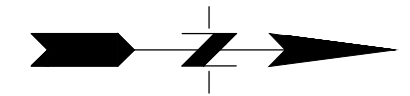
DATE MARCH 2019
FIGURE 2-4



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
- (167.12) Groundwater Elevation Measured on August 13, 2018
- ➔ Inferred Groundwater Flow Direction

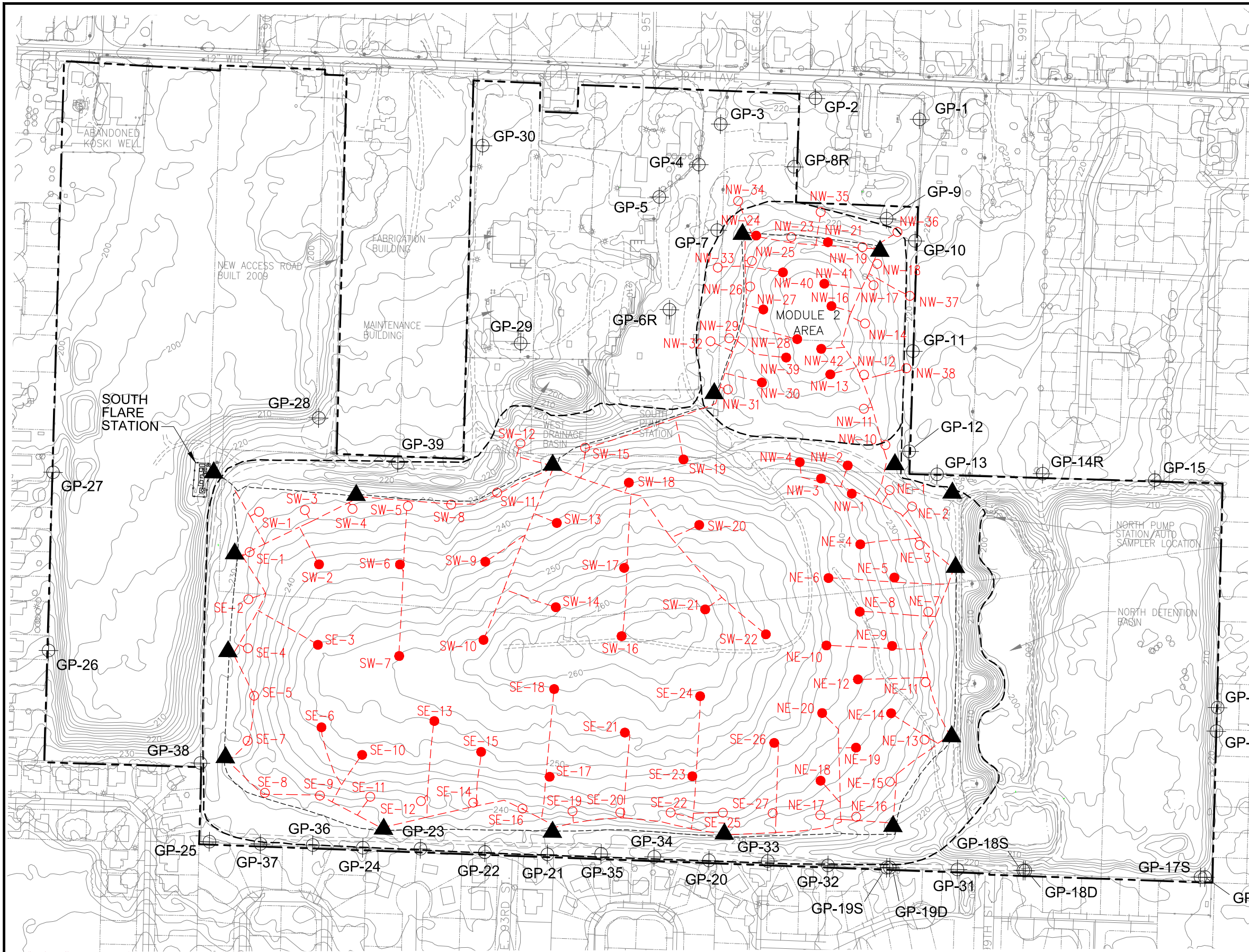
NOTE:
Topography Taken From Clark County GIS, December 2008



PROJECT NO.	04219030.14	DES BY	E.F.
SCALE	AS SHOWN	CHK BY	D.L.
CAD FILE	FIGURE 2-5	APP BY	L.C.

GROUNDWATER POTENTIOMETRIC SURFACE CONTOURS
TROUTDALE FORMATION AQUIFER
AUGUST 13, 2018
LEICHTNER LANDFILL
VANCOUVER, WASHINGTON

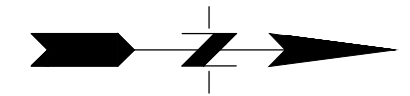
DATE	MARCH 2019
FIGURE	2-5



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



SCS ENGINEERS
Environmental Consultants and Contractors
15940 S.W. 72nd Avenue
Portland, Oregon 97224
(503) 639-9201 FAX: (503) 684-6948



PROJECT NO.	04219030.14	DES BY	E.F.
SCALE	AS SHOWN	CHK BY	D.L.
CAD FILE	FIGURE 4-1	APP BY	L.C.

**LANDFILL GAS PROBE AND
EXTRACTION WELL LOCATIONS**

LEICHER LANDFILL
VANCOUVER, WASHINGTON


DATE	MARCH 2019
FIGURE	4-1

TABLES

Table 2-1
Statistical Summary of Groundwater Quality Data From 2014 to 2018
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		
<i>Inorganic Parameters</i>																						
Chloride	250	mg/L	M(19.0)	7.5	M(4.14)	M(5.32)	4.7	9.9	5.4	26.6	17.6	9.2	M(10.8)	11.66	M(15.9)	M(35)	M(11.0)	M(5.88)	33.4	M(13)		
Nitrate	10	mg/L	6.3	M(7.09)	M(4.00)	M(4.81)	5.8	M(0.82)	2.0	3.9	3.4	3.8	5.1	All ND	All ND	M(0.40)	4.4	M(5.76)	M(0.91)	M(4.25)		
Total Dissolved Solids	500	mg/L	221.2	213.0	188.1	203.0	M(182)	232.2	168.0	283.1	294.2	200.6	294.2	M(250)	220.5	241.9	212.6	192.3	356.0	255.5		
<i>Metals</i>																						
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	All ND	All ND	M(9.8)	0.12	0.7	M(0.046)	All ND	All ND	M(0.23)
Manganese (dissolved)	0.05	mg/L	All ND	M(0.001)	All ND	All ND	All ND	0.0027	All ND	M(0.0059)	M(0.002)	0.0039	All ND	1.5	4.2	2.4	M(0.004)	All ND	0.4	M(0.013)		
<i>Volatile Organic Compounds</i>																						
1,4-Dichlorobenzene	1.8	µg/L	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	M(0.20)	All ND	All ND	All ND	All ND
Tetrachloroethene	5	µg/L	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	
Trichloroethene	5	µg/L	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	All ND	

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.



APPENDIX A
2018 Field Sampling Data Sheets (FSDSs)


First Quarter (February) 2018 FSDSs

SCS ENGINEERS

Field Report Form

Client: Leichner Landfill		Weather: Rain 35° F
Project: 04218030.13		
Event: 1Q18 groundwater monitoring		Date: 2/26/18
Prepared By: Sam Nilsson	Address: Vancouver, WA	Arrival: 1030
		Departure: 1530

- Calibrated YST, packed truck, and departed for site
- Stopped at Airgas for Nitrogen, and picked up ice/DI water.
- Arrived on site and picked up necessary supplies from shed
- Began sampling deep wells and conducting w.l. survey
- Sampled LB-5D LB-13D LB-17D LB-26D FB1 LB-27D, and DUP1.
- Standard 3-bucket decon was used on pump and other down-well equipment between wells.
- Samples stored on ice and in coolers w/ Trip Blanks
- Departed site and stored samples at SCS office for pickup by ALS following morning (2/27/18).

Signed: 

**Leichner Landfill
Groundwater Elevation Survey**

Project #: 09218030.13

Sampler: Sam Nilsson/T. Andrews

Quarter: 1 2 3 4

Date: 2/26/18

Monitoring Point Designation	Reference Elevation (ft. msl)	DTB (ft. btoc)	DTW (ft. btoc)	Time	Comments
Monitoring Wells					
MW-1 N	216.58	15.00	Dry	1517	Dry @ 15'
MW-1 S	216.13	44.50	35.01	1519	
MW-1 E	216.45	29.05	Dry	1521	Dry @ 29'
MW-NE	219.83	50.34	12.23	1406	
LB-R2	222.27	77.36	42.48	1354	
LB-1S	210.12	45.00	30.58	1459	
LB-1D	209.74	137.45	33.19	1456	
LB-3S	218.25	52.50	35.99	1539	
LB-3D	219.29	117.28	37.01	1555	
LB-5S	206.89	30.32	15.09	1135	
LB-5C	206.70	74.71	29.95	1130	
LB-5D	207.56	122.40	34.54	1050	
LB-6S	202.80	39.07	24.39	1126	
LB-9SR	217.94	49.60	34.22	1547	
LB-10SR	204.04	42.35	27.91	1120	
LB-10CR	203.05	71.95	21.87	1118	
LB-10DR	203.36	121.10	39.69	1115	
LB-13I	202.36	55.03	25.10	1215	
LB-13C	202.68	66.00	25.52	1213	
LB-13D	202.96	88.88	25.80	1211	
LB-17S	208.18	34.38	28.24	1223	
LB-17I	213.14	51.95	33.43	1225	
LB-17C	206.55	72.35	27.50	1221	
LB-17D	213.17	100.91	34.35	1228	
LB-20S	221.22	61.50	37.42	1512	
LB-21S	223.35	54.24	34.92	1536	
LB-21C	223.32	79.10	35.36	1539	
LB-21D	223.63	110.73	38.14	1534	
LB-22S	208.42	36.97	4.80	1409	
LB-23S	229.19	45.40	29.53	1413	
LB-24S	235.13	54.16	37.65	1417	
LB-26I	200.22	58.30	22.44	1134	
LB-26D	200.75	101.78	22.16	1129	
LB-27I	205.35	57.15	28.38	1235	
LB-27D	204.65	115.10	34.65	1158	

Notes:

Field Calibration Log
SCS Engineers

Equipment:		Serial Number:			Field Staff:			
YSI Pro Plus		17J102717			Sam 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)
04218030.13	2/26	0750	16.4	3.57	4.0	7.0	1413	220
↓	2/27	0745	5.0	6.56	4.0	7.0	1413	220
↓	3/1	0810	15.2	4.16	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: Lechner Landfill **WELL ID:** LR-50
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-022618-01-50

DUP ID: NA
WIND FROM: N NE E SE S SW W NW LIGHT MEDIUM HEAVY
WEATHER: SUNNY CLOUDY RAIN ? **TEMPERATURE:** 63.6 °C

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)
2/26/18	11:00	122.40		34.54		87.86	X 1 14.32
/ /	:	.		.		.	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: [v if used]

Bottle Type	Date	Time	Method	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	✓
VOA Glass	2/26/18	11:25	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	2/26/18	11:25	A	1 250, 600, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	2/26/18	11:25	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.) (NO ₃)
	YELLOW - Poly	(COD) (TOC) (NH ₃) (NO ₂ /NO ₃) (Tannin/Lignin)
	GREEN - Poly	(Cyanide)
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (TI) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)	

WATER QUALITY DATA Purge Start Time: 11:04 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(1107)	0.00	6.53	95.2	300.3	10.3	34.54	2.81	clear/colorless
1	A(1110)	0.30	6.74	55.1	301.7	11.5	34.54	1.13	clear/colorless
2	A(1122)	0.55	6.74	58.8	301.8	11.4	34.54	0.92	clear/colorless
3	A(1116)	0.90	6.73	64.3	300.6	11.6	34.54	0.74	clear/colorless
4	A(1119)	1.15	6.73	64.7	300.5	11.6	34.54	0.75	clear/colorless
5	A(1122)	1.40	6.73	65.2	301.7	11.6	34.54	0.73	clear/colorless
6									

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

Low Flow Purge Method: 11/9/60 → 100 mL/pulse → 300 mL/min

SAMPLER: T Andrews (PRINTED NAME) YJM (SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201

Fax: 503.684.6984

PROJECT NAME: Lechner Landfill

WELL ID: LB-130

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-022618-04-130

DUP ID:

NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
	WEATHER:			SUNNY		CLOUDY		RAIN		?	
										TEMPERATURE: 40.0 °C	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Column]

(Circle appropriate units)

[Water Column x Gal/R]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Volume (gal)
2/26/18	13:00	88.88	---	25.79	---	63.09	X 1 10.28
1/1	:	.	.	.	.	.	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	2/26/18	13:25	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	1/1	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	2/28/18	13:25	A	1 250, 600, 1L	None	YES	NO	NA	✓
Yellow Poly	1/1	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	1/1	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	1/1	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	2/26/18	13:25	A	1 125, 250, 500	HNO ₃	YES	YES		✓
	1/1	:		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)	(Ti)	(V)	(Zn)	(Hardness)
	RED DISSOLVED - Poly	(Ca)	(Fe)	(Mg)	(Mn)	(K)	(Na)												

WATER QUALITY DATA

Purge Start Time: 13:02

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(1305)	0.00	7.06	96.2	213.1	11.1	25.79	4.14	clear/colorless
1	A(1309)	0.40	6.76	99.6	213.1	11.3	25.79	3.46	clear/colorless
2	A(1311)	0.90	6.61	104.4	213.1	11.3	25.79	3.51	clear/colorless
3	A(1314)	1.35	6.60	105.5	212.9	11.3	25.79	3.57	clear/colorless
4	A(1317)	1.80	6.59	106.3	212.9	11.3	25.79	3.62	clear/colorless
5	A(1320)	2.15	6.59	106.9	212.8	11.3	25.79	3.65	clear/colorless
6									

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

Low Flow Purge Method: 8/17/60 ⇒ 100 mL/pulse ⇒ 400 mL/min

SAMPLER: T Andrews
(PRINTED NAME)

Tom
(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-170
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-022618-07-170

DUP ID: NA

WIND FROM: N NE E SE (S) SW W NW (LIGHT) MEDIUM HEAVY
WEATHER: SUNNY (CLOUDY) RAIN ? **TEMPERATURE:** 69.0 °C

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)
2/26/18	14:50	100.91	-	34.37	-	66.54	X 1 10.85
/ /	:	.	.	.	.	.	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	2/26/18	15:15	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	2/26/18	15:15	A	1 250, 600 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	2/26/18	15:15	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)	OR []	WA []
	VOA - Glass	(8260) (8011)		WA []
	AMBER - Glass	(8080) (8150) (TOX)		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 ₂ /NO ₃) (Tannin/Lignin)		
	GREEN - Poly	(Cyanide)		
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hardness)		
	RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)		

WATER QUALITY DATA Purge Start Time: 14:53 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 (1455)	0.00	6.82	374	326.0	12.7	34.37	3.99	Clear/colorless
1	A (1458)	0.40	6.74	399	343.7	13.1	34.37	2.45	Clear/colorless
2	A (1501)	0.80	6.73	305	342.2	13.3	34.37	1.92	Clear/colorless
3	A (1504)	1.15	6.73	296	342.1	13.3	34.37	1.87	Clear/colorless
4	A (1507)	1.50	6.73	284	342.0	13.4	34.37	1.81	Clear/colorless
5	A (1510)	1.85	6.73	277	341.9	13.4	34.37	1.78	Clear/colorless
6									

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

Low Flow Purge Method: 8/7/65 → 100 mL/pulse → 400 mL/min

SAMPLER: J Andrews
(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: Lechner Landfill **WELL ID:** L0-260

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-022618-06-260

DUP ID: NA

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

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Volume (gal)
2/26/18	13:50	101.78	—	22.15	—	79.63	X 1 12.98
1/1	:	.	.	.	.	.	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)

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	✓
VOA Glass	2/26/18	14:10	A	3 (40 ml)	HCl	YES	NO		✓
Amber Glass	1/1	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	2/26/18	14:10	A	1 (250, 500, 1L)	None	YES	NO	NA	✓
Yellow Poly	1/1	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	1/1	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	1/1	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	2/26/18	14:10	A	1 (125, 250, 500)	HNO ₃	YES	YES		✓
	1/1	:		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) (TI) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)	

WATER QUALITY DATA

Purge Start Time: 13:51 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 (1353)	0.00	6.82	114.4	223.8	11.2	22.15	4.34	clear/colorless
1	A (1356)	0.40	6.57	116.8	224.0	11.4	22.15	4.69	clear/colorless
2	A (1359)	0.75	6.47	119.1	223.9	11.4	22.15	4.42	clear/colorless
3	A (1402)	0.10	6.53	119.0	223.8	11.4	22.15	3.97	clear/colorless
4	A (1405)	1.45	6.54	119.0	223.8	11.3	22.15	3.95	clear/colorless
5	A (1408)	1.80	6.54	118.7	223.9	11.3	22.15	3.91	clear/colorless
6		.	.	.	.	.	.	.

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

Low Flow Purge Method: 8/17/60 → 100mL/pulse → 400mL/min

SAMPLER: T Andrews
(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: Lechner Landfill **WELL ID:** FB 1
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-022618-05-FB1

DUP ID: NA

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

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)	
/ /	:	:	:	:	:	:	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 Bailor (D) PVC/Teflon Bailor (E) Dedicated Bailor (F) Dedicated Pump (G) Other = Grab

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

Sample Depth: [v if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	✓
VOA Glass	2/26/18	13:30	G	3 40 ml	(HCl)	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	2/26/18	13:30	G	1 250, 500, 1L	(None)	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	2/26/18	13:30	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 [✓]
	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 ₄) (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-260

SAMPLER: Sam 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: Lechner Landfill **WELL ID:** LB-270
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-022618-02-270

DUP ID: NA

WIND FROM: N NE E SE **(S)** SW W NW **(LIGHT)** MEDIUM HEAVY
WEATHER: SUNNY CLOUDY **(RAIN)** ? **TEMPERATURE:** 54.0 °C

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)
2/26/18	12:05	115.10	-	34.45	-	80.65			X 1 13.15
/ /	:	.	.	.	.	.			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 Bailor (D) PVC/Teflon Bailor (E) Dedicated Bailor (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	2/26/18	12:30	A	3 40 ml	(HCl)	(YES)	NO		✓		
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO				
White Poly	2/28/18	12:30	A	1 250, (600) 1L	(None)	(YES)	NO	NA	✓		
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO				
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO				
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO				
Red Diss. Poly	2/26/18	12:30	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 []							
	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) (Ti) (V) (Zn) (Hardness)								
	RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)								

WATER QUALITY DATA			Purge Start Time: 12:10				Pump/Bailor Inlet Depth:		
Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O ₂ (mg/l)	Water Quality
0	A (1212)	0.00	6.94	82.4	289.2	11.0	35.90	3.43	clear/colorless
1	A (1215)	0.25	6.88	83.4	289.7	11.2	35.96	3.41	clear/colorless
2	A (1218)	0.50	6.85	85.9	289.5	11.4	35.97	3.36	clear/colorless
3	A (1221)	0.75	6.85	86.1	289.0	11.4	35.97	3.34	clear/colorless
4	A (1224)	1.00	6.84	86.4	289.2	11.4	35.98	3.35	clear/colorless
5	A (1227)	1.25	6.85	86.6	289.3	11.4	35.98	3.33	clear/colorless
6									

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

Low Flow Purge Method: (20/10/60) → 125 mL/pulse → 350 mL/min → 40/30/60 → 250 mL/min

SAMPLER: T Andrews
(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-022618-03-DUP1

DUP ID: **NA**

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
	WEATHER: SUNNY		CLOUDY		RAIN		?		TEMPERATURE: <u>7</u> °F °C		

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)	
/ /	:	/	/	/	/	/	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	2/26/18	12:35	A	3	40 ml	HCl	YES	NO	✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	2/28/18	12:35	A	1	250, 500, 1L	None	YES	NO	NA ✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	2/26/18	12:35	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) (Ti) (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-270

SAMPLER: J Andrews
(PRINTED NAME)

[Signature]
(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 _____ OF _____

COC#

PROJECT NAME: Lechner Land fill
 PROJECT NUMBER: 04218030.13
 PROJECT MANAGER: David Lamadrid
 COMPANY NAME: SCS Engineers
 ADDRESS: 15940 SW 73rd Avenue
 CITY/STATE/ZIP: Portland, OR 97204
 E-MAIL ADDRESS: dlamadrid@scsengineers.com
 PHONE # 503 639-9736 FAX # _____
 SAMPLER'S SIGNATURE: [Signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	REMARKS
LB-022618-01-50	2/26/18	1125		W	5	
LB-022618-04-130	2/26/18	1325		W	5	
LB-022618-07-170	2/26/18	1515		W	5	
LB-022618-06-260	2/26/18	1410		W	5	
LB-022618-05-F81	2/26/18	1330		W	5	
LB-022618-02-270	2/26/18	1230		W	5	
LB-022618-03-N221	2/26/18	1235		W	5	
Top Blanks	-	-		W	2	

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 _____

RELINQUISHED BY: [Signature] Date/Time 2/27/18 930 Firm SCS ENGINEERS

RECEIVED BY: _____ Date/Time _____ Firm _____

RELINQUISHED BY: _____ Date/Time _____ Firm _____

RECEIVED BY: _____ Date/Time _____ Firm _____

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

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

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

SPECIAL INSTRUCTIONS/COMMENTS:

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 Ti 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 Ti Sn V Zn Hg

TESTS: Hex-Chrom Cyanide (circle) pH Cond. (Cl, SO4, PO4, F, NO2, NO3, BOD, TSS, TDS, Turb. DOC, NO2+NO3, T-Phos) TOX 9020 AOX 1650 506 HCO3 CO3 CO2 Dissolved Gases RSK 175 Methane Ethane Ethene

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201

Fax: 503.684.6984

PROJECT NAME: Lechner Landfill **WELL ID:** LB-18
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-022718-11-18

DUP ID: NA

WIND FROM: N NE E SE S SW W NW LIGHT MEDIUM HEAVY
WEATHER: SUNNY CLOUDY RAIN ? **TEMPERATURE:** 83.8 °C

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)
2/27/18	11:42	45:00	—	30.58	—	14.42	X 1 2.35
/ /	:	.	.	.	.	.	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	2/27/18	12:10	A	3 <u>40 ml</u>	<u>HCl</u>	<u>YES</u>	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	2/27/18	12:10	A	1 250, <u>600</u> 1L	<u>None</u>	<u>YES</u>	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	2/27/18	12:10	A	1 <u>125</u> 250, 500	<u>HNO₃</u>	<u>YES</u>	<u>YES</u>		✓
	/ /	:		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	<u>(8260)</u> (8011)								OR []	WA []
	AMBER - Glass	(8080) (8150) (TOX)								OR []	WA []
	WHITE - Poly	(pH) (Conductivity) <u>(TDS)</u> (TSS) (Alkalinity) (HCO ₃ /CO ₃) <u>(Cl)</u> (SO ₄) (Silica, T.) <u>(NO3)</u>									
	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) <u>(Fe)</u> <u>(Mg)</u> <u>(Mn)</u> (K) (Na)									

WATER QUALITY DATA Purge Start Time: 11:48 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 (1150)	0.00	7.01	164.3	247.0	48.4	30.58	6.30	C/C
1	A (1153)	0.20	6.77	166.8	254.5	10.7	30.58	5.38	C/C
2	A (1156)	0.40	6.72	166.0	255.7	11.1	30.58	5.05	C/C
3	A (1159)	0.55	6.70	165.8	255.4	11.3	30.58	4.82	C/C
4	A (1202)	0.65	6.70	165.5	255.5	11.3	30.58	4.78	C/C
5	A (1205)	0.80	6.69	165.8	255.1	11.3	30.58	4.72	C/C
6									

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

Low Flow Purge Method: 9/6/25 → 350 mL/min

C/C = Clear/colorless

SAMPLER: Sam Nilsson
(PRINTED NAME)

[Signature]
(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201

Fax: 503.684.6984

PROJECT NAME: Lechner Landfill **WELL ID:** LR-10

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LR-022718-10-10

DUP ID: NA

WIND FROM: N NE E SE S SW W NW LIGHT MEDIUM HEAVY
WEATHER: SUNNY CLOUDY RAIN ? **TEMPERATURE:** 63.7 °C

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)
2/27/18	11:07	137.45	—	33.22	—	104.23	X 1 16.99
1/1	:	.	.	.	.	.	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	2/27/18	11:30	A	3 <u>40 ml</u>	<u>HCl</u>	<u>YES</u>	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	2/27/18	11:30	A	1 250, <u>600</u> 1L	<u>None</u>	<u>YES</u>	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	2/27/18	11:30	A	1 <u>125</u> 250, 500	<u>HNO₃</u>	<u>YES</u>	<u>YES</u>		✓
	/ /	:		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) <u>(TDS)</u> (TSS) (Alkalinity) (HCO ₃ /CO ₃) <u>(Cl)</u> (SO ₄) (Silica, T.) <u>(NO₃)</u>								
	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) (TI) (V) (Zn) (Hardness)								
	RED DISSOLVED - Poly	(Ca) <u>(Fe)</u> <u>(Mg)</u> <u>(Mn)</u> (K) (Na)								

WATER QUALITY DATA Purge Start Time: 11:09 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(1110)	0.00	7.42	153.8	227.0	8.4	33.19	6.98	C/C
1	A(1113)	0.20	7.14	153.0	226.5	10.7	33.20	5.99	C/C
2	A(1116)	0.35	6.97	155.5	226.3	10.8	33.20	6.02	C/C
3	A(1119)	0.50	6.83	158.6	225.3	11.0	33.19	5.92	C/C
4	A(1122)	0.65	6.78	161.5	224.8	10.9	33.20	5.89	C/C
5	A(1125)	0.80	6.73	162.8	224.5	10.9	33.20	5.84	C/C
6									

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

Low Flow Purge Method: 8/7/80 → 300 mL/min

C/C = clear and colorless

SAMPLER: Sam 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-35

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-022718-13-35

DUP ID:

NA

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

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Column]

[Circle appropriate units]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Volume (gal)
2/27/18	13:34	52.55	---	35.94	---	76.61	X 1 2.71
/ /	:						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	2/27/18	14:00	A	3 (40 ml)	(HCl)	(YES)	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	2/27/18	14:00	A	1 (250, 500) 1L	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	2/27/18	14:00	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)	OR []	WA []
	VOA - Glass	(8260) (8011)		WA []
	AMBER - Glass	(8080) (8150) (TOX)		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) (TI) (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(1337)	0.00	6.73	173.2	203.4	10.1	35.94	6.90	c/c
1	A(1340)	0.15	6.39	176.2	202.0	10.8	35.94	5.70	c/c
2	A(1343)	0.35	6.45	177.5	201.6	11.0	35.94	5.36	c/c
3	A(1346)	0.50	6.45	178.4	201.4	11.1	35.94	5.14	c/c
4	A(1349)	0.60	6.44	179.1	201.5	11.1	35.94	5.08	c/c
5	A(1352)	0.75	6.45	179.4	201.6	11.0	35.94	5.02	c/c
6									

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

Low Flow Purge Method: 8/7/30 psi

350 mL/min c/c = clear and colorless

SAMPLER: Sam 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-3D

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-022718-12-3D

DUP ID:

NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
	WEATHER: SUNNY CLOUDY RAIN ?										
										TEMPERATURE: 39.0 °C	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Column]

[Circle appropriate units]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Volume (gal)
2/27/18	12:45	117.28	—	36.96	—	40.32	X 1 13.09
/ /	:						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 Bailor (D) PVC/Teflon Bailor (E) Dedicated Bailor (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	2/27/18	13:10	A	3 (40 ml)	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	2/27/18	13:10	A	1 (250, 500) 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	2/27/18	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 []									
	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)	(Ti)	(V)	(Zn)	(Hardness)
	RED DISSOLVED - Poly	(Ca)	(Fe)	(Mg)	(Mn)	(K)	(Na)												

WATER QUALITY DATA

Purge Start Time: 12:48

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(1250)	0.00	7.15	165.1	204.0	9.4	36.97	4.58	C/C
1	A(1253)	0.20	6.88	164.7	202.8	10.9	36.98	4.75	C/C
2	A(1256)	0.40	6.59	170.4	202.9	11.1	36.98	4.80	C/C
3	A(1259)	0.55	6.39	173.0	202.8	11.1	36.98	4.92	C/C
4	A(1302)	0.70	6.32	174.8	202.2	11.1	36.99	4.97	C/C
5	A(1305)	0.85	6.27	175.4	201.9	11.2	36.99	5.10	C/C
6									

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

Low Flow Purge Method:

8/7/70 psi

300 mL/min

C/C = clear and odorless

SAMPLER:

Sam 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: Lechner Landfill

WELL ID: LB-10SR

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-022718-09-10SR

DUP ID: NA

WIND FROM:	N	NE	E	SE	(S)	SW	W	NW	(LIGHT)	MEDIUM	HEAVY
	WEATHER: SUNNY		CLOUDY		RAIN		?		TEMPERATURE: (°F) 37. °C		

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)
2/27/18	10:12	42.35	-	27.94	-	14.41	X 1 2.35
/ /	:	.	.	.	.	.	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	2/27/18	10:35	A	3, 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	2/27/18	10:35	A	1, 250, 600 mL	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	2/27/18	10:35	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 ₂ /NO ₃) (Tannin/Lignin)
	GREEN - Poly	(Cyanide)
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hardness)
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)	

WATER QUALITY DATA

Purge Start Time: 10:14

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(1016)	0.00	7.32	166.5	369.4	9.0	27.92	6.07	C/C
1	A(1017)	0.10	6.93	176.3	400.9	11.0	27.92	3.40	C/C
2	A(1022)	0.25	6.91	175.2	410.3	11.2	27.92	2.32	C/C
3	A(1025)	0.40	6.90	174.3	411.7	11.4	27.92	1.95	C/C
4	A(1028)	0.55	6.89	173.8	412.2	11.5	27.92	1.88	C/C
5	A(1031)	0.75	6.88	173.3	412.7	11.6	27.92	1.76	C/C
6									1

[Casing] [Select A-G] [Cumulative Totals]

[Circle units]

[Clarity, Color]

Low Flow Purge Method: 9/6/25 psi 190 ml/min C/C = clear and colorless

SAMPLER: Sam Nilsson
(PRINTED NAME)

[Signature]
(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201

Fax: 503.684.6984

PROJECT NAME: Lechner Landfill **WELL ID:** LB-100R
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-022718-08-100R

DUP ID: NA

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

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)
2/27/18	09:33	121.10	←	39.68	←	81.42	X 1 13.27
/ /	:	.	.	.	.	.	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: [v if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	✓
VOA Glass	2/27/18	10:00	A	3 <u>40 ml</u>	<u>HCl</u>	<u>YES</u>	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	2/27/18	10:00	A	1 250, <u>600</u> 1L	<u>None</u>	<u>YES</u>	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	2/27/18	10:00	A	1 <u>125</u> 250, 500	<u>HNO₃</u>	<u>YES</u>	<u>YES</u>		✓
/ /	:			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)	OR []	WA []
	VOA - Glass	<u>(8260)</u> (8011)			WA [ ]
AMBER - Glass	(8080) (8150) (TOX)			WA []
WHITE - Poly	(pH) (Conductivity) <u>(TDS)</u> (TSS) (Alkalinity) (HCO ₃ /CO ₃) <u>(Cl)</u> (SO ₄) (Silica, T.) <u>(NO3)</u>			
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) (TI) (V) (Zn) (Hardness)			
RED DISSOLVED - Poly	(Ca) <u>(Fe)</u> <u>(Mg)</u> <u>(Mn)</u> (K) (Na)			

WATER QUALITY DATA Purge Start Time: 09:35 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	<u>A(0937)</u>	0.00	6.56	202.4	278.2	9.5	39.69	5.71	c/c
1	<u>A(0940)</u>	0.15	6.75	186.3	293.4	11.1	39.68	4.26	c/c
2	<u>A(0943)</u>	0.40	6.77	181.5	294.7	11.4	39.68	3.33	c/c
3	<u>A(0946)</u>	0.55	6.78	179.6	295.1	11.5	39.67	2.94	c/c
4	<u>A(0949)</u>	0.70	6.78	177.7	293.3	11.5	39.68	2.99	c/c
5	<u>A(0952)</u>	0.85	6.78	176.5	305.2	11.5	39.65	2.86	c/c
6									

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

Low Flow Purge Method: 8/7/ 70psi 200 mL/min c/c = clear and colorless

SAMPLER: Sam Nilsson
(PRINTED NAME)

[Signature]
(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201

Fax: 503.684.6984

PROJECT NAME: Lechner Landfill

WELL ID: LB-55

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-030118-15-55

DUP ID:

NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		TEMPERATURE: (°F) 48 °C		

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)
3/1/18	11:10	30.32	—	15.31	—	15.31	X 1 2.50
/ /	:	.	.	.	.	.	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	3/1/18	11:40	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	3/1/18	11:40	A	1 250, 600, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	3/1/18	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)							
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) (TI) (V) (Zn) (Hardness)								
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)								

WATER QUALITY DATA Purge Start Time: 11:14 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(1116)	0.00	7.16	160.0	192.2	11.6	15.01	5.60	C/C
1	A(1119)	0.30	6.45	170.6	202.0	11.9	15.01	5.43	C/C
2	A(1122)	0.50	6.31	178.1	201.7	12.2	15.01	5.68	C/C
3	A(1125)	0.75	6.29	181.8	200.6	12.1	15.01	5.65	C/C
4	A(1128)	0.90	6.28	185.2	200.8	12.2	15.01	5.67	C/C
5	A(1131)	1.10	6.26	191.5	199.8	12.2	15.01	5.62	C/C
6									

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

Low Flow Purge Method: 8/7/20 psi 250 mL/min, C/C = clear and colorless

SAMPLER: Sam 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-65
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-030118-17-65

DUP ID: NA

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

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)
3/1/18	13:25	39.07	—	24.29	—	14.78		X 1	2.41
/ /	:	.	.	.	.	.		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:** [v if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	3/1/18	13:45	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	3/1/18	13:45	A	1 250, 600 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	3/1/18	13:45	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 ₂ /NO ₃) (Tannin/Lignin)								
	GREEN - Poly	(Cyanide)								
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (TI) (V) (Zn) (Hardness)								
	RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)								

WATER QUALITY DATA						Purge Start Time: 13:26	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(1326)	0.00	7.12	99.8	206.8	11.0	24.30	5.13	C/L
1	A(1329)	0.20	6.76	101.0	204.5	11.7	24.30	3.87	C/L
2	A(1332)	0.45	6.66	100.2	205.1	11.8	24.30	3.34	C/L
3	A(1335)	0.75	6.61	105.2	206.4	11.9	24.30	3.43	C/L
4	A(1338)	1.00	6.59	109.3	207.5	11.9	24.30	3.48	C/L
5		.	.	.	.	.	.	.
6		.	.	.	.	.	.	.

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

Low Flow Purge Method: 8/7/25 psi / 200mL/min

C/L = clear and colorless

SAMPLER: Sam Nilsson
(PRINTED NAME)

[Signature]
(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: DUP 2

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-030118-18-DUP2

DUP ID:

NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY			CLOUDY		RAIN		?		TEMPERATURE: 44.0 °C	

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Column]

(Circle appropriate units)

[Water Column x Gal/ft]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	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	3/1/18	13:50	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	3/1/18	13:50	A	1 250, 500 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	3/1/18	13:50	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 []								
	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 ₂ /NO ₃) (Tannin/Lignin)									
	GREEN - Poly	(Cyanide)									
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Ti) (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-6S

SAMPLER:

Sam Nilsson
(PRINTED NAME)

[Signature]
(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201

Fax: 503.684.6984

PROJECT NAME: Lechner Landfill

WELL ID: LB-13E

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-030118-20-13E

DUP ID: NA

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

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)
3/1/18	15:09	55.03	—	25.01	—	30.02	X 1 4.90
1/1	:	.	.	.	.	.	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	3/1/18	15:30	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	3/1/18	15:30	A	1 250, 600 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	3/1/18	15:30	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 ₂ /NO ₃) (Tannin/Lignin)									
	GREEN - Poly	(Cyanide)									
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (TI) (V) (Zn) (Hardness)									
	RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)									

WATER QUALITY DATA

Purge Start Time: 15:11

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(1512)	0.00	7.18	142.3	262.7	11.2	24.99	5.22	c/c
1	A(1515)	0.25	6.84	143.7	260.9	11.6	24.99	3.71	c/c
2	A(1518)	0.50	6.72	142.1	263.3	11.7	24.99	2.64	c/c
3	A(1521)	0.75	6.68	141.5	264.6	11.7	24.99	2.58	c/c
4	A(1524)	1.00	6.67	141.2	265.2	11.8	24.99	2.52	c/c
5		.	.	.	.	.	.	.
6		.	.	.	.	.	.	.

[Casing] [Select A-G] [Cumulative Totals]

[Circle units]

[Clarity, Color]

Low Flow Purge Method: 8/7/35 psi / 250 mL/min

c/c = clear and colorless

SAMPLER: Sam 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: Lechner Landfill

WELL ID: LB-17I

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-030118-16-17I

DUP ID: NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		TEMPERATURE: 48 °C		

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)
3/1/18	12:00	51.95	—	33.29	—	18.66	X 1 3.04
/ /	:	.	.	.	.	.	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:

[v if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative (circle)	Ice	Filter	pH	✓
VOA Glass	3/1/18	12:25	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:	.	250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	3/1/18	12:25	A	1 250, 600 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:	.	250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:	.	250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:	.	125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	3/1/18	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) (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) (Ti) (V) (Zn) (Hardness)								
	RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)								

WATER QUALITY DATA

Purge Start Time: 12:02

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(1203)	0.00	6.63	112.1	306.5	12.3	33.29	5.00	C/C
1	A(1206)	0.20	6.52	21.4	346.9	13.0	33.29	2.75	C/C
2	A(1209)	0.35	6.59	-11.2	357.7	13.5	33.29	1.54	C/C
3	A(1212)	0.45	6.62	-23.5	357.9	13.7	33.29	1.50	C/C
4	A(1215)	0.60	6.64	-31.3	360.0	13.6	33.29	1.46	C/C
5		.	.	.	.	.	.	.
6		.	.	.	.	.	.	.

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

Low Flow Purge Method: 8/7/30 psi 200 mL/min

C/C = clear and colorless

SAMPLER: Sam 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: Lechner Landfill **WELL ID:** LB-26I
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-030118-21-26E

DUP ID: NA

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

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)
3/1/18	15:58	58.30	—	22.32	—	35.98		X 1	5.86
/ /	:	.	.	.	.	.		X 3	—
Gal/ft = (dia./2) ² x 0.163 1" = 0.041 <u>2" = 0.163</u> 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	3/1/18	16:20	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	3/1/18	16:20	A	1 250, 500 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	3/1/18	16:20	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 []
	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 ₂ /NO ₃) (Tannin/Lignin)								
	GREEN - Poly	(Cyanide)								
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (Ti) (V) (Zn) (Hardness)								
	RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)								

WATER QUALITY DATA							Purge Start Time: 15:59	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(1600)	0.00	7.26	153.9	242.9	10.5	22.31	6.84	c/c	
1	A(1603)	0.40	6.70	161.5	246.7	11.6	22.31	4.68	c/c	
2	A(1606)	0.50	6.68	161.3	248.9	11.6	22.31	4.02	c/c	
3	A(1609)	0.75	6.67	161.1	258.0	11.6	22.31	4.07	c/c	
4	A(1612)	1.10	6.68	161.2	261.0	11.7	22.31	3.93	c/c	
5	A	.	.	.	.	.	.	.
6		.	.	.	.	.	.	.

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

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

c/c = clear and colorless

SAMPLER: Sam Nilsson
(PRINTED NAME)

[Signature]
(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201

Fax: 503.684.6984

PROJECT NAME: Lechner Landfill

WELL ID: LB-27E

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-030118-19-27E

DUP ID:

NA

WIND FROM:	N	NE	E	SE	(S)	SW	W	NW	(LIGHT)	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		TEMPERATURE: (F) 45 °C		

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)
3/1/18	14:20	57.15	---	28.27	---	28.88	X 1 4.7L
/ /	:	.	.	.	.	.	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:

[V if used]

Bottle Type	Date	Time	Method ^s	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	✓
VOA Glass	3/1/18	14:45	A	3 (40 ml)	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	3/1/18	14:45	A	1 (250, 600) 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	3/1/18	14:45	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 ₂ /NO ₃) (Tannin/Lignin)									
	GREEN - Poly	(Cyanide)									
	RED TOTAL - Poly	(As) (Sb) (Ba) (Be) (Cd) (Co) (Cr) (Cu) (Fe) (Pb) (Mn) (Ni) (Ag) (Se) (TI) (V) (Zn) (Hardness)									
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)										

WATER QUALITY DATA

Purge Start Time: 14:22

Pump/Bailer Inlet Depth:

Meas.	Method ^s	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp (°C)	DTW	Diss O ₂ (mg/l)	Water Quality
0	A(1423)	0.00	7.05	1406	508.0	10.2	28.26	7.49	C/C
1	A(1426)	0.20	6.81	144.5	536.0	11.5	28.26	4.95	C/C
2	A(1429)	0.35	6.82	139.5	540.1	11.5	28.26	1.27	C/C
3	A(1432)	0.50	6.81	136.4	545.5	11.7	28.26	1.32	C/C
4	A(1435)	0.60	6.81	135.1	547.8	11.6	28.26	1.36	C/C
5		.	.	.	.	.	.	.
6		.	.	.	.	.	.	.

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

Low Flow Purge Method: 8/7/35 psi / 250 mL/min

C/C = clear and colorless

SAMPLER:

Sam Nilsson
(PRINTED NAME)

[Signature]
(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# _____

OF _____

PAGE _____

COC# _____

PROJECT NAME: Lechner Landfill

PROJECT NUMBER: 04218030.13

PROJECT MANAGER: David Lamadid

COMPANY NAME: SCS Engineers

ADDRESS: 15940 SW 72nd Ave

CITY/STATE/ZIP: Portland, OR 97224

E-MAIL ADDRESS: dlamadid@scsengineers.com

PHONE #: 503-639-9726

SAMPLER'S SIGNATURE: [Signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS		REMARKS
LB-030118-15-5S	3/1/18	1140		W	5		
LB-030118-17-6S	3/1/18	1345		W	5		
LB-030118-18-0U2	3/1/18	1350		W	5		
LB-030118-20-13I	3/1/18	1530		W	5		
LB-030118-16-17I	3/1/18	1225		W	5		
LB-030118-14-20I	3/1/18	1030		W	5		
LB-030118-21-26S	3/1/18	1620		W	5		
LB-030118-19-27I	3/1/18	1445		W	5		
Trip Blanks	—	—		W	3		See below

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: SCS

TURNAROUND REQUIREMENTS

24 hr. _____ 48 hr. _____

5 day _____

Standard (15 working days) _____

Provide FAX Results _____

Requested Report Date _____

REQUIREMENTS

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 Ti 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 Ti Sn V Zn Hg

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

SPECIAL INSTRUCTIONS/COMMENTS:

cc Tiffany Andrews tandrews@scsengineers.com

Trip blanks received from Lab with bubbles

Metalcare field filtered

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

RELINQUISHED BY: [Signature] Date/Time: 3/21/18 905 Firm: SCS

RECEIVED BY: _____ Date/Time: _____ Firm: _____

Third Quarter (August) 2018 FSDSs

Landfill Visual Inspection Program

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

Landfill *Leichter Bros*
Inspector *S Nilsson*
Date *8/13/18*
Reason for inspection
1st, 2nd, 3rd or 4th groundwater monitoring event
Other

Notes: *Sunny 87°F*

**Lechner Landfill
Groundwater Elevation Survey**

Project #: 04218030.13

Sampler: SN/EF

Quarter: 1 2 3 4

Date: 08/13/18

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	0853	Dry @ 15.03
MW-1 S	216.13	44.50	37.15	0852	
MW-1 E	216.45	29.05	NA	0855	Dry @ 29.26
MW-NE	219.83	50.34	14.61	1123	
LB-R2	222.27	77.36	44.74	1000	
LB-1S	210.12	45.00	32.73	0913	
LB-1D	209.74	137.45	36.20	0910	
LB-3S	218.25	52.50	38.19	0927	
LB-3D	219.29	117.28	39.25	0925	
LB-5S	206.89	30.32	16.08	1019	
LB-5C	206.70	74.71	32.42	1015	
LB-5D	207.56	122.40	37.27	1017	
LB-6S	202.80	39.07	26.56	1100	
LB-9SR	217.94	49.60	34.97	0940	
LB-10SR	204.04	42.35	30.32	0842	
LB-10CR	203.05	71.95	29.25	0840	
LB-10DR	203.36	121.10	42.27	0844	
LB-13I	202.36	55.03	27.25	1040	
LB-13C	202.68	66.00	27.65	1038	
LB-13D	202.96	88.88	28.03	1036	
LB-17S	208.18	34.38	30.51	0957	
LB-17I	213.14	51.95	35.60	0952	
LB-17C	206.55	72.35	29.32	0956	
LB-17D	213.17	100.91	36.57	0954	
LB-20S	221.22	61.50	39.46	1228	
LB-21S	223.35	54.24	37.32	1144	
LB-21C	223.32	79.10	37.71	1146	
LB-21D	223.63	110.73	40.85	1142	
LB-22S	208.42	36.97	6.89	1122	
LB-23S	229.19	45.40	31.30	1113	
LB-24S	235.13	54.16	39.10	1107	
LB-26I	200.22	58.30	24.61	1047	
LB-26D	200.75	101.78	24.33	1049	
LB-27I	205.35	57.15	30.65	1028	
LB-27D	204.65	115.10	37.53	1026	

Notes:

Sunny, 72°F

Probe disconnected 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: Lechner Landfill

WELL ID: LB-15 SN

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-081418-01-15 03-15

DUP ID:

NA

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

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Column]

[Circle appropriate units]

[Water Column x Gal/ft]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Volume (gal)
08/14/18	08:10	45.00	—	32.72	—	.	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:

[N if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	8/14/18	08:40	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	8/14/18	08:40	A	1 250, 500 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	8/14/18	08:40	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)		OR []	WA []
	VOA - Glass	(8280)	(8011)		WA []
	AMBER - Glass	(8080)	(8150) (TOX)		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) (Ti) (V) (Zn) (Hardness)			
	RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)			

WATER QUALITY DATA

Purge Start Time: 08:19

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	(0822)	0.00	6.61	110.2	353	15.09	32.73	5.51	clear/colorless
1	(0825)	0.4	6.50	115.7	354	13.85	32.73	4.29	clear/colorless
2	(0828)	0.6	6.30	124.5	347	13.40	32.73	3.99	clear/colorless
3	(0831)	0.9	6.33	121.3	344	13.22	32.73	3.84	clear/colorless
4	(0834)	1.15	6.33	120.4	342	13.00	32.73	3.73	clear/colorless
5	(0831)	1.4	6.33	119.5	341	12.97	32.73	3.67	clear/colorless
6									

[Casing]

[Select A-G]

[Cumulative Totals]

[Circle units]

[Clarity, Color]

Low Flow Purge Method: ~ 9/6/30 psi ~ 375 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: Lechner Landfill

WELL ID: LB-55

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-081418-05-55

DUP ID:

NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		TEMPERATURE: °F 70 °C		

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Column]

(Circle appropriate units)

[Water Column x Gal/ft]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Volume (gal)
08/14/18	09:52	30.32	---	16.07	---	---	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 Bailor (D) PVC/Teflon Bailor (E) Dedicated Bailor (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	08/14/18	10:25	A	3 (40 ml)	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	08/14/18	10:25	A	1 (250, 500) 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	08/14/18	10:25	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	(8250) (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) (Ti) (V) (Zn) (Hardness)								
	RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)								

WATER QUALITY DATA

Purge Start Time: 10:01

Pump/Bailor Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O ₂ (mg/l)	Water Quality
0	A(1003)	0.00	5.75	150.2	238	15.20	16.07	9.51	clear/colorless
1	A(1006)	0.25	5.56	152.2	186	13.66	16.07	7.55	clear/colorless
2	A(1009)	0.50	5.49	156.5	184	13.40	16.07	7.12	clear/colorless
3	A(1012)	0.70	5.48	158.0	180	13.38	16.07	7.17	clear/colorless
4	A(1015)	0.90	5.47	159.8	177	13.37	16.07	7.16	clear/colorless
5	A(1018)	1.20	5.46	161.4	175	13.35	16.07	7.13	clear/colorless
6									

[Casing]

[Select A-G]

[Cumulative Totals]

[Circle units]

[Clarity, Color]

Low Flow Purge Method: ~ 8/7/20 ~ 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: Lechner Landfill **WELL ID:** LB-6S
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-081418-09-6S

DUP ID: NA

WIND FROM: N NE E SE S SW W NW LIGHT MEDIUM HEAVY
WEATHER: SUNNY CLOUDY RAIN ? **TEMPERATURE:** 81 °F °C

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)
08/14/18	12:18	39.07	---	26.55	---	.	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 Bailor (D) PVC/Teflon Bailor (E) Dedicated Bailor (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	08/14/18	12:50	A	3 40 ml	<u>HCl</u>	<u>YES</u>	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	08/14/18	12:50	A	1 250, 500 1L	<u>None</u>	<u>YES</u>	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	08/14/18	12:50	A	1 125, 250, 500	<u>HNO₃</u>	<u>YES</u>	<u>YES</u>		✓
	/ /	:		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)				OR []	WA []
	VOA - Glass	<u>(8260)</u> (8011)					<u>WA []</u>
	AMBER - Glass	(8080) (8150) (TOX)					WA []
	WHITE - Poly	(pH) (Conductivity) <u>(TDS)</u> (TSS) (Alkalinity) (HCO ₃ /CO ₃) <u>(Cl)</u> (SO ₄) (Silica, T.) <u>(NO₃)</u>					
	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) (Ti) (V) (Zn) (Hardness)					
	RED DISSOLVED - Poly	<u>(Ca)</u> <u>(Fe)</u> <u>(Mg)</u> <u>(Mn)</u> (K) (Na)					

WATER QUALITY DATA Purge Start Time: 12:26 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(1228)	0.00	6.92	104.5	133	16.61	26.55	7.33	clear/colorless
1	A(1231)	0.25	6.68	105.2	126	14.16	26.55	3.81	clear/colorless
2	A(1234)	0.65	6.53	108.7	127	13.40	26.55	3.60	clear/colorless
3	A(1237)	1.00	6.44	111.5	128	13.21	26.55	3.83	clear/colorless
4	A(1240)	1.25	6.39	111.6	129	13.17	26.55	4.02	clear/colorless
5	A(1243)	1.50	6.37	111.1	130	13.03	26.55	4.01	clear/colorless
6									

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

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

SAMPLER: E Fadely
(PRINTED NAME)

E Fadely
(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201

Fax: 503.684.6984

PROJECT NAME: Lechner Landfill

WELL ID: LB - 105A

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-081418-04-105R

DUP ID:

NA

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

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Column]

[Circle appropriate units]

[Water Column x Gal/ft]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Volume (gal)	
08/14/18	08:41	42.35	—	30.33	—	.	X 1	.
/ /	:	.	.	.	.	.	X 3	.
Gal/ft = (dia./2) ² x 0.183		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 Bailor (D) PVC/Teflon Bailor (E) Dedicated Bailor (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	8/14/18	09:20	A	3 (40 ml)	(HCl)	(YES)	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	8/14/18	09:20	A	1 (250, 500) 1L	(None)	(YES)	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	8/14/18	09:20	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)		OR []	WA []
	VOA - Glass	(8260)	(8011)		
	AMBER - Glass	(8080)	(8150) (TOX)		
	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) (Ti) (V) (Zn) (Hardness)			
RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)				

WATER QUALITY DATA

Purge Start Time: 08:56

Pump/Bailor Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp (°C)	DTW	Diss O ₂ (mg/l)	Water Quality
0	A(0859)	0.00	5.77	184.0	292	15.24	30.33	4.76	clear/colorless
1	A(0902)	0.30	5.80	182.2	317	14.23	30.33	1.36	clear/colorless
2	A(0905)	0.50	5.87	176.9	322	13.74	30.33	0.89	clear/colorless
3	A(0908)	0.70	5.90	175.0	324	13.57	30.33	0.84	clear/colorless
4	A(0911)	0.80	5.91	173.8	328	13.52	30.33	0.71	clear/colorless
5	A(0914)	1.0	5.93	172.8	332	13.46	30.33	0.82	clear/colorless
6									

[Casing]

[Select A-G]

[Cumulative Totals]

[Circle units]

[Clarity, Color]

Low Flow Purge Method: ~ 9/6/25 ~ 300 mL/min

SAMPLER: Eleanor Fadely
(PRINTED NAME)

Eleanor Fadely
(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201

Fax: 503.684.6984

PROJECT NAME: Lechner Landfill

WELL ID: LB-13I

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-081418-07-13I

DUP ID:

NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		TEMPERATURE: °F 77. °C		

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Column]

(Circle appropriate units)

[Water Column x Gal/ft]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Volume (gal)
8/14/18	10:45	55.03	—	27.26	—	.	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	8/14/18	11:15	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	8/14/18	11:15	A	1 250 500 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	8/14/18	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	(8250) (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 ₄) (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) (Ti) (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(1052)	0.00	5.94	149.6	194	17.47	27.26	8.61	clear/colorless
1	A(1055)	0.40	6.11	151.7	260	14.32	27.26	4.10	clear/colorless
2	A(1058)	0.50	6.12	150.9	272	13.46	27.26	2.23	clear/colorless
3	A(1101)	0.75	6.12	149.8	275	13.30	27.26	1.49	clear/colorless
4	A(1104)	0.95	6.12	148.0	279	13.21	27.26	1.72	clear/colorless
5	A(1107)	1.20	6.11	146.1	282	13.18	27.26	1.70	clear/colorless
6									

[Casing]

[Select A-G]

[Cumulative Totals]

[Circle units]

[Clarity, Color]

Low Flow Purge Method: ~8/7/35 psi ~200 mL/min

SAMPLER: E Fadely
(PRINTED NAME)

E Fadely
(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201

Fax: 503.684.6984

PROJECT NAME: Lechner Landfill

WELL ID: FB1

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-081418-06-FB

DUP ID:

NA

WIND FROM:	N	NE	E	SE	S	SW	W	<u>NW</u>	<u>LIGHT</u>	MEDIUM	HEAVY	
WEATHER:	SUNNY		CLOUDY		RAIN			?	TEMPERATURE: <u>6</u> °F °C			

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft) (Circle appropriate units)

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	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	8/14/18	10:40	G	3 <u>40 ml</u>	<u>HCl</u>	<u>YES</u>	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	8/14/18	10:40	G	1 <u>250, 500</u> , 1L	<u>None</u>	<u>YES</u>	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	8/14/18	10:40	G	1 <u>125, 250, 500</u>	<u>HNO₃</u>	<u>YES</u>	<u>YES</u>		✓
	/ /	:		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	<u>(8260)</u> (8011) OR [] WA []
	AMBER - Glass	(8080) (8150) (TOX) OR [] WA []
	WHITE - Poly	(pH) (Conductivity) <u>(TDS)</u> (TSS) (Alkalinity) (HCO ₃ /CO ₃) <u>(Cl)</u> (SO ₄) (Silica, T.) <u>(NO₃)</u>
	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) <u>(Fe)</u> <u>(Mg)</u> <u>(Mn)</u> (K) (Na)

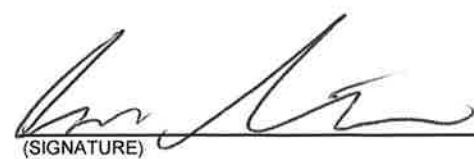
WATER QUALITY DATA Purge Start Time: : Pump/Bailer Inlet Depth:

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]

Transfer
Collected Near: LB-13I

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: Lechner Landfill

WELL ID: LB-26L

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-081418-08-26L

DUP ID:

NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		TEMPERATURE: °F 77. °C		

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Column]

(Circle appropriate units)

[Water Column x Gal/ft]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Volume (gal)
08/14/18	11:36	58.30	---	24.59	---	.	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 Bailor (D) PVC/Teflon Bailor (E) Dedicated Bailor (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	08/14/18	12:00	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	08/14/18	12:00	A	1 250 500 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	08/14/18	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	(8250) (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) (Ti) (V) (Zn) (Hardness)								
	RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)								

WATER QUALITY DATA

Purge Start Time: 11:37

Pump/Bailor Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O ₂ (mg/l)	Water Quality
0	A(1138)	0.00	6.88	118.3	245	16.19	24.59	8.70	clear/colorless
1	A(1141)	0.40	6.42	126.8	248	13.61	24.59	5.03	clear/colorless
2	A(1144)	0.60	6.34	129.7	249	13.15	24.59	4.83	clear/colorless
3	A(1147)	0.80	6.30	131.8	260	13.02	24.59	4.39	clear/colorless
4	A(1150)	1.10	6.29	132.2	270	12.92	24.59	3.98	clear/colorless
5	A(1153)	1.30	6.29	131.0	276	12.83	24.59	3.69	clear/colorless
6	A(1156)	1.70	6.28	129.4	278	12.88	24.59	3.64	clear/colorless

[Casing]

[Select A-G]

[Cumulative Totals]

[Circle units]

[Clarity, Color]

Low Flow Purge Method: ~ 8/7/40

~ 325 mL/min

SAMPLER: Eleanor 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: Lechner Landfill

WELL ID: LB-27F

SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662

BLIND ID: LB-081418-01-27F

DUP ID:

NA

WIND FROM:	N	NE	E	SE	S	SW	W	NW	LIGHT	MEDIUM	HEAVY
WEATHER:	SUNNY		CLOUDY		RAIN		?		TEMPERATURE: °F 72. °C		

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft)

[Product Thickness]

[Water Column]

[Circle appropriate units]

[Water Column x Gal/ft]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	Volume (gal)
8/14/18	:	.	—	.	—	.	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 Bailor (D) PVC/Teflon Bailor (E) Dedicated Bailor (F) Dedicated Pump (G) Other =

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

Sample Depth:

[N if used]

Bottle Type	Date	Time	Method §	Amount & Volume mL	Preservative [circle]	Ice	Filter	pH	√
VOA Glass	8/14/18	07:50	A	3 40 ml	HCl	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	8/14/18	07:50	A	1 250 500 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	8/14/18	07:50	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	(8250) (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) (Ti) (V) (Zn) (Hardness)								
	RED DISSOLVED - Poly	(Ca) (Fe) (Mg) (Mn) (K) (Na)								

WATER QUALITY DATA

Purge Start Time: 07:29

Pump/Bailor Inlet Depth:

Meas.	Method §	Purged (gal)	pH	ORP	E Cond (µS)	°F Temp °C	DTW	Diss O ₂ (mg/l)	Water Quality
0	A(0731)	0.00	6.88	109.8	585	15.75	30.53	6.40	clear/colorless
1	A(0734)	0.3	6.62	113.4	617	14.60	30.53	1.84	clear/colorless
2	A(0737)	0.45	6.56	115.2	622	14.12	30.53	1.07	clear/colorless
3	A(0746)	0.6	6.52	116.7	624	13.78	30.53	0.75	clear/colorless
4	A(0743)	0.75	6.51	116.5	622	13.68	30.53	0.79	clear/colorless
5	A(0746)	1.1	6.52	115.9	622	13.63	30.53	0.78	clear/colorless
6									

[Casing]

[Select A-G]

[Cumulative Totals]

[Circle units]

[Clarity, Color]

Low Flow Purge Method: ~ 817/35 psi ~ 300 mL/min

SAMPLER:

S Nilsson
(PRINTED NAME)

[Signature]
(SIGNATURE)

FIELD SAMPLING DATA SHEET

SCS ENGINEERS

15940 SW 72nd Avenue,
Portland, OR 97224

Office: 503.639.9201

Fax: 503.684.6984

PROJECT NAME: Lechner Landfill **WELL ID:** DUP1
SITE ADDRESS: 9411 NE 94th Avenue, Vancouver, WA 98662 **BLIND ID:** LB-081418-02-DUP

DUP ID: NA

WIND FROM: N NE E SE S SW W NW LIGHT MEDIUM HEAVY
WEATHER: SUNNY CLOUDY RAIN ? **TEMPERATURE:** 72 °F °C

HYDROLOGY/LEVEL MEASUREMENTS (Nearest 0.01 ft) [Product Thickness] [Water Column] [Circle appropriate units]

Date	Time	DT-Bottom	DT-Product	DT-Water	DTP-DTW	DTB-DTW	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	8/14/18	07:55	A	3 40 ml	HC	YES	NO		✓
Amber Glass	/ /	:		250, 500, 1L	(None) (HCl) (H ₂ SO ₄)	YES	NO		
White Poly	8/14/18	07:55	A	1 250, 500, 1L	None	YES	NO	NA	✓
Yellow Poly	/ /	:		250, 500, 1L	H ₂ SO ₄	YES	NO		
Green Poly	/ /	:		250, 500, 1L	NaOH	YES	NO		
Red Total Poly	/ /	:		125, 250, 500	HNO ₃	YES	NO		
Red Diss. Poly	8/14/18	07:55	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)				OR []	WA []
	VOA - Glass	(8260) (8011)					WA []
	AMBER - Glass	(8080) (8150) (TOX)					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) (Ti) (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-27I

SAMPLER: S Nilsson
(PRINTED NAME)


(SIGNATURE)



APPENDIX B

Summary Tables of Historical Groundwater Field Parameter Measurements and Analytical Data

Field Parameters

Table B-1
Groundwater Chemistry, Field Parameters
1987 through 2018
Leichner Landfill

Location	Sample Number	Date	Field pH (S.U.)	Field Conductivity (umhos/cm)	Temperature (°C)	Dissolved Oxygen (mg/L)
LB-1D	LB-022718-10-1D	2/27/18	6.73	225	10.9	5.84
LB-1S	LB-022718-11-1S	2/27/18	6.69	255	11.3	4.72
LB-1S	LB-081418-03-1S	8/14/18	6.33	341	13.0	3.67
LB-3D	LB-022718-12-3D	2/27/18	6.27	202	11.2	5.10
LB-3S	LB-022718-13-3S	2/27/18	6.45	202	11.0	5.02
LB-5D	LB-022618-01-5D	2/26/18	6.73	302	11.6	0.73
LB-5S	LB-030118-15-5S	3/1/18	6.26	200	12.2	5.62
LB-5S	LB-081418-05-5S	8/14/18	5.46	175	13.4	7.13
LB-6S	LB-030118-17-6S	3/1/18	6.59	208	11.9	3.48
LB-6S	LB-081418-09-6S	8/14/18	6.37	130	13.0	4.01
LB-10DR	LB-022718-08-10DR	2/27/18	6.78	305	11.5	2.86
LB-10SR	LB-022718-09-10SR	2/27/18	6.88	413	11.6	1.76
LB-10SR	LB-081418-04-10SR	8/14/18	5.93	332	13.5	0.82
LB-13D	LB-022618-04-13D	2/26/18	6.59	213	11.3	3.65
LB-13I	LB-030118-20-13I	3/1/18	6.67	265	11.8	2.52
LB-13I	LB-081418-07-13I	8/14/18	6.11	282	13.2	1.70
LB-17D	LB-022618-07-17D	2/26/18	6.73	342	13.4	1.78
LB-17I	LB-030118-16-17I	3/1/18	6.64	360	13.6	1.46
LB-20S	LB-030118-14-20S	3/1/18	6.88	291	11.6	1.29
LB-26D	LB-022618-06-26D	2/26/18	6.54	224	11.3	3.91
LB-26I	LB-030118-21-26I	3/1/18	6.68	261	11.7	3.93
LB-26I	LB-081418-08-26I	8/14/18	6.28	278	12.9	3.64
LB-27D	LB-022618-02-27D	2/26/18	6.85	289	11.4	3.33
LB-27I	LB-030118-19-27I	3/1/18	6.81	548	11.6	1.36
LB-27I	LB-081418-01-27I	8/14/18	6.52	622	13.6	0.78
FIELDQC	LB-022618-05-FB1	2/26/18	N/A	N/A	N/A	N/A
FIELDQC	LB-081418-06-FB	8/14/18	N/A	N/A	N/A	N/A
Notes: NT = not tested; N/A = Not Applicable						

Volatile Organic Compounds

Table B-2
Groundwater Chemistry, Volatile Organic Compounds^a (µg/L)
1987 through 2018
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-022718-10-1D	2/27/18	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-022718-11-1S	2/27/18	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-081418-03-1S	8/14/18	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-022718-12-3D	2/27/18	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-022718-13-3S	2/27/18	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-022618-01-5D	2/26/18	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-030118-15-5S	3/1/18	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-081418-05-5S	8/14/18	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-030118-17-6S	3/1/18	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-030118-18-DUP2	3/1/18	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-081418-09-6S	8/14/18	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-022718-08-10DR	2/27/18	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-022718-09-10SR	2/27/18	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-081418-04-10SR	8/14/18	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-022618-04-13D	2/26/18	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-030118-20-13I	3/1/18	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-081418-07-13I	8/14/18	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-022618-07-17D	2/26/18	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-030118-16-17I	3/1/18	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-030118-14-20S	3/1/18	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
Groundwater Chemistry, Volatile Organic Compounds^a (µg/L)
1987 through 2018
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-26D	LB-022618-06-26D	2/26/18	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-030118-21-26I	3/1/18	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-081418-08-26I	8/14/18	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-022618-02-27D	2/26/18	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-022618-03-DUP1	2/26/18	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-030118-19-27I	3/1/18	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-081418-01-27I	8/14/18	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 (Dup)	LB-081418-02-DUP	8/14/18	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-022618-05-FB1	2/26/18	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-081418-06-FB	8/14/18	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	2/26/18	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	2/27/18	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	3/1/18	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	8/14/18	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										

Inorganic Parameters (Nitrate, Cl, and TDS)
and Dissolved Metals (Fe and Mn)


**Table B-3
Groundwater Chemistry, Inorganic Parameters and
Dissolved Metals Concentrations (mg/L)
1987 through 2018
Leichner Landfill**

Location	Sample Number	Date	Conductivity	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-022718-10-1D	2/27/18	NT	6.54	6.05	143	0.021 L	0.0011 L
LB-1S	LB-022718-11-1S	2/27/18	NT	6.05	4.50	159	0.021 L	0.0011 L
LB-1S	LB-081418-03-1S	8/14/18	NT	7.41	3.83	195	0.021 L	0.0011 L
LB-3D	LB-022718-12-3D	2/27/18	NT	4.13	3.89	136	0.021 L	0.0011 L
LB-3S	LB-022718-13-3S	2/27/18	NT	3.37	3.53	134	0.021 L	0.0011 L
LB-5D	LB-022618-01-5D	2/26/18	NT	7.5	0.69	199	0.042 L	0.002
LB-5S	LB-030118-15-5S	3/1/18	NT	4.19	5.03	148	0.042 L	0.0011 L
LB-5S	LB-081418-05-5S	8/14/18	NT	4.11	4.77	113	0.021 L	0.0011 L
LB-6S	LB-030118-17-6S	3/1/18	NT	2.64	1.41	142	0.042 L	0.0011 L
LB-6S (Dup)	LB-030118-18-DUP2	3/1/18	NT	2.68	1.41	147	0.042 L	0.0011 L
LB-6S	LB-081418-09-6S	8/14/18	NT	2.27	0.97	72.0	0.021 L	0.0011 L
LB-10DR	LB-022718-08-10DR	2/27/18	NT	11.8	2.56	229	0.021 L	0.0011 L
LB-10SR	LB-022718-09-10SR	2/27/18	NT	15.0	0.75	251	0.021 L	0.0032
LB-10SR	LB-081418-04-10SR	8/14/18	NT	11.0	0.99	176	0.021 L	0.0011 L
LB-13D	LB-022618-04-13D	2/26/18	NT	10.8	4.62	164	0.042 L	0.0011 L
LB-13I	LB-030118-20-13I	3/1/18	NT	7.97	2.54	168	0.042 L	0.0011 L
LB-13I	LB-081418-07-13I	8/14/18	NT	8.89	2.73	169	0.021 L	0.0015
LB-17D	LB-022618-07-17D	2/26/18	NT	15.9	0.10 L	207	0.129	4.29
LB-17I	LB-030118-16-17I	3/1/18	NT	10.9	0.10 L	174	7.5	1.21
LB-20S	LB-030118-14-20S	3/1/18	NT	10.60	0.10 L	166	0.214	1.47
LB-26D	LB-022618-06-26D	2/26/18	NT	5.16	4.63	159	0.042 L	0.0011 L
LB-26I	LB-030118-21-26I	3/1/18	NT	8.05	3.02	173	0.046	0.0017
LB-26I	LB-081418-08-26I	8/14/18	NT	8.67	3.22	158	0.021 L	0.0020
LB-27D	LB-022618-02-27D	2/26/18	NT	7.59	4.25	213	0.042 L	0.0078
LB-27D (Dup)	LB-022618-03-DUP1	2/26/18	NT	7.72	4.26	191	0.042 L	0.0078
LB-27I	LB-030118-19-27I	3/1/18	NT	19.2	0.10 L	299	0.042 L	0.239
LB-27I	LB-081481-01-27I	8/14/18	NT	33.2	0.10 L	302	0.021 L	0.288
LB-27I (Dup)	LB-081418-02-DUP	8/14/18	NT	33.2	0.10 L	324	0.021 L	0.292

Table B-3
Groundwater Chemistry, Inorganic Parameters and
Dissolved Metals Concentrations (mg/L)
1987 through 2018
Leichner Landfill

Location	Sample Number	Date	Conductivity	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)
FIELDQC	LB-022618-05-FB1	2/26/18	NT	0.02 L	0.10 L	8.5	0.042 L	0.0011 L
FIELDQC	LB-081418-06-FB	8/14/18	NT	0.10 L	0.05 L	104.0	0.021 L	0.0011 L

Notes:
CL = compliance level for inorganic parameters and metals in groundwater at Leichner Landfill.
Conductivity = umhos/cm; B = analyte detected above the MDL but below the MRL; L = not detected at or above method reporting limit; J = estimated concentration; H = due to laboratory error, sample was extracted and analyzed past the recommended 7-day hold time; NT = not tested.



APPENDIX C
2018 Laboratory Analytical Data

First Quarter (February) 2018 Laboratory Reports



ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

March 22, 2018

Analytical Report for Service Request No: K1801827

Jason Davendonis
SCS Engineers
15940 SW 72nd Ave
Portland, OR 97224

RE: Leichner Landfill / 04218030.13

Dear Jason,

Enclosed are the results of the sample(s) submitted to our laboratory February 27, 2018
For your reference, these analyses have been assigned our service request number **K1801827**.

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



ALS Environmental
ALS Group USA, Corp
1317 South 13th Avenue
Kelso, WA 98626
T : +1 360 577 7222
F : +1 360 636 1068
www.alsglobal.com

Table of Contents

Acronyms

Qualifiers

State Certifications, Accreditations, And Licenses

Case Narrative

Chain of Custody

General Chemistry

Metals

Volatile Organic Compounds

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.

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.pjllabs.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/analyte is offered by that state.



Case Narrative

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

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

Service Request: K1801827
Date Received: 02/27/2018

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:

Eight ground water samples were received for analysis at ALS Environmental on 02/27/2018. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C 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:

Method 8260C, 3/5/18: The ALS control criterion for the following analytes was not met in Continuing Calibration Verification (CCV) MS27\0305F004.D: Dichlorodifluoromethane and Chloromethane. In accordance with ALS standard operating procedures, an MRL check standard containing the analytes of concern was analyzed each day of analysis. The MRL check standard verifies instrument sensitivity was adequate to detect the analytes at the MRL on the day of analysis. Because the sensitivity was shown to be adequate to detect the compounds in question the data quality has not been significantly affected. No further corrective action was taken.

Method 8260C, 3/5/18: The upper control criterion was exceeded for Dibromofluoromethane in all field samples. No target analytes were detected in the sample. 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, 3/5/18: The upper control criterion was exceeded for Dibromofluoromethane in Method Blank KWG1801267-4. No target analytes were detected in the Method Blank. Since the apparent problem equates to a high bias, the data quality was not significantly affected. No further corrective action was appropriate.

Approved by



Date

03/22/2018



Chain of Custody

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com



CHAIN OF CUSTODY

SR# K1801827

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: <u>Leichter Landfill</u>					NUMBER OF CONTAINERS	Semi-volatile Organics by GC/MS 825 <input type="checkbox"/> 8270 <input type="checkbox"/> 8270LL <input type="checkbox"/> SIM PAH <input type="checkbox"/> Volatile Organics 824 <input type="checkbox"/> 8260 <input type="checkbox"/> Hydrocarbons (*see below) Gas <input type="checkbox"/> Diesel <input type="checkbox"/> Oil <input type="checkbox"/> Oil & Grease/TRPH 1664 HEM <input type="checkbox"/> 1664 SGT <input type="checkbox"/> Aroclors <input type="checkbox"/> Congeners <input type="checkbox"/> Pesticides/Herbicides 608 <input type="checkbox"/> 8081 <input type="checkbox"/> 8141 <input type="checkbox"/> Chlorophenolics - 8151M <input type="checkbox"/> Tri <input type="checkbox"/> Tetra <input type="checkbox"/> 8151 <input type="checkbox"/> Metals, Total <input type="checkbox"/> PCP <input type="checkbox"/> (See List below) Cyanide <input type="checkbox"/> Hex-Chrom <input type="checkbox"/> (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 <input type="checkbox"/> AOX 1650 <input type="checkbox"/> 506 <input type="checkbox"/> Alkalinity <input type="checkbox"/> CO3 <input type="checkbox"/> HCO3 <input type="checkbox"/> Dioxins/Furans 1613 <input type="checkbox"/> 8280 <input type="checkbox"/> Dissolved Gases RSK 175 <input type="checkbox"/> Methane <input type="checkbox"/> CO2 <input type="checkbox"/> Ethane <input type="checkbox"/> Ethene <input type="checkbox"/>															
PROJECT NUMBER: <u>04218030 13</u>																					
PROJECT MANAGER: <u>David Lamada</u>																					
COMPANY NAME: <u>SCS Engineers</u>																					
ADDRESS: <u>15940 SW 72nd Avenue</u>																					
CITY/STATE/ZIP: <u>Portland, OR 97204</u>																					
E-MAIL ADDRESS: <u>lamada.d@scsengineers.com</u>																					
PHONE #: <u>503 639-9736</u>																					
SAMPLER'S SIGNATURE: <u>[Signature]</u>																					
SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX																REMARKS	
LB-022618-01-50	2/26/18	1125	W	S																	
LB-022618-04-130	2/26/18	1325	W	S																	
LB-022618-07-170	2/26/18	1515	W	S																	
LB-022618-06-260	2/26/18	1410	W	S																	
LB-022618-05-FB1	2/26/18	1330	W	S																	
LB-022618-02-270	2/26/18	1230	W	S																	
LB-022618-03-20P1	2/26/18	1235	W	S																	
Tr.p Blanks	-	-	W	2																	

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: _____	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 Ti Sn V Zn Hg Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu <u>Fe</u> Pb Mg <u>Mn</u> Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg
	TURNAROUND REQUIREMENTS ___ 24 hr. ___ 48 hr. ___ 5 day ___ Standard (15 working days) ___ Provide FAX Results Requested Report Date _____	*INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE) SPECIAL INSTRUCTIONS/COMMENTS: CC Tiffany Andrews tandrews@scsengineers.com Metals are field filtered <input type="checkbox"/> Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY: Signature: <u>[Signature]</u> Date/Time: <u>2/27/18 930</u> Printed Name: <u>David Lamada</u> Firm: <u>SCS</u>	RECEIVED BY: Signature: <u>[Signature]</u> Date/Time: <u>2/27/18 0930</u> Printed Name: <u>[Name]</u> Firm: <u>[Firm]</u>	RELINQUISHED BY: Signature: _____ Date/Time: _____ Printed Name: _____ Firm: _____	RECEIVED BY: Signature: <u>[Signature]</u> Date/Time: <u>2/27/18 1220</u> Printed Name: <u>[Name]</u> Firm: <u>[Firm]</u>
--	--	---	--



Cooler Receipt and Preservation Form

Client SCS Eng Service Request K18 01827
 Received: 2/27/18 Opened: 2/27/18 By: BR Unloaded: 2/27/18 By: BR

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	Tracking Number	Filed
0.7	0.9	-	-	+0.2	371	NA		NA

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	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

SHORT HOLD TIME



General Chemistry

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Analysis Method: 300.0
Prep Method: None

Service Request: K1801827
Date Collected: 02/26/18
Date Received: 02/27/18
Units: mg/L
Basis: NA

Chloride

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
LB-022618-01-5D	K1801827-001	7.52	0.20	2	02/27/18 15:56	
LB-022618-04-13D	K1801827-002	10.8	0.20	2	02/27/18 16:06	
LB-022618-07-17D	K1801827-003	15.9	0.20	2	02/27/18 16:17	
LB-022618-06-26D	K1801827-004	5.16	0.20	2	02/27/18 16:28	
LB-022618-05-FB1	K1801827-005	ND U	0.20	2	02/27/18 16:38	
LB-022618-02-27D	K1801827-006	7.59	0.20	2	02/27/18 16:49	
LB-022618-03-DUP1	K1801827-007	7.72	0.20	2	02/27/18 16:59	
Method Blank	K1801827-MB1	ND U	0.10	1	02/27/18 15:24	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801827
Date Collected: 02/26/18
Date Received: 02/27/18
Date Analyzed: 02/27/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name: LB-022618-01-5D
Lab Code: K1801827-001

Units: mg/L
Basis: NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample	Average	RPD	RPD Limit
				K1801827-001DUP Result			
Chloride	300.0	0.20	7.52	7.60	7.56	<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/04218030.13
Sample Matrix: Ground Water

Service Request: K1801827
Date Collected: 02/26/18
Date Received: 02/27/18
Date Analyzed: 02/27/18
Date Extracted: NA

Duplicate Matrix Spike Summary
Chloride

Sample Name: LB-022618-01-5D
Lab Code: K1801827-001
Analysis Method: 300.0
Prep Method: None

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike K1801827-001MS		Duplicate Matrix Spike K1801827-001DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Chloride	7.52	15.2	8.00	95	15.1	8.00	95	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
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801827
Date Analyzed: 02/27/18
Date Extracted: NA

Lab Control Sample Summary
Chloride

Analysis Method: 300.0
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 581949

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1801827-LCS1	4.92	5.00	98	90-110

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Analysis Method: 300.0
Prep Method: None

Service Request: K1801827
Date Collected: 02/26/18
Date Received: 02/27/18
Units: mg/L
Basis: NA

Nitrate as Nitrogen

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
LB-022618-01-5D	K1801827-001	0.69	0.10	2	02/27/18 15:56	
LB-022618-04-13D	K1801827-002	4.62	0.10	2	02/27/18 16:06	
LB-022618-07-17D	K1801827-003	ND U	0.10	2	02/27/18 16:17	
LB-022618-06-26D	K1801827-004	4.63	0.10	2	02/27/18 16:28	
LB-022618-05-FB1	K1801827-005	ND U	0.10	2	02/27/18 16:38	
LB-022618-02-27D	K1801827-006	4.25	0.10	2	02/27/18 16:49	
LB-022618-03-DUP1	K1801827-007	4.26	0.10	2	02/27/18 16:59	
Method Blank	K1801827-MB1	ND U	0.050	1	02/27/18 15:24	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801827
Date Collected: 02/26/18
Date Received: 02/27/18
Date Analyzed: 02/27/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name: LB-022618-01-5D
Lab Code: K1801827-001

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>MRL</u>	<u>Sample Result</u>	<u>Duplicate Sample K1801827-001DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Nitrate as Nitrogen	300.0	0.10	0.69	0.68	0.688	<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/04218030.13
Sample Matrix: Ground Water

Service Request: K1801827
Date Collected: 02/26/18
Date Received: 02/27/18
Date Analyzed: 02/27/18
Date Extracted: NA

Duplicate Matrix Spike Summary
Nitrate as Nitrogen

Sample Name: LB-022618-01-5D
Lab Code: K1801827-001
Analysis Method: 300.0
Prep Method: None

Units: mg/L
Basis: NA

Analyte Name	Sample Result	Result	Matrix Spike K1801827-001MS		Duplicate Matrix Spike K1801827-001DMS		% Rec Limits	RPD	RPD Limit	
			Spike Amount	% Rec	Result	Spike Amount				% Rec
Nitrate as Nitrogen	0.69	8.73	8.00	100	8.75	8.00	101	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
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801827
Date Analyzed: 02/27/18
Date Extracted: NA

Lab Control Sample Summary
Nitrate as Nitrogen

Analysis Method: 300.0
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 581949

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1801827-LCS1	2.50	2.50	100	90-110

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Analysis Method: SM 2540 C
Prep Method: None

Service Request: K1801827
Date Collected: 02/26/18
Date Received: 02/27/18
Units: mg/L
Basis: NA

Solids, Total Dissolved

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Q
LB-022618-01-5D	K1801827-001	199	5.0	1	03/02/18 14:49	
LB-022618-04-13D	K1801827-002	164	5.0	1	03/02/18 14:49	
LB-022618-07-17D	K1801827-003	207	5.0	1	03/02/18 14:49	
LB-022618-06-26D	K1801827-004	159	5.0	1	03/02/18 14:49	
LB-022618-05-FB1	K1801827-005	8.5	5.0	1	03/02/18 15:25	
LB-022618-02-27D	K1801827-006	213	5.0	1	03/02/18 15:25	
LB-022618-03-DUP1	K1801827-007	191	5.0	1	03/02/18 15:25	
Method Blank	K1801827-MB1	ND U	5.0	1	03/02/18 14:49	
Method Blank	K1801827-MB2	ND U	5.0	1	03/02/18 14:49	
Method Blank	K1801827-MB3	ND U	5.0	1	03/02/18 15:25	
Method Blank	K1801827-MB4	ND U	5.0	1	03/02/18 15:25	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Analysis Method: SM 2540 C
Prep Method: None

Service Request:K1801827
Date Collected:NA
Date Received:NA

Units:mg/L
Basis:NA

Replicate Sample Summary
Solids, Total Dissolved

Sample Name:	Lab Code:	MRL	Sample Result	Duplicate Result	Average	RPD	RPD Limit	Date Analyzed
Batch QC	K1801864-004DUP	5.0	45.7	48.3	47.0	6	10	03/02/18
Batch QC	K1801864-006DUP	5.0	50.2	49.3	49.8	2	10	03/02/18
Batch QC	K1801872-002DUP	5.0	143	145	144	1	10	03/02/18
Batch QC	K1801946-001DUP	5.0	566	556	561	2	10	03/02/18

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/04218030.13
Sample Matrix: Ground Water

Service Request: K1801827
Date Analyzed: 03/02/18
Date Extracted: NA

Lab Control Sample Summary
Solids, Total Dissolved

Analysis Method: SM 2540 C
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 582332

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1801827-LCS1	1600	1640	97	85-115

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801827
Date Analyzed: 03/02/18
Date Extracted: NA

Lab Control Sample Summary
Solids, Total Dissolved

Analysis Method: SM 2540 C
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 582333

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1801827-LCS2	1570	1640	96	85-115



Metals

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022618-01-5D
Lab Code: K1801827-001

Service Request: K1801827
Date Collected: 02/26/18 11:25
Date Received: 02/27/18 12:20
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 12:48	03/07/18	
Manganese	6010C	2.0	ug/L	1.1	1	03/08/18 12:48	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022618-04-13D
Lab Code: K1801827-002

Service Request: K1801827
Date Collected: 02/26/18 13:25
Date Received: 02/27/18 12:20
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 13:06	03/07/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/08/18 13:06	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022618-07-17D
Lab Code: K1801827-003

Service Request: K1801827
Date Collected: 02/26/18 15:15
Date Received: 02/27/18 12:20
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	129	ug/L	42	1	03/08/18 13:09	03/07/18	
Manganese	6010C	4290	ug/L	1.1	1	03/08/18 13:09	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022618-06-26D
Lab Code: K1801827-004

Service Request: K1801827
Date Collected: 02/26/18 14:10
Date Received: 02/27/18 12:20
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 13:32	03/07/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/08/18 13:32	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022618-05-FB1
Lab Code: K1801827-005

Service Request: K1801827
Date Collected: 02/26/18 13:30
Date Received: 02/27/18 12:20
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 13:35	03/07/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/08/18 13:35	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022618-02-27D
Lab Code: K1801827-006

Service Request: K1801827
Date Collected: 02/26/18 12:30
Date Received: 02/27/18 12:20
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 13:37	03/07/18	
Manganese	6010C	7.8	ug/L	1.1	1	03/08/18 13:37	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022618-03-DUP1
Lab Code: K1801827-007

Service Request: K1801827
Date Collected: 02/26/18 12:35
Date Received: 02/27/18 12:20
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 13:40	03/07/18	
Manganese	6010C	7.8	ug/L	1.1	1	03/08/18 13:40	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: KQ1802908-02

Service Request: K1801827
Date Collected: NA
Date Received: NA
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 12:46	03/07/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/08/18 12:46	03/07/18	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801827
Date Collected: 02/26/18
Date Received: 02/27/18
Date Analyzed: 03/08/18

Replicate Sample Summary

Dissolved Metals

Sample Name: LB-022618-01-5D
Lab Code: K1801827-001

Units: ug/L
Basis: NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample	Average	RPD	RPD Limit
				KQ1802908-03 Result			
Iron	6010C	42	ND U	ND U	ND	-	20
Manganese	6010C	1.1	2.0	2.0	2.0	<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/04218030.13
Sample Matrix: Ground Water

Service Request: K1801827
Date Collected: 02/26/18
Date Received: 02/27/18
Date Analyzed: 03/8/18
Date Extracted: 03/7/18

Matrix Spike Summary
Dissolved Metals

Sample Name: LB-022618-01-5D
Lab Code: K1801827-001
Analysis Method: 6010C
Prep Method: EPA CLP-METALS ILM04.0

Units: ug/L
Basis: NA

Matrix Spike
KQ1802908-04

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Iron	ND U	1020	1000	102	75-125
Manganese	2.0	459	500	91	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.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801827
Date Analyzed: 03/08/18

Lab Control Sample Summary
Dissolved Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ1802908-01

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron	6010C	2520	2500	101	80-120
Manganese	6010C	1160	1250	93	80-120



Volatile Organic Compounds

ALS Environmental—Kelso Laboratory
1317 South 13th Avenue, Kelso, WA 98626
Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-01-5D
Lab Code: K1801827-001
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Chloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Bromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichlorofluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Acetone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Carbon Disulfide	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Methylene Chloride	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Methyl tert-Butyl Ether	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Butanone (MEK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Bromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Carbon Tetrachloride	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Benzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichloroethene (TCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromodichloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Toluene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,2-Trichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Tetrachloroethene (PCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Hexanone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-01-5D
Lab Code: K1801827-001
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Chlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Ethylbenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
m,p-Xylenes	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
o-Xylene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Styrene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromoform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Isopropylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
n-Propylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3,5-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
tert-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
sec-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Isopropyltoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,4-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
n-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Hexachlorobutadiene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Naphthalene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

* See Case Narrative

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-01-5D
Lab Code: K1801827-001

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	134	73-122	03/05/18	Outside Control Limits
Toluene-d8	112	65-144	03/05/18	Acceptable
4-Bromofluorobenzene	96	68-117	03/05/18	Acceptable

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-04-13D
Lab Code: K1801827-002
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Chloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Bromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichlorofluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Acetone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Carbon Disulfide	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Methylene Chloride	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Methyl tert-Butyl Ether	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Butanone (MEK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Bromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Carbon Tetrachloride	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Benzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichloroethene (TCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromodichloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Toluene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,2-Trichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Tetrachloroethene (PCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Hexanone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-04-13D
Lab Code: K1801827-002
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Chlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Ethylbenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
m,p-Xylenes	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
o-Xylene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Styrene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromoform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Isopropylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
n-Propylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3,5-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
tert-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
sec-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Isopropyltoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,4-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
n-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Hexachlorobutadiene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Naphthalene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

* See Case Narrative

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-04-13D
Lab Code: K1801827-002

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	133	73-122	03/05/18	Outside Control Limits
Toluene-d8	112	65-144	03/05/18	Acceptable
4-Bromofluorobenzene	95	68-117	03/05/18	Acceptable

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-07-17D
Lab Code: K1801827-003
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Chloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Bromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichlorofluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Acetone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Carbon Disulfide	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Methylene Chloride	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Methyl tert-Butyl Ether	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Butanone (MEK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Bromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Carbon Tetrachloride	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Benzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichloroethene (TCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromodichloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Toluene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,2-Trichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Tetrachloroethene (PCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Hexanone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-07-17D
Lab Code: K1801827-003
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Chlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Ethylbenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
m,p-Xylenes	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
o-Xylene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Styrene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromoform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Isopropylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
n-Propylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3,5-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
tert-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
sec-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Isopropyltoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,4-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
n-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Hexachlorobutadiene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Naphthalene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

* See Case Narrative

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-07-17D
Lab Code: K1801827-003

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	132	73-122	03/05/18	Outside Control Limits
Toluene-d8	108	65-144	03/05/18	Acceptable
4-Bromofluorobenzene	96	68-117	03/05/18	Acceptable

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-06-26D
Lab Code: K1801827-004
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Chloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Bromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichlorofluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Acetone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Carbon Disulfide	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Methylene Chloride	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Methyl tert-Butyl Ether	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Butanone (MEK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Bromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Carbon Tetrachloride	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Benzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichloroethene (TCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromodichloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Toluene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,2-Trichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Tetrachloroethene (PCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Hexanone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

Comments:

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-06-26D
Lab Code: K1801827-004
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Chlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Ethylbenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
m,p-Xylenes	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
o-Xylene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Styrene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromoform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Isopropylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
n-Propylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3,5-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
tert-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
sec-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Isopropyltoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,4-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
n-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Hexachlorobutadiene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Naphthalene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

* See Case Narrative

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-06-26D
Lab Code: K1801827-004

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	137	73-122	03/05/18	Outside Control Limits
Toluene-d8	110	65-144	03/05/18	Acceptable
4-Bromofluorobenzene	96	68-117	03/05/18	Acceptable

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-05-FB1
Lab Code: K1801827-005
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Chloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Bromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichlorofluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Acetone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Carbon Disulfide	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Methylene Chloride	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Methyl tert-Butyl Ether	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Butanone (MEK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Bromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Carbon Tetrachloride	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Benzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichloroethene (TCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromodichloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Toluene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,2-Trichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Tetrachloroethene (PCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Hexanone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-05-FB1
Lab Code: K1801827-005
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Chlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Ethylbenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
m,p-Xylenes	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
o-Xylene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Styrene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromoform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Isopropylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
n-Propylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3,5-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
tert-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
sec-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Isopropyltoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,4-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
n-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Hexachlorobutadiene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Naphthalene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

* See Case Narrative

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-05-FB1
Lab Code: K1801827-005

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	135	73-122	03/05/18	Outside Control Limits
Toluene-d8	111	65-144	03/05/18	Acceptable
4-Bromofluorobenzene	95	68-117	03/05/18	Acceptable

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-02-27D
Lab Code: K1801827-006
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Chloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Bromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichlorofluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Acetone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Carbon Disulfide	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Methylene Chloride	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Methyl tert-Butyl Ether	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Butanone (MEK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Bromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Carbon Tetrachloride	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Benzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichloroethene (TCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromodichloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Toluene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,2-Trichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Tetrachloroethene (PCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Hexanone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

Comments:

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-02-27D
Lab Code: K1801827-006
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Chlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Ethylbenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
m,p-Xylenes	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
o-Xylene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Styrene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromoform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Isopropylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
n-Propylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3,5-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
tert-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
sec-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Isopropyltoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,4-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
n-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Hexachlorobutadiene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Naphthalene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

* See Case Narrative

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-02-27D
Lab Code: K1801827-006

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	133	73-122	03/05/18	Outside Control Limits
Toluene-d8	114	65-144	03/05/18	Acceptable
4-Bromofluorobenzene	94	68-117	03/05/18	Acceptable

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-03-DUP1
Lab Code: K1801827-007
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Chloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Bromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichlorofluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Acetone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Carbon Disulfide	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Methylene Chloride	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Methyl tert-Butyl Ether	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Butanone (MEK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Bromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Carbon Tetrachloride	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Benzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichloroethene (TCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromodichloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Toluene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,2-Trichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Tetrachloroethene (PCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Hexanone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

Comments:

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-03-DUP1
Lab Code: K1801827-007
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Chlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Ethylbenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
m,p-Xylenes	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
o-Xylene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Styrene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromoform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Isopropylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
n-Propylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3,5-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
tert-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
sec-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Isopropyltoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,4-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
n-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Hexachlorobutadiene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Naphthalene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

* See Case Narrative

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: LB-022618-03-DUP1
Lab Code: K1801827-007

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	134	73-122	03/05/18	Outside Control Limits
Toluene-d8	113	65-144	03/05/18	Acceptable
4-Bromofluorobenzene	99	68-117	03/05/18	Acceptable

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: Trip Blank
Lab Code: K1801827-008
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Chloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Bromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichlorofluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Acetone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Carbon Disulfide	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Methylene Chloride	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Methyl tert-Butyl Ether	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Butanone (MEK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Bromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Carbon Tetrachloride	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Benzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichloroethene (TCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromodichloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Toluene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,2-Trichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Tetrachloroethene (PCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Hexanone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: Trip Blank
Lab Code: K1801827-008
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Chlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Ethylbenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
m,p-Xylenes	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
o-Xylene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Styrene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromoform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Isopropylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
n-Propylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3,5-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
tert-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
sec-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Isopropyltoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,4-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
n-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Hexachlorobutadiene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Naphthalene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

* See Case Narrative

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: 02/26/2018
Date Received: 02/27/2018

Volatile Organic Compounds

Sample Name: Trip Blank
Lab Code: K1801827-008

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	127	73-122	03/05/18	Outside Control Limits
Toluene-d8	112	65-144	03/05/18	Acceptable
4-Bromofluorobenzene	100	68-117	03/05/18	Acceptable

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1801267-4
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Dichlorodifluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Chloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	*
Bromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichlorofluoromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Acetone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Carbon Disulfide	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Methylene Chloride	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Methyl tert-Butyl Ether	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,2-Dichloroethene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Butanone (MEK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Bromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Chloroform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1-Trichloroethane (TCA)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Carbon Tetrachloride	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Benzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloroethane (EDC)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Trichloroethene (TCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromomethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromodichloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
cis-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
4-Methyl-2-pentanone (MIBK)	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
Toluene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
trans-1,3-Dichloropropene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,2-Trichloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Tetrachloroethene (PCE)	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Hexanone	ND	U	20	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Dibromochloromethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromoethane (EDB)	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1801267-4
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
Chlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Ethylbenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,1,1,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
m,p-Xylenes	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
o-Xylene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Styrene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromoform	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Isopropylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,1,2,2-Tetrachloroethane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
Bromobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
n-Propylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichloropropane	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
2-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3,5-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Chlorotoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
tert-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trimethylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
sec-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
4-Isopropyltoluene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,3-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,4-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
n-Butylbenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2-Dichlorobenzene	ND	U	0.50	1	03/05/18	03/05/18	KWG1801267	
1,2-Dibromo-3-chloropropane	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,4-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Hexachlorobutadiene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
Naphthalene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	
1,2,3-Trichlorobenzene	ND	U	2.0	1	03/05/18	03/05/18	KWG1801267	

* See Case Narrative

Comments: _____

Analytical Results

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Collected: NA
Date Received: NA

Volatile Organic Compounds

Sample Name: Method Blank
Lab Code: KWG1801267-4

Units: ug/L
Basis: NA

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Dibromofluoromethane	130	73-122	03/05/18	Outside Control Limits
Toluene-d8	115	65-144	03/05/18	Acceptable
4-Bromofluorobenzene	99	68-117	03/05/18	Acceptable

Comments: _____

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Water

Service Request: K1801827

**Surrogate Recovery Summary
 Volatile Organic Compounds**

Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: Percent
Level: Low

<u>Sample Name</u>	<u>Lab Code</u>	<u>Sur1</u>	<u>Sur2</u>	<u>Sur3</u>
Batch QC	K1801820-008	134 *	114	97
LB-022618-01-5D	K1801827-001	134 *	112	96
LB-022618-04-13D	K1801827-002	133 *	112	95
LB-022618-07-17D	K1801827-003	132 *	108	96
LB-022618-06-26D	K1801827-004	137 *	110	96
LB-022618-05-FB1	K1801827-005	135 *	111	95
LB-022618-02-27D	K1801827-006	133 *	114	94
LB-022618-03-DUP1	K1801827-007	134 *	113	99
Trip Blank	K1801827-008	127 *	112	100
Method Blank	KWG1801267-4	130 *	115	99
Batch QCMS	KWG1801267-1	116	116	110
Batch QCDMS	KWG1801267-2	119	117	117
Lab Control Sample	KWG1801267-3	116	119	112

Surrogate Recovery Control Limits (%)

Sur1 = Dibromofluoromethane	73-122
Sur2 = Toluene-d8	65-144
Sur3 = 4-Bromofluorobenzene	68-117

Results flagged with an asterisk (*) indicate values outside control criteria.
 Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Water

Service Request: K1801827
Date Extracted: 03/05/2018
Date Analyzed: 03/05/2018

Matrix Spike/Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name: Batch QC
Lab Code: K1801820-008
Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1801267

Analyte Name	Sample Result	Batch QCMS KWG1801267-1 Matrix Spike			Batch QCDMS KWG1801267-2 Duplicate Matrix Spike			%Rec Limits	RPD	RPD Limit
		Result	Spike Amount	%Rec	Result	Spike Amount	%Rec			
Chloroform	ND	12.2	10.0	122	12.2	10.0	122	64-133	0	30
Carbon Tetrachloride	ND	13.0	10.0	130	12.4	10.0	124	53-161	4	30
Benzene	ND	12.1	10.0	121	11.8	10.0	118	63-144	2	30
Trichloroethene (TCE)	1.2	13.9	10.0	127	13.5	10.0	123	53-139	3	30
Bromodichloromethane	ND	12.1	10.0	121	12.5	10.0	125	61-134	3	30
Toluene	ND	12.4	10.0	124	12.3	10.0	123	71-136	1	30
1,1,2-Trichloroethane	ND	10.4	10.0	104	10.8	10.0	108	74-124	4	30
2-Hexanone	ND	53.3	50.0	107	61.4	50.0	123	53-132	14	30
Chlorobenzene	ND	12.3	10.0	123	12.1	10.0	121	69-126	1	30
Ethylbenzene	ND	12.2	10.0	122	12.2	10.0	122	66-136	0	30
1,2,3-Trichloropropane	ND	9.74	10.0	97	10.3	10.0	103	71-127	6	30
2-Chlorotoluene	ND	11.8	10.0	118	11.6	10.0	116	55-139	2	30
1,2-Dichlorobenzene	0.52	11.8	10.0	113	12.0	10.0	115	72-119	2	30
Naphthalene	ND	8.10	10.0	81	8.80	10.0	88	52-147	8	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.

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Extracted: 03/05/2018
Date Analyzed: 03/05/2018

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1801267

Lab Control Sample
 KWG1801267-3
 Lab Control Spike

Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
Dichlorodifluoromethane	6.51	10.0	65	32-124
Chloromethane	8.71	10.0	87	34-130
Bromomethane	10.2	10.0	102	35-113
Chloroethane	9.18	10.0	92	58-134
Trichlorofluoromethane	7.50	10.0	75	52-141
Acetone	56.2	50.0	112	68-135
Carbon Disulfide	16.2	20.0	81	46-144
Methylene Chloride	11.0	10.0	110	71-122
Methyl tert-Butyl Ether	10.8	10.0	108	54-126
trans-1,2-Dichloroethene	9.38	10.0	94	67-125
1,1-Dichloroethane	10.3	10.0	103	68-132
2,2-Dichloropropane	9.15	10.0	92	37-145
cis-1,2-Dichloroethene	10.4	10.0	104	71-118
2-Butanone (MEK)	56.6	50.0	113	71-149
Bromochloromethane	10.9	10.0	109	75-131
Chloroform	10.4	10.0	104	70-129
1,1,1-Trichloroethane (TCA)	8.90	10.0	89	59-136
Carbon Tetrachloride	8.42	10.0	84	55-140
1,1-Dichloropropene	8.77	10.0	88	59-134
Benzene	9.75	10.0	98	69-124
1,2-Dichloroethane (EDC)	11.1	10.0	111	56-142
Trichloroethene (TCE)	9.55	10.0	96	67-128
1,2-Dichloropropane	10.8	10.0	108	67-126
Dibromomethane	11.4	10.0	114	69-128
Bromodichloromethane	11.2	10.0	112	63-129
cis-1,3-Dichloropropene	11.7	10.0	117	62-132
4-Methyl-2-pentanone (MIBK)	56.9	50.0	114	64-134
Toluene	10.0	10.0	100	69-124
trans-1,3-Dichloropropene	10.6	10.0	106	59-125
1,1,2-Trichloroethane	10.3	10.0	103	74-118
Tetrachloroethene (PCE)	9.09	10.0	91	62-126
2-Hexanone	56.7	50.0	113	59-131
1,3-Dichloropropane	10.8	10.0	108	75-116
Dibromochloromethane	10.8	10.0	108	67-126
1,2-Dibromoethane (EDB)	10.5	10.0	105	74-118

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

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/04218030.13
Sample Matrix: Ground water

Service Request: K1801827
Date Extracted: 03/05/2018
Date Analyzed: 03/05/2018

Lab Control Spike Summary
Volatile Organic Compounds

Extraction Method: EPA 5030B
Analysis Method: 8260C

Units: ug/L
Basis: NA
Level: Low
Extraction Lot: KWG1801267

Lab Control Sample
 KWG1801267-3
Lab Control Spike

Analyte Name	Result	Spike Amount	%Rec	%Rec Limits
Chlorobenzene	10.7	10.0	107	72-116
Ethylbenzene	9.62	10.0	96	67-121
1,1,1,2-Tetrachloroethane	10.2	10.0	102	66-124
m,p-Xylenes	17.4	20.0	87	69-121
o-Xylene	10.4	10.0	104	71-119
Styrene	11.0	10.0	110	74-121
Bromoform	11.0	10.0	110	52-144
Isopropylbenzene	9.23	10.0	92	67-129
1,1,2,2-Tetrachloroethane	10.3	10.0	103	70-127
Bromobenzene	9.64	10.0	96	72-116
n-Propylbenzene	9.03	10.0	90	61-124
1,2,3-Trichloropropane	9.86	10.0	99	69-123
2-Chlorotoluene	9.65	10.0	97	55-131
1,3,5-Trimethylbenzene	9.28	10.0	93	62-126
4-Chlorotoluene	10.3	10.0	103	66-121
tert-Butylbenzene	8.50	10.0	85	61-127
1,2,4-Trimethylbenzene	8.61	10.0	86	63-122
sec-Butylbenzene	8.93	10.0	89	59-128
4-Isopropyltoluene	8.11	10.0	81	61-128
1,3-Dichlorobenzene	10.3	10.0	103	70-116
1,4-Dichlorobenzene	10.6	10.0	106	73-115
n-Butylbenzene	9.24	10.0	92	55-130
1,2-Dichlorobenzene	10.7	10.0	107	72-115
1,2-Dibromo-3-chloropropane	10.6	10.0	106	55-132
1,2,4-Trichlorobenzene	10.2	10.0	102	58-126
Hexachlorobutadiene	8.95	10.0	90	57-119
Naphthalene	8.13	10.0	81	64-126
1,2,3-Trichlorobenzene	10.4	10.0	104	68-120

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

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

First Quarter (February) 2018 Laboratory Reports



March 30, 2018

Service Request No:K1801872

Jason Davendonis
SCS Engineers
15940 SW 72nd Ave
Portland, OR 97224

Laboratory Results for: Leichner Lanfill, WA

Dear Jason,

Enclosed are the results of the sample(s) submitted to our laboratory February 28, 2018
For your reference, these analyses have been assigned our service request number **K1801872**.

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 Lanfill, WA
Sample Matrix: Ground Water

Service Request: K1801872
Date Received: 02/28/2018

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:

Seven ground water samples were received for analysis at ALS Environmental on 02/28/2018. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

Method SM 2540 C, 03/5/2018: The Relative Percent Difference (RPD) for the replicate analysis of Total Dissolved Solids in sample LB-022718-09-10SR was outside the normal ALS control limits. The samples associated with the high RPD were reanalyzed past holding time and confirmed the original measured concentrations. The initial analysis is reported. No further corrective action was appropriate.

Volatiles by GC/MS:

Method 8260C, 3/7/18: The following analyte was flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS27\0307F003.D: 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.

Method 8260C, 3/7/18: The upper control criterion was exceeded for Dibromofluoromethane in all field samples. No target analytes were detected in the sample. Since the apparent problem equates to a high bias, the data quality was not significantly affected. The quality of the sample data was not significantly affected. No further corrective action was appropriate.

Method 8260C, 3/7/18: The upper control criterion was exceeded for Dibromofluoromethane in Method Blank KWG1801301-5. No target analytes were detected in the Method Blank. Since the apparent problem equates to a high bias, the data quality was not significantly affected. No further corrective action was appropriate.

Method 8260C, 3/7/18: The advisory criterion was exceeded for Bromomethane in Laboratory Control Sample (LCS) K1801872. As per the ALS/Kelso Standard Operating Procedure (SOP) for this method, these compounds are 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 03/30/2018



SAMPLE DETECTION SUMMARY

CLIENT ID: LB-022718-11-1S **Lab ID: K1801872-001**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	159			5.0	mg/L	SM 2540 C
Chloride	6.05			0.20	mg/L	300.0
Nitrate as Nitrogen	4.50			0.10	mg/L	300.0

CLIENT ID: LB-022718-10-1D **Lab ID: K1801872-002**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	143			5.0	mg/L	SM 2540 C
Chloride	6.54			0.20	mg/L	300.0
Nitrate as Nitrogen	6.05			0.10	mg/L	300.0

CLIENT ID: LB-022718-13-3S **Lab ID: K1801872-003**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	134			5.0	mg/L	SM 2540 C
Chloride	3.37			0.20	mg/L	300.0
Nitrate as Nitrogen	3.53			0.10	mg/L	300.0

CLIENT ID: LB-022718-12-3D **Lab ID: K1801872-004**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	136			5.0	mg/L	SM 2540 C
Chloride	4.13			0.20	mg/L	300.0
Nitrate as Nitrogen	3.89			0.10	mg/L	300.0

CLIENT ID: LB-022718-09-10SR **Lab ID: K1801872-005**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	251			5.0	mg/L	SM 2540 C
Chloride	15.0			0.20	mg/L	300.0
Nitrate as Nitrogen	0.75			0.10	mg/L	300.0
Manganese	3.2			1.1	ug/L	6010C

CLIENT ID: LB-022718-08-10DR **Lab ID: K1801872-006**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	229			5.0	mg/L	SM 2540 C
Chloride	11.8			0.20	mg/L	300.0
Nitrate as Nitrogen	2.56			0.10	mg/L	300.0



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
Project: Lechner Lanfill, WA/04218030.13

Service Request:K1801872

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
K1801872-001	LB-022718-11-1S	2/27/2018	1210
K1801872-002	LB-022718-10-1D	2/27/2018	1130
K1801872-003	LB-022718-13-3S	2/27/2018	1400
K1801872-004	LB-022718-12-3D	2/27/2018	1310
K1801872-005	LB-022718-09-10SR	2/27/2018	1035
K1801872-006	LB-022718-08-10DR	2/27/2018	1000
K1801872-007	Trip Blank	2/27/2018	



PC H2

Cooler Receipt and Preservation Form

Client SCS Eng. Service Request K18 01872

Received: 2128118 Opened: 2128118 By: BR Unloaded: 2128118 By: BR

- 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	Tracking Number	NA	Filed
0.5	0.6	-	-	+0.1	385	NA		NA	

- 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

ALS Environmental—Kelso Laboratory
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/analyte 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.

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13

Service Request: K1801872

Sample Name: LB-022718-11-1S
Lab Code: K1801872-001
Sample Matrix: Ground Water

Date Collected: 02/27/18
Date Received: 02/28/18

Analysis Method
300.0
6010C
8260C
SM 2540 C

Extracted/Digested By

JHINSON

Analyzed By
NLEE
AMCKORNEY

AMOONEY

Sample Name: LB-022718-10-1D
Lab Code: K1801872-002
Sample Matrix: Ground Water

Date Collected: 02/27/18
Date Received: 02/28/18

Analysis Method
300.0
6010C
8260C
SM 2540 C

Extracted/Digested By

JHINSON

Analyzed By
NLEE
AMCKORNEY

AMOONEY

Sample Name: LB-022718-13-3S
Lab Code: K1801872-003
Sample Matrix: Ground Water

Date Collected: 02/27/18
Date Received: 02/28/18

Analysis Method
300.0
6010C
8260C
SM 2540 C

Extracted/Digested By

JHINSON

Analyzed By
NLEE
AMCKORNEY

AMOONEY

Sample Name: LB-022718-12-3D
Lab Code: K1801872-004
Sample Matrix: Ground Water

Date Collected: 02/27/18
Date Received: 02/28/18

Analysis Method
300.0

Extracted/Digested By

Analyzed By
NLEE

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13

Service Request: K1801872

Sample Name: LB-022718-12-3D
Lab Code: K1801872-004
Sample Matrix: Ground Water

Date Collected: 02/27/18
Date Received: 02/28/18

Analysis Method
6010C
8260C
SM 2540 C

Extracted/Digested By
JHINSON

Analyzed By
AMCKORNEY
AMOONEY

Sample Name: LB-022718-09-10SR
Lab Code: K1801872-005
Sample Matrix: Ground Water

Date Collected: 02/27/18
Date Received: 02/28/18

Analysis Method
300.0
6010C
8260C
SM 2540 C

Extracted/Digested By
JHINSON

Analyzed By
NLEE
AMCKORNEY
AMOONEY

Sample Name: LB-022718-08-10DR
Lab Code: K1801872-006
Sample Matrix: Ground Water

Date Collected: 02/27/18
Date Received: 02/28/18

Analysis Method
300.0
6010C
8260C
SM 2540 C

Extracted/Digested By
JHINSON

Analyzed By
NLEE
AMCKORNEY
AMOONEY

Sample Name: Trip Blank
Lab Code: K1801872-007
Sample Matrix: Ground Water

Date Collected: 02/27/18
Date Received: 02/28/18

Analysis Method
8260C

Extracted/Digested By

Analyzed By



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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18 12:10
Date Received: 02/28/18 12:50

Sample Name: LB-022718-11-1S
Lab Code: K1801872-001

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 14:35	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 14:35	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 14:35	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 14:35	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 14:35	3/7/18	
Acetone	ND U	20	1	03/07/18 14:35	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 14:35	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 14:35	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 14:35	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 14:35	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 14:35	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 14:35	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 14:35	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 14:35	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 14:35	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 14:35	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 14:35	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 14:35	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 14:35	3/7/18	
Benzene	ND U	0.50	1	03/07/18 14:35	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 14:35	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 14:35	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 14:35	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 14:35	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 14:35	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 14:35	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 14:35	3/7/18	
Toluene	ND U	0.50	1	03/07/18 14:35	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 14:35	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 14:35	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 14:35	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 14:35	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 14:35	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 14:35	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 14:35	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 14:35	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 14:35	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 14:35	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 14:35	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 14:35	3/7/18	
Styrene	ND U	0.50	1	03/07/18 14:35	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 14:35	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18 12:10
Date Received: 02/28/18 12:50

Sample Name: LB-022718-11-1S
Lab Code: K1801872-001

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 14:35	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 14:35	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 14:35	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 14:35	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 14:35	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 14:35	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 14:35	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 14:35	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 14:35	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 14:35	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 14:35	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 14:35	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 14:35	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 14:35	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 14:35	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 14:35	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 14:35	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 14:35	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 14:35	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 14:35	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 14:35	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	132	73 - 122	03/07/18 14:35	*
Toluene-d8	111	65 - 144	03/07/18 14:35	
4-Bromofluorobenzene	97	68 - 117	03/07/18 14:35	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18 11:30
Date Received: 02/28/18 12:50

Sample Name: LB-022718-10-1D
Lab Code: K1801872-002

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 15:02	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 15:02	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 15:02	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 15:02	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 15:02	3/7/18	
Acetone	ND U	20	1	03/07/18 15:02	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 15:02	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 15:02	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 15:02	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 15:02	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 15:02	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 15:02	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 15:02	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 15:02	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 15:02	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 15:02	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 15:02	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 15:02	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 15:02	3/7/18	
Benzene	ND U	0.50	1	03/07/18 15:02	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 15:02	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 15:02	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 15:02	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 15:02	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 15:02	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 15:02	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 15:02	3/7/18	
Toluene	ND U	0.50	1	03/07/18 15:02	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 15:02	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 15:02	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 15:02	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 15:02	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 15:02	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 15:02	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 15:02	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 15:02	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 15:02	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 15:02	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 15:02	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 15:02	3/7/18	
Styrene	ND U	0.50	1	03/07/18 15:02	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 15:02	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18 11:30
Date Received: 02/28/18 12:50

Sample Name: LB-022718-10-1D
Lab Code: K1801872-002

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 15:02	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 15:02	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 15:02	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 15:02	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 15:02	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 15:02	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 15:02	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 15:02	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 15:02	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 15:02	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 15:02	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 15:02	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 15:02	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 15:02	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 15:02	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 15:02	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 15:02	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 15:02	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 15:02	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 15:02	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 15:02	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	130	73 - 122	03/07/18 15:02	*
Toluene-d8	112	65 - 144	03/07/18 15:02	
4-Bromofluorobenzene	98	68 - 117	03/07/18 15:02	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18 14:00
Date Received: 02/28/18 12:50

Sample Name: LB-022718-13-3S
Lab Code: K1801872-003

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 15:30	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 15:30	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 15:30	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 15:30	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 15:30	3/7/18	
Acetone	ND U	20	1	03/07/18 15:30	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 15:30	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 15:30	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 15:30	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 15:30	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 15:30	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 15:30	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 15:30	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 15:30	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 15:30	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 15:30	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 15:30	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 15:30	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 15:30	3/7/18	
Benzene	ND U	0.50	1	03/07/18 15:30	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 15:30	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 15:30	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 15:30	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 15:30	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 15:30	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 15:30	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 15:30	3/7/18	
Toluene	ND U	0.50	1	03/07/18 15:30	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 15:30	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 15:30	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 15:30	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 15:30	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 15:30	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 15:30	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 15:30	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 15:30	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 15:30	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 15:30	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 15:30	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 15:30	3/7/18	
Styrene	ND U	0.50	1	03/07/18 15:30	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 15:30	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18 14:00
Date Received: 02/28/18 12:50

Sample Name: LB-022718-13-3S
Lab Code: K1801872-003

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 15:30	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 15:30	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 15:30	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 15:30	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 15:30	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 15:30	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 15:30	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 15:30	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 15:30	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 15:30	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 15:30	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 15:30	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 15:30	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 15:30	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 15:30	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 15:30	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 15:30	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 15:30	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 15:30	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 15:30	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 15:30	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	133	73 - 122	03/07/18 15:30	*
Toluene-d8	113	65 - 144	03/07/18 15:30	
4-Bromofluorobenzene	97	68 - 117	03/07/18 15:30	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18 13:10
Date Received: 02/28/18 12:50

Sample Name: LB-022718-12-3D
Lab Code: K1801872-004

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 15:57	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 15:57	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 15:57	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 15:57	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 15:57	3/7/18	
Acetone	ND U	20	1	03/07/18 15:57	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 15:57	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 15:57	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 15:57	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 15:57	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 15:57	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 15:57	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 15:57	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 15:57	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 15:57	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 15:57	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 15:57	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 15:57	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 15:57	3/7/18	
Benzene	ND U	0.50	1	03/07/18 15:57	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 15:57	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 15:57	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 15:57	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 15:57	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 15:57	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 15:57	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 15:57	3/7/18	
Toluene	ND U	0.50	1	03/07/18 15:57	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 15:57	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 15:57	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 15:57	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 15:57	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 15:57	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 15:57	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 15:57	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 15:57	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 15:57	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 15:57	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 15:57	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 15:57	3/7/18	
Styrene	ND U	0.50	1	03/07/18 15:57	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 15:57	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18 13:10
Date Received: 02/28/18 12:50

Sample Name: LB-022718-12-3D
Lab Code: K1801872-004

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 15:57	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 15:57	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 15:57	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 15:57	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 15:57	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 15:57	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 15:57	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 15:57	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 15:57	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 15:57	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 15:57	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 15:57	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 15:57	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 15:57	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 15:57	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 15:57	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 15:57	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 15:57	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 15:57	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 15:57	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 15:57	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	132	73 - 122	03/07/18 15:57	*
Toluene-d8	111	65 - 144	03/07/18 15:57	
4-Bromofluorobenzene	97	68 - 117	03/07/18 15:57	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18 10:35
Date Received: 02/28/18 12:50

Sample Name: LB-022718-09-10SR
Lab Code: K1801872-005

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 16:25	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 16:25	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 16:25	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 16:25	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 16:25	3/7/18	
Acetone	ND U	20	1	03/07/18 16:25	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 16:25	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 16:25	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 16:25	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 16:25	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 16:25	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 16:25	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 16:25	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 16:25	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 16:25	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 16:25	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 16:25	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 16:25	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 16:25	3/7/18	
Benzene	ND U	0.50	1	03/07/18 16:25	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 16:25	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 16:25	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 16:25	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 16:25	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 16:25	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 16:25	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 16:25	3/7/18	
Toluene	ND U	0.50	1	03/07/18 16:25	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 16:25	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 16:25	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 16:25	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 16:25	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 16:25	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 16:25	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 16:25	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 16:25	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 16:25	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 16:25	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 16:25	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 16:25	3/7/18	
Styrene	ND U	0.50	1	03/07/18 16:25	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 16:25	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18 10:35
Date Received: 02/28/18 12:50

Sample Name: LB-022718-09-10SR
Lab Code: K1801872-005

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 16:25	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 16:25	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 16:25	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 16:25	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 16:25	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 16:25	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 16:25	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 16:25	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 16:25	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 16:25	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 16:25	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 16:25	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 16:25	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 16:25	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 16:25	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 16:25	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 16:25	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 16:25	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 16:25	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 16:25	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 16:25	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	133	73 - 122	03/07/18 16:25	*
Toluene-d8	110	65 - 144	03/07/18 16:25	
4-Bromofluorobenzene	97	68 - 117	03/07/18 16:25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18 10:00
Date Received: 02/28/18 12:50

Sample Name: LB-022718-08-10DR
Lab Code: K1801872-006

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 16:52	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 16:52	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 16:52	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 16:52	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 16:52	3/7/18	
Acetone	ND U	20	1	03/07/18 16:52	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 16:52	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 16:52	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 16:52	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 16:52	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 16:52	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 16:52	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 16:52	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 16:52	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 16:52	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 16:52	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 16:52	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 16:52	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 16:52	3/7/18	
Benzene	ND U	0.50	1	03/07/18 16:52	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 16:52	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 16:52	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 16:52	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 16:52	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 16:52	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 16:52	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 16:52	3/7/18	
Toluene	ND U	0.50	1	03/07/18 16:52	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 16:52	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 16:52	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 16:52	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 16:52	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 16:52	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 16:52	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 16:52	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 16:52	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 16:52	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 16:52	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 16:52	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 16:52	3/7/18	
Styrene	ND U	0.50	1	03/07/18 16:52	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 16:52	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18 10:00
Date Received: 02/28/18 12:50

Sample Name: LB-022718-08-10DR
Lab Code: K1801872-006

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 16:52	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 16:52	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 16:52	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 16:52	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 16:52	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 16:52	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 16:52	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 16:52	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 16:52	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 16:52	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 16:52	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 16:52	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 16:52	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 16:52	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 16:52	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 16:52	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 16:52	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 16:52	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 16:52	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 16:52	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 16:52	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	133	73 - 122	03/07/18 16:52	*
Toluene-d8	111	65 - 144	03/07/18 16:52	
4-Bromofluorobenzene	94	68 - 117	03/07/18 16:52	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18
Date Received: 02/28/18 12:50

Sample Name: Trip Blank
Lab Code: K1801872-007

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 13:40	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 13:40	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 13:40	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 13:40	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 13:40	3/7/18	
Acetone	ND U	20	1	03/07/18 13:40	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 13:40	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 13:40	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 13:40	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 13:40	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 13:40	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 13:40	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 13:40	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 13:40	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 13:40	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 13:40	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 13:40	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 13:40	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 13:40	3/7/18	
Benzene	ND U	0.50	1	03/07/18 13:40	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 13:40	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 13:40	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 13:40	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 13:40	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 13:40	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 13:40	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 13:40	3/7/18	
Toluene	ND U	0.50	1	03/07/18 13:40	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 13:40	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 13:40	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 13:40	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 13:40	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 13:40	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 13:40	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 13:40	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 13:40	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 13:40	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 13:40	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 13:40	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 13:40	3/7/18	
Styrene	ND U	0.50	1	03/07/18 13:40	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 13:40	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18
Date Received: 02/28/18 12:50

Sample Name: Trip Blank
Lab Code: K1801872-007

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 13:40	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 13:40	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 13:40	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 13:40	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 13:40	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 13:40	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 13:40	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 13:40	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 13:40	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 13:40	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 13:40	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 13:40	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 13:40	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 13:40	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 13:40	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 13:40	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 13:40	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 13:40	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 13:40	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 13:40	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 13:40	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	130	73 - 122	03/07/18 13:40	*
Toluene-d8	111	65 - 144	03/07/18 13:40	
4-Bromofluorobenzene	95	68 - 117	03/07/18 13:40	



Metals

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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-11-1S
Lab Code: K1801872-001

Service Request: K1801872
Date Collected: 02/27/18 12:10
Date Received: 02/28/18 12:50
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	03/16/18 10:38	03/08/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/16/18 10:38	03/08/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-10-1D
Lab Code: K1801872-002

Service Request: K1801872
Date Collected: 02/27/18 11:30
Date Received: 02/28/18 12:50
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	03/16/18 10:41	03/08/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/16/18 10:41	03/08/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-13-3S
Lab Code: K1801872-003

Service Request: K1801872
Date Collected: 02/27/18 14:00
Date Received: 02/28/18 12:50
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	03/16/18 10:44	03/08/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/16/18 10:44	03/08/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-12-3D
Lab Code: K1801872-004

Service Request: K1801872
Date Collected: 02/27/18 13:10
Date Received: 02/28/18 12:50
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	03/16/18 10:47	03/08/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/16/18 10:47	03/08/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-09-10SR
Lab Code: K1801872-005

Service Request: K1801872
Date Collected: 02/27/18 10:35
Date Received: 02/28/18 12:50
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	03/16/18 11:18	03/08/18	
Manganese	6010C	3.2	ug/L	1.1	1	03/16/18 11:18	03/08/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-08-10DR
Lab Code: K1801872-006

Service Request: K1801872
Date Collected: 02/27/18 10:00
Date Received: 02/28/18 12:50
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	03/16/18 11:21	03/08/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/16/18 11:21	03/08/18	



General Chemistry

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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-11-1S
Lab Code: K1801872-001

Service Request: K1801872
Date Collected: 02/27/18 12:10
Date Received: 02/28/18 12:50
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	6.05	mg/L	0.20	2	02/28/18 16:28	
Nitrate as Nitrogen	300.0	4.50	mg/L	0.10	2	02/28/18 16:28	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-11-1S
Lab Code: K1801872-001

Service Request: K1801872
Date Collected: 02/27/18 12:10
Date Received: 02/28/18 12:50
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	159	mg/L	5.0	1	03/02/18 15:25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-10-1D
Lab Code: K1801872-002

Service Request: K1801872
Date Collected: 02/27/18 11:30
Date Received: 02/28/18 12:50
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	6.54	mg/L	0.20	2	02/28/18 16:39	
Nitrate as Nitrogen	300.0	6.05	mg/L	0.10	2	02/28/18 16:39	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-10-1D
Lab Code: K1801872-002

Service Request: K1801872
Date Collected: 02/27/18 11:30
Date Received: 02/28/18 12:50
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	143	mg/L	5.0	1	03/02/18 15:25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-13-3S
Lab Code: K1801872-003

Service Request: K1801872
Date Collected: 02/27/18 14:00
Date Received: 02/28/18 12:50
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	3.37	mg/L	0.20	2	02/28/18 16:50	
Nitrate as Nitrogen	300.0	3.53	mg/L	0.10	2	02/28/18 16:50	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-13-3S
Lab Code: K1801872-003

Service Request: K1801872
Date Collected: 02/27/18 14:00
Date Received: 02/28/18 12:50
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	134	mg/L	5.0	1	03/02/18 15:25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-12-3D
Lab Code: K1801872-004

Service Request: K1801872
Date Collected: 02/27/18 13:10
Date Received: 02/28/18 12:50
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	4.13	mg/L	0.20	2	02/28/18 17:00	
Nitrate as Nitrogen	300.0	3.89	mg/L	0.10	2	02/28/18 17:00	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-12-3D
Lab Code: K1801872-004

Service Request: K1801872
Date Collected: 02/27/18 13:10
Date Received: 02/28/18 12:50
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	136	mg/L	5.0	1	03/02/18 15:25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-09-10SR
Lab Code: K1801872-005

Service Request: K1801872
Date Collected: 02/27/18 10:35
Date Received: 02/28/18 12:50
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	15.0	mg/L	0.20	2	02/28/18 17:11	
Nitrate as Nitrogen	300.0	0.75	mg/L	0.10	2	02/28/18 17:11	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-09-10SR
Lab Code: K1801872-005

Service Request: K1801872
Date Collected: 02/27/18 10:35
Date Received: 02/28/18 12:50
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	251	mg/L	5.0	1	03/05/18 11:10	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-08-10DR
Lab Code: K1801872-006

Service Request: K1801872
Date Collected: 02/27/18 10:00
Date Received: 02/28/18 12:50
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	11.8	mg/L	0.20	2	02/28/18 17:21	
Nitrate as Nitrogen	300.0	2.56	mg/L	0.10	2	02/28/18 17:21	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-022718-08-10DR
Lab Code: K1801872-006

Service Request: K1801872
Date Collected: 02/27/18 10:00
Date Received: 02/28/18 12:50
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	229	mg/L	5.0	1	03/05/18 11:10	



QC Summary Forms

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
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds

Analysis Method: 8260C
Extraction Method: EPA 5030B

Sample Name	Lab Code	4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
		68 - 117	73 - 122	65 - 144
LB-022718-11-1S	K1801872-001	97	132 *	111
LB-022718-10-1D	K1801872-002	98	130 *	112
LB-022718-13-3S	K1801872-003	97	133 *	113
LB-022718-12-3D	K1801872-004	97	132 *	111
LB-022718-09-10SR	K1801872-005	97	133 *	110
LB-022718-08-10DR	K1801872-006	94	133 *	111
Trip Blank	K1801872-007	95	130 *	111
LB-022718-11-1S MS	KWG1801301-1	114	117	117
LB-022718-11-1S DMS	KWG1801301-2	112	119	116
Lab Control Sample	KWG1801301-3	116	117	118
Method Blank	KWG1801301-5	98	129 *	112

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18
Date Received: 02/28/18
Date Analyzed: 03/7/18
Date Extracted: 03/7/18

Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name: LB-022718-11-1S
Lab Code: K1801872-001
Analysis Method: 8260C
Prep Method: EPA 5030B

Units: ug/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike KWG1801301-1			Duplicate Matrix Spike KWG1801301-2			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chloroform	ND U	12.1	10.0	121	12.0	10.0	120	64-133	1	30
Carbon Tetrachloride	ND U	12.7	10.0	127	12.5	10.0	125	53-161	1	30
Benzene	ND U	12.0	10.0	120	11.8	10.0	118	63-144	2	30
Trichloroethene (TCE)	ND U	12.8	10.0	128	12.7	10.0	127	53-139	1	30
Bromodichloromethane	ND U	12.3	10.0	123	12.3	10.0	123	61-134	<1	30
Toluene	ND U	12.5	10.0	125	12.4	10.0	124	71-136	1	30
1,1,2-Trichloroethane	ND U	10.4	10.0	104	11.1	10.0	111	74-124	6	30
2-Hexanone	ND U	54.4	50.0	109	61.8	50.0	124	53-132	13	30
Chlorobenzene	ND U	12.1	10.0	121	12.3	10.0	123	69-126	2	30
Ethylbenzene	ND U	12.2	10.0	122	12.2	10.0	122	66-136	<1	30
1,2,3-Trichloropropane	ND U	9.47	10.0	95	10.4	10.0	104	71-127	10	30
2-Chlorotoluene	ND U	11.4	10.0	114	11.5	10.0	115	55-139	1	30
1,2-Dichlorobenzene	ND U	11.2	10.0	112	11.6	10.0	116	72-119	3	30
Naphthalene	ND U	7.97	10.0	80	8.68	10.0	87	52-147	9	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.

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: KWG1801301-5

Service Request: K1801872
Date Collected: NA
Date Received: NA
Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 13:12	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 13:12	3/7/18	
Acetone	ND U	20	1	03/07/18 13:12	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 13:12	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 13:12	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 13:12	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 13:12	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 13:12	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 13:12	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 13:12	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 13:12	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 13:12	3/7/18	
Benzene	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 13:12	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 13:12	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 13:12	3/7/18	
Toluene	ND U	0.50	1	03/07/18 13:12	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 13:12	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 13:12	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 13:12	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 13:12	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 13:12	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 13:12	3/7/18	
Styrene	ND U	0.50	1	03/07/18 13:12	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 13:12	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: KWG1801301-5

Service Request: K1801872
Date Collected: NA
Date Received: NA
Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 13:12	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 13:12	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 13:12	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 13:12	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	129	73 - 122	03/07/18 13:12	*
Toluene-d8	112	65 - 144	03/07/18 13:12	
4-Bromofluorobenzene	98	68 - 117	03/07/18 13:12	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Analyzed: 03/07/18
Date Extracted: 03/07/18

Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Units: ug/L
Basis: NA
Analysis Lot: KWG1801293

Lab Control Sample
KWG1801301-3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	10.3	10.0	103	66-124
1,1,1-Trichloroethane (TCA)	10.2	10.0	102	59-136
1,1,2,2-Tetrachloroethane	10.6	10.0	106	70-127
1,1,2-Trichloroethane	10.8	10.0	108	74-118
1,1-Dichloroethane (1,1-DCA)	10.8	10.0	108	68-132
1,1-Dichloropropene	9.55	10.0	96	59-134
1,2,3-Trichlorobenzene	10.5	10.0	105	68-120
1,2,3-Trichloropropane	10.5	10.0	105	69-123
1,2,4-Trichlorobenzene	10.3	10.0	103	58-126
1,2,4-Trimethylbenzene	9.01	10.0	90	63-122
1,2-Dibromo-3-chloropropane (DBCP)	11.4	10.0	114	55-132
1,2-Dibromoethane (EDB)	11.1	10.0	111	74-118
1,2-Dichlorobenzene	11.1	10.0	111	72-115
1,2-Dichloroethane (EDC)	11.2	10.0	112	56-142
1,2-Dichloropropane	10.8	10.0	108	67-126
1,3,5-Trimethylbenzene	9.78	10.0	98	62-126
1,3-Dichlorobenzene	10.7	10.0	107	70-116
1,3-Dichloropropane	10.8	10.0	108	75-116
1,4-Dichlorobenzene	10.9	10.0	109	73-115
2,2-Dichloropropane	10.3	10.0	103	37-145
2-Butanone (MEK)	59.1	50.0	118	71-149
2-Chlorotoluene	9.96	10.0	100	55-131
2-Hexanone	59.1	50.0	118	59-131
4-Chlorotoluene	10.6	10.0	106	66-121
4-Isopropyltoluene	8.79	10.0	88	61-128
4-Methyl-2-pentanone (MIBK)	59.3	50.0	119	64-134
Acetone	60.9	50.0	122	68-135
Benzene	10.2	10.0	102	69-124
Bromobenzene	10.4	10.0	104	72-116
Bromochloromethane	10.6	10.0	106	75-131
Bromodichloromethane	11.8	10.0	118	63-129
Bromoform	11.5	10.0	115	52-144
Bromomethane	11.7	10.0	117	35-113
Carbon Disulfide	18.0	20.0	90	46-144
Carbon Tetrachloride	9.72	10.0	97	55-140
Chlorobenzene	11.3	10.0	113	72-116
Chloroethane	10.3	10.0	103	58-134
Chloroform	10.8	10.0	108	70-129
Chloromethane	9.61	10.0	96	34-130
cis-1,2-Dichloroethene	10.9	10.0	109	71-118
cis-1,3-Dichloropropene	11.8	10.0	118	62-132

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Analyzed: 03/07/18
Date Extracted: 03/07/18

Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Units: ug/L
Basis: NA
Analysis Lot: KWG1801293

Lab Control Sample
KWG1801301-3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Dibromochloromethane	10.9	10.0	109	67-126
Dibromomethane	11.3	10.0	113	69-128
Dichlorodifluoromethane (CFC 12)	7.65	10.0	77	32-124
Dichloromethane (Methylene Chloride)	11.0	10.0	110	71-122
Ethylbenzene	10.3	10.0	103	67-121
Hexachlorobutadiene	9.15	10.0	92	57-119
Isopropylbenzene	10.3	10.0	103	67-129
m,p-Xylenes	18.8	20.0	94	69-121
Methyl tert-Butyl Ether	11.4	10.0	114	54-126
Naphthalene	8.73	10.0	87	64-126
n-Butylbenzene	9.87	10.0	99	55-130
n-Propylbenzene	9.64	10.0	96	61-124
o-Xylene	10.9	10.0	109	71-119
sec-Butylbenzene	9.62	10.0	96	59-128
Styrene	11.7	10.0	117	74-121
tert-Butylbenzene	9.72	10.0	97	61-127
Tetrachloroethene (PCE)	10.1	10.0	101	62-126
Toluene	10.9	10.0	109	69-124
trans-1,2-Dichloroethene	10.3	10.0	103	67-125
trans-1,3-Dichloropropene	11.1	10.0	111	59-125
Trichloroethene (TCE)	10.4	10.0	104	67-128
Trichlorofluoromethane (CFC 11)	8.37	10.0	84	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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: KQ1802996-01

Service Request: K1801872
Date Collected: NA
Date Received: NA
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	03/16/18 10:23	03/08/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/16/18 10:23	03/08/18	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Analyzed: 03/16/18

Lab Control Sample Summary
Dissolved Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ1802996-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron	6010C	2710	2500	109	80-120
Manganese	6010C	1270	1250	101	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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1801872-MB1

Service Request: K1801872
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	1	02/28/18 14:53	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.050	1	02/28/18 14:53	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1801872-MB1

Service Request: K1801872
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	03/02/18 15:25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1801872-MB2

Service Request: K1801872
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	1	02/28/18 21:45	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.050	1	02/28/18 21:45	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1801872-MB2

Service Request: K1801872
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	03/02/18 15:25	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1801872-MB3

Service Request: K1801872
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	03/05/18 11:10	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1801872-MB4

Service Request: K1801872
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	03/05/18 11:10	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1801872-MB5

Service Request: K1801872
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	03/26/18 10:30	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1801872-MB6

Service Request: K1801872
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	03/26/18 10:30	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18
Date Received: 02/28/18
Date Analyzed: 3/1/18

Duplicate Matrix Spike Summary
General Chemistry Parameters

Sample Name: LB-022718-12-3D **Units:** mg/L
Lab Code: K1801872-004 **Basis:** NA

Analyte Name	Method	Sample Result	Result	Matrix Spike K1801872-004MS		Duplicate Matrix Spike K1801872-004DMS		% Rec	% Rec Limits	RPD	RPD Limit
				Spike Amount	% Rec	Result	Spike Amount					% Rec
Chloride	300.0	4.13	11.8	8.00	96	11.9	8.00	97	90-110	<1	20
Nitrate as Nitrogen	300.0	3.89	12.1	8.00	102	12.1	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.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18
Date Received: 02/28/18
Date Analyzed: 03/02/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name: LB-022718-10-1D
Lab Code: K1801872-002

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>MRL</u>	<u>Sample Result</u>	<u>Duplicate Sample K1801872-002DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Solids, Total Dissolved	SM 2540 C	5.0	143	145	144	1	10

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 Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18
Date Received: 02/28/18
Date Analyzed: 03/01/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name: LB-022718-12-3D
Lab Code: K1801872-004

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>MRL</u>	<u>Sample Result</u>	<u>Duplicate Sample K1801872-004DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Chloride	300.0	0.20	4.13	4.16	4.14	<1	20
Nitrate as Nitrogen	300.0	0.10	3.89	3.86	3.88	<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 Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18
Date Received: 02/28/18
Date Analyzed: 03/05/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name: LB-022718-09-10SR
Lab Code: K1801872-005

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>MRL</u>	<u>Sample Result</u>	<u>Duplicate Sample K1801872- 005DUP1 Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Solids, Total Dissolved	SM 2540 C	5.0	251	545	417	61 *	10

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 Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Collected: 02/27/18
Date Received: 02/28/18
Date Analyzed: 03/26/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name: LB-022718-09-10SR
Lab Code: K1801872-005

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>MRL</u>	<u>Sample Result</u>	<u>Duplicate Sample K1801872-005DUP2 Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Solids, Total Dissolved	SM 2540 C	5.0	251	272	281	7	10

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 Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Analyzed: 02/28/18 - 03/02/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
K1801872-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.92	5.00	98	90-110
Nitrate as Nitrogen	300.0	2.50	2.50	100	90-110
Solids, Total Dissolved	SM 2540 C	1570	1640	96	85-115

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Analyzed: 02/28/18 - 03/05/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
K1801872-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.97	5.00	99	90-110
Nitrate as Nitrogen	300.0	2.50	2.50	100	90-110
Solids, Total Dissolved	SM 2540 C	1800	1640	109	85-115

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Lechner Lanfill, WA/04218030.13
Sample Matrix: Ground Water

Service Request: K1801872
Date Analyzed: 03/26/18
Date Extracted: NA

Lab Control Sample Summary
Solids, Total Dissolved

Analysis Method: SM 2540 C
Prep Method: None

Units: mg/L
Basis: NA
Analysis Lot: 585290

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K1801872-LCS3	549	523	105	85-115

First Quarter (March) 2018 Laboratory Reports



March 28, 2018

Service Request No:K1801947

Jason Davendonis
SCS Engineers
15940 SW 72nd Ave
Portland, OR 97224

Laboratory Results for: Leichner Landfill

Dear Jason,

Enclosed are the results of the sample(s) submitted to our laboratory March 02, 2018
For your reference, these analyses have been assigned our service request number **K1801947**.

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: K1801947
Date Received: 03/02/2018

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 03/02/2018. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

Method 300.0, 03/02/2018: The matrix spike recoveries of Chloride and Nitrate as Nitrogen for sample LB-030118-14-20S were outside control criteria because of suspected matrix interference. As a result of the interference, the results for this analyte contained a potential low bias. No further corrective action was taken.

Volatiles by GC/MS:

Method 8260C, 3/7/18: The following analyte was flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS27\0307F003.D: 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.

Method 8260C, 3/9/18: The following analytes were flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS27\0309F004.D: Dichlorodifluoromethane, Chloromethane, Trichlorofluoromethane, Carbon Disulfide, Carbon Tetrachloride and 4-Isopropyltoluene. 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.

Method 8260C, 3/7/18: The upper control criterion was exceeded for Bromomethane in Laboratory Control Sample (LCS) KWG1801301-3. The analyte in question was not detected in the associated field samples. The error associated with elevated recovery indicated a high bias. The sample data was not significantly affected. No further corrective action was appropriate.

Method 8260C, 3/7-9/18: The upper control criterion was exceeded for Dibromofluoromethane in all field samples. No target analytes were detected in the sample. 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, 3/7-9/18: The control criteria were exceeded for Dibromofluoromethane in Method Blanks KWG1801301-5 and KWG1801341-4. The associated matrix spike recoveries of target compounds were in control, indicating the analysis was in control. The surrogate outlier was flagged accordingly. No further corrective action was appropriate.

Approved by



Date 03/28/2018

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-030118-15-5S **Lab ID: K1801947-001**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	148			5.0	mg/L	SM 2540 C
Chloride	4.19			0.20	mg/L	300.0
Nitrate as Nitrogen	5.03			0.10	mg/L	300.0

CLIENT ID: LB-030118-17-6S **Lab ID: K1801947-002**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	142			5.0	mg/L	SM 2540 C
Chloride	2.64			0.20	mg/L	300.0
Nitrate as Nitrogen	1.41			0.10	mg/L	300.0

CLIENT ID: LB-030118-18-DUP2 **Lab ID: K1801947-003**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	147			5.0	mg/L	SM 2540 C
Chloride	2.68			0.20	mg/L	300.0
Nitrate as Nitrogen	1.41			0.10	mg/L	300.0

CLIENT ID: LB-030118-20-13I **Lab ID: K1801947-004**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	168			5.0	mg/L	SM 2540 C
Chloride	7.97			0.20	mg/L	300.0
Nitrate as Nitrogen	2.54			0.10	mg/L	300.0

CLIENT ID: LB-030118-16-17I **Lab ID: K1801947-005**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	174			5.0	mg/L	SM 2540 C
Chloride	10.9			0.20	mg/L	300.0
Iron	7460			42	ug/L	6010C
Manganese	1210			1.1	ug/L	6010C

CLIENT ID: LB-030118-14-20S **Lab ID: K1801947-006**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	166			5.0	mg/L	SM 2540 C
Chloride	10.6			0.20	mg/L	300.0
Iron	214			42	ug/L	6010C
Manganese	1470			1.1	ug/L	6010C

CLIENT ID: LB-030118-21-26S **Lab ID: K1801947-007**

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	173			5.0	mg/L	SM 2540 C
Chloride	8.05			0.20	mg/L	300.0
Nitrate as Nitrogen	3.02			0.10	mg/L	300.0
Iron	46			42	ug/L	6010C
Manganese	1.7			1.1	ug/L	6010C

SAMPLE DETECTION SUMMARY
CLIENT ID: LB-030118-19-271
Lab ID: K1801947-008

Analyte	Results	Flag	MDL	PQL	Units	Method
Solids, Total Dissolved	299			5.0	mg/L	SM 2540 C
Chloride	19.2			2.0	mg/L	300.0
Manganese	239			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
Project: Lechner Landfill/04218030.13

Service Request:K1801947

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
K1801947-001	LB-030118-15-5S	3/1/2018	1140
K1801947-002	LB-030118-17-6S	3/1/2018	1345
K1801947-003	LB-030118-18-DUP2	3/1/2018	1350
K1801947-004	LB-030118-20-13I	3/1/2018	1530
K1801947-005	LB-030118-16-17I	3/1/2018	1225
K1801947-006	LB-030118-14-20S	3/1/2018	1030
K1801947-007	LB-030118-21-26S	3/1/2018	1620
K1801947-008	LB-030118-19-27I	3/1/2018	1445
K1801947-009	Trip Blanks	3/1/2018	



CHAIN OF CUSTODY

SR# K1801947

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

PAGE OF COC#

PROJECT INFORMATION					NUMBER OF CONTAINERS	Semi-volatile Organics by GC/MS 625 <input type="checkbox"/> 8270 <input type="checkbox"/> 8270LL <input type="checkbox"/> SIM PAH <input type="checkbox"/>	Volatile Organics 824 <input type="checkbox"/> 8260 <input type="checkbox"/>	Hydrocarbons Gas <input type="checkbox"/> 8021 <input type="checkbox"/>	Oil & Grease/TRPH Diesel <input type="checkbox"/> BTEX <input type="checkbox"/>	1664 HEM <input type="checkbox"/>	PCBs Aroclors <input type="checkbox"/> 1664 SGT <input type="checkbox"/>	Pesticides/Herbicides 608 <input type="checkbox"/> 8081 <input type="checkbox"/>	Chlorophenolics Tri <input type="checkbox"/> 814 <input type="checkbox"/>	Metals, Total or (See List below) 8151 <input type="checkbox"/>	Cyanide <input type="checkbox"/>	(circle) pH, Cond (NO ₃) BOD, TSS, DR, Turb. GR SO ₄ , PO ₄ , F, NO ₂ (circle) NH ₃ -N, COD, TKN, TOC, DOC, NO ₂ +NO ₃ , T-Phos	Alkalinity AOX 1650 <input type="checkbox"/> 506 <input type="checkbox"/>	Dioxins/Furans 1613 <input type="checkbox"/> 8290 <input type="checkbox"/>	Dissolved Gases RSK 175 <input type="checkbox"/> Methane <input type="checkbox"/> Ethane <input type="checkbox"/>	REMARKS			
SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX																			
PROJECT NAME	Lechner Landfill																						
PROJECT NUMBER	04218030.13																						
PROJECT MANAGER	David Lamadrid																						
COMPANY NAME	SCS Engineers																						
ADDRESS	15440 SW 72nd Ave																						
CITY/STATE/ZIP	Portland, OR 97224																						
E-MAIL ADDRESS	dlamadrid@scsengineers.com																						
PHONE #	503-639-9736																						
SAMPLER'S SIGNATURE	<i>David Lamadrid</i>																						
LB-030118-15-5S	3/1/18	1140		W	5		X						X		X								
LB-030118-17-6S	3/1/18	1345		W	5		X						X		X								
LB-030118-18-DUP2	3/1/18	1350		W	5		X						X		X								
LB-030118-20-13I	3/1/18	1530		W	5		X						X		X								
LB-030118-16-17I	3/1/18	1225		W	5		X						X		X								
LB-030118-14-20S	3/1/18	1030		W	5		X						X		X								
LB-030118-21-26S	3/1/18	1620		W	5		X						X		X								
LB-030118-19-27I	3/1/18	1445		W	5		X						X		X								
Trip Blanks	—	—		W	3		X															See below	

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: SCS

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 Ti 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 Ti Sn V Zn Hg

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

SPECIAL INSTRUCTIONS/COMMENTS:
cc Tiffany Andrews
tandrews@scsengineers.com

Trip blanks received from Lab with bubbles

Metals are field filtered

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

RELINQUISHED BY:
David Lamadrid 3/2/18 9:05
Signature _____ Date/Time _____
Printed Name David Lamadrid Firm SCS

RECEIVED BY:
[Signature] 3/2/18 09:05
Signature _____ Date/Time _____
Printed Name David Lamadrid Firm SCS

RELINQUISHED BY:
Signature _____ Date/Time _____
Printed Name _____ Firm _____

RECEIVED BY:
[Signature] 3-2-18 11:30
Signature _____ Date/Time _____
Printed Name David Lamadrid Firm ALS-K



Cooler Receipt and Preservation Form

Client Leichter L.F. Service Request K18 01947
 Received: 3/2/18 Opened: 3/2/18 By: JM Unloaded: 3/2/18 By: [Signature]

- Samples were received via? **USPS** Fed Ex **UPS** **DHL** **PDX** Courier **Hand Delivered**
- Samples were received in: (circle) Cooler **Box** **Envelope** **Other** NA
- Were custody seals on coolers? **NA** **Y** **N** If yes, how many and where? _____
 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	Tracking Number	NA	File#
-0.3	-	N/A	-	0	322				

- Packing material: Inserts Baggies **Bubble Wrap** **Gel Packs** Wet Ice **Dry Ice** **Sleeves**
- Were custody papers properly filled out (ink, signed, etc.)? **NA** Y **N**
- 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**
- Were all sample labels complete (i.e analysis, preservation, etc.)? **NA** Y **N**
- Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* **NA** Y **N**
- Were appropriate bottles/containers and volumes received for the tests indicated? **NA** Y **N**
- Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* **NA** Y **N**
- Were VOA vials received without headspace? *Indicate in the table below.* **NA** Y **N**
- 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

SHORT HOLD TIME **SHORT HOLD TIME**
 Notes, Discrepancies, & Resolutions: _____



Miscellaneous Forms

ALS Environmental—Kelso Laboratory
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.pjllabs.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/analyte 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.

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13

Service Request: K1801947

Sample Name: LB-030118-15-5S
Lab Code: K1801947-001
Sample Matrix: Ground Water

Date Collected: 03/01/18
Date Received: 03/02/18

Analysis Method
300.0
6010C
8260C
SM 2540 C

Extracted/Digested By

JHINSON

Analyzed By
MRODRIGUEZ
AMCKORNEY

AMOONEY

Sample Name: LB-030118-17-6S
Lab Code: K1801947-002
Sample Matrix: Ground Water

Date Collected: 03/01/18
Date Received: 03/02/18

Analysis Method
300.0
6010C
8260C
SM 2540 C

Extracted/Digested By

JHINSON

Analyzed By
MRODRIGUEZ
AMCKORNEY

AMOONEY

Sample Name: LB-030118-18-DUP2
Lab Code: K1801947-003
Sample Matrix: Ground Water

Date Collected: 03/01/18
Date Received: 03/02/18

Analysis Method
300.0
6010C
8260C
SM 2540 C

Extracted/Digested By

JHINSON

Analyzed By
MRODRIGUEZ
AMCKORNEY

AMOONEY

Sample Name: LB-030118-20-13I
Lab Code: K1801947-004
Sample Matrix: Ground Water

Date Collected: 03/01/18
Date Received: 03/02/18

Analysis Method
300.0

Extracted/Digested By

Analyzed By
MRODRIGUEZ

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13

Service Request: K1801947

Sample Name: LB-030118-20-13I
Lab Code: K1801947-004
Sample Matrix: Ground Water

Date Collected: 03/01/18
Date Received: 03/02/18

Analysis Method
6010C
8260C
SM 2540 C

Extracted/Digested By
JHINSON

Analyzed By
AMCKORNEY
AMOONEY

Sample Name: LB-030118-16-17I
Lab Code: K1801947-005
Sample Matrix: Ground Water

Date Collected: 03/01/18
Date Received: 03/02/18

Analysis Method
300.0
6010C
8260C
SM 2540 C

Extracted/Digested By
JHINSON

Analyzed By
MRODRIGUEZ
AMCKORNEY
AMOONEY

Sample Name: LB-030118-14-20S
Lab Code: K1801947-006
Sample Matrix: Ground Water

Date Collected: 03/01/18
Date Received: 03/02/18

Analysis Method
300.0
6010C
8260C
SM 2540 C

Extracted/Digested By
JHINSON

Analyzed By
MRODRIGUEZ
AMCKORNEY
AMOONEY

Sample Name: LB-030118-21-26S
Lab Code: K1801947-007
Sample Matrix: Ground Water

Date Collected: 03/01/18
Date Received: 03/02/18

Analysis Method
300.0
6010C

Extracted/Digested By
JHINSON

Analyzed By
MRODRIGUEZ
AMCKORNEY

ALS Group USA, Corp.
dba ALS Environmental

Analyst Summary report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13

Service Request: K1801947

Sample Name: LB-030118-21-26S
Lab Code: K1801947-007
Sample Matrix: Ground Water

Date Collected: 03/01/18
Date Received: 03/02/18

Analysis Method
8260C
SM 2540 C

Extracted/Digested By

Analyzed By

AMOONEY

Sample Name: LB-030118-19-27I
Lab Code: K1801947-008
Sample Matrix: Ground Water

Date Collected: 03/01/18
Date Received: 03/02/18

Analysis Method
300.0
6010C
8260C
SM 2540 C

Extracted/Digested By

Analyzed By

JHINSON

MRODRIGUEZ
AMCKORNEY

AMOONEY

Sample Name: Trip Blanks
Lab Code: K1801947-009
Sample Matrix: Ground Water

Date Collected: 03/1/18
Date Received: 03/2/18

Analysis Method
8260C

Extracted/Digested By

Analyzed By



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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 11:40
Date Received: 03/02/18 11:30

Sample Name: LB-030118-15-5S
Lab Code: K1801947-001

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 17:20	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 17:20	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 17:20	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 17:20	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 17:20	3/7/18	
Acetone	ND U	20	1	03/07/18 17:20	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 17:20	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 17:20	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 17:20	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 17:20	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 17:20	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 17:20	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 17:20	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 17:20	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 17:20	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 17:20	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 17:20	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 17:20	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 17:20	3/7/18	
Benzene	ND U	0.50	1	03/07/18 17:20	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 17:20	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 17:20	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 17:20	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 17:20	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 17:20	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 17:20	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 17:20	3/7/18	
Toluene	ND U	0.50	1	03/07/18 17:20	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 17:20	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 17:20	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 17:20	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 17:20	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 17:20	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 17:20	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 17:20	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 17:20	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 17:20	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 17:20	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 17:20	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 17:20	3/7/18	
Styrene	ND U	0.50	1	03/07/18 17:20	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 17:20	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 11:40
Date Received: 03/02/18 11:30

Sample Name: LB-030118-15-5S
Lab Code: K1801947-001

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 17:20	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 17:20	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 17:20	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 17:20	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 17:20	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 17:20	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 17:20	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 17:20	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 17:20	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 17:20	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 17:20	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 17:20	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 17:20	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 17:20	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 17:20	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 17:20	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 17:20	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 17:20	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 17:20	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 17:20	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 17:20	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	132	73 - 122	03/07/18 17:20	*
Toluene-d8	111	65 - 144	03/07/18 17:20	
4-Bromofluorobenzene	97	68 - 117	03/07/18 17:20	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 13:45
Date Received: 03/02/18 11:30

Sample Name: LB-030118-17-6S
Lab Code: K1801947-002

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 17:47	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 17:47	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 17:47	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 17:47	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 17:47	3/7/18	
Acetone	ND U	20	1	03/07/18 17:47	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 17:47	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 17:47	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 17:47	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 17:47	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 17:47	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 17:47	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 17:47	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 17:47	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 17:47	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 17:47	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 17:47	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 17:47	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 17:47	3/7/18	
Benzene	ND U	0.50	1	03/07/18 17:47	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 17:47	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 17:47	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 17:47	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 17:47	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 17:47	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 17:47	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 17:47	3/7/18	
Toluene	ND U	0.50	1	03/07/18 17:47	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 17:47	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 17:47	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 17:47	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 17:47	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 17:47	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 17:47	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 17:47	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 17:47	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 17:47	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 17:47	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 17:47	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 17:47	3/7/18	
Styrene	ND U	0.50	1	03/07/18 17:47	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 17:47	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 13:45
Date Received: 03/02/18 11:30

Sample Name: LB-030118-17-6S
Lab Code: K1801947-002

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 17:47	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 17:47	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 17:47	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 17:47	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 17:47	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 17:47	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 17:47	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 17:47	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 17:47	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 17:47	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 17:47	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 17:47	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 17:47	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 17:47	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 17:47	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 17:47	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 17:47	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 17:47	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 17:47	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 17:47	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 17:47	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	135	73 - 122	03/07/18 17:47	*
Toluene-d8	111	65 - 144	03/07/18 17:47	
4-Bromofluorobenzene	96	68 - 117	03/07/18 17:47	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 13:50
Date Received: 03/02/18 11:30

Sample Name: LB-030118-18-DUP2
Lab Code: K1801947-003

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 18:15	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 18:15	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 18:15	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 18:15	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 18:15	3/7/18	
Acetone	ND U	20	1	03/07/18 18:15	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 18:15	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 18:15	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 18:15	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 18:15	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 18:15	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 18:15	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 18:15	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 18:15	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 18:15	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 18:15	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 18:15	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 18:15	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 18:15	3/7/18	
Benzene	ND U	0.50	1	03/07/18 18:15	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 18:15	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 18:15	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 18:15	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 18:15	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 18:15	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 18:15	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 18:15	3/7/18	
Toluene	ND U	0.50	1	03/07/18 18:15	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 18:15	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 18:15	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 18:15	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 18:15	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 18:15	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 18:15	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 18:15	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 18:15	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 18:15	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 18:15	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 18:15	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 18:15	3/7/18	
Styrene	ND U	0.50	1	03/07/18 18:15	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 18:15	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 13:50
Date Received: 03/02/18 11:30

Sample Name: LB-030118-18-DUP2
Lab Code: K1801947-003

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 18:15	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 18:15	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 18:15	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 18:15	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 18:15	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 18:15	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 18:15	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 18:15	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 18:15	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 18:15	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 18:15	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 18:15	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 18:15	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 18:15	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 18:15	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 18:15	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 18:15	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 18:15	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 18:15	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 18:15	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 18:15	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	138	73 - 122	03/07/18 18:15	*
Toluene-d8	114	65 - 144	03/07/18 18:15	
4-Bromofluorobenzene	93	68 - 117	03/07/18 18:15	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 15:30
Date Received: 03/02/18 11:30

Sample Name: LB-030118-20-13I
Lab Code: K1801947-004

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 18:42	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 18:42	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 18:42	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 18:42	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 18:42	3/7/18	
Acetone	ND U	20	1	03/07/18 18:42	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 18:42	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 18:42	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 18:42	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 18:42	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 18:42	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 18:42	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 18:42	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 18:42	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 18:42	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 18:42	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 18:42	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 18:42	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 18:42	3/7/18	
Benzene	ND U	0.50	1	03/07/18 18:42	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 18:42	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 18:42	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 18:42	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 18:42	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 18:42	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 18:42	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 18:42	3/7/18	
Toluene	ND U	0.50	1	03/07/18 18:42	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 18:42	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 18:42	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 18:42	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 18:42	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 18:42	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 18:42	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 18:42	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 18:42	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 18:42	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 18:42	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 18:42	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 18:42	3/7/18	
Styrene	ND U	0.50	1	03/07/18 18:42	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 18:42	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 15:30
Date Received: 03/02/18 11:30

Sample Name: LB-030118-20-13I
Lab Code: K1801947-004

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 18:42	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 18:42	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 18:42	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 18:42	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 18:42	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 18:42	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 18:42	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 18:42	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 18:42	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 18:42	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 18:42	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 18:42	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 18:42	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 18:42	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 18:42	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 18:42	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 18:42	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 18:42	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 18:42	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 18:42	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 18:42	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	131	73 - 122	03/07/18 18:42	*
Toluene-d8	113	65 - 144	03/07/18 18:42	
4-Bromofluorobenzene	96	68 - 117	03/07/18 18:42	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 12:25
Date Received: 03/02/18 11:30

Sample Name: LB-030118-16-17I
Lab Code: K1801947-005

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 19:10	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 19:10	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 19:10	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 19:10	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 19:10	3/7/18	
Acetone	ND U	20	1	03/07/18 19:10	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 19:10	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 19:10	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 19:10	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 19:10	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 19:10	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 19:10	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 19:10	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 19:10	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 19:10	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 19:10	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 19:10	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 19:10	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 19:10	3/7/18	
Benzene	ND U	0.50	1	03/07/18 19:10	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 19:10	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 19:10	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 19:10	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 19:10	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 19:10	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 19:10	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 19:10	3/7/18	
Toluene	ND U	0.50	1	03/07/18 19:10	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 19:10	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 19:10	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 19:10	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 19:10	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 19:10	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 19:10	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 19:10	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 19:10	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 19:10	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 19:10	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 19:10	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 19:10	3/7/18	
Styrene	ND U	0.50	1	03/07/18 19:10	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 19:10	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 12:25
Date Received: 03/02/18 11:30

Sample Name: LB-030118-16-17I
Lab Code: K1801947-005

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 19:10	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 19:10	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 19:10	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 19:10	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 19:10	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 19:10	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 19:10	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 19:10	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 19:10	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 19:10	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 19:10	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 19:10	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 19:10	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 19:10	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 19:10	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 19:10	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 19:10	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 19:10	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 19:10	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 19:10	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 19:10	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	135	73 - 122	03/07/18 19:10	*
Toluene-d8	111	65 - 144	03/07/18 19:10	
4-Bromofluorobenzene	95	68 - 117	03/07/18 19:10	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 10:30
Date Received: 03/02/18 11:30

Sample Name: LB-030118-14-20S
Lab Code: K1801947-006

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 19:37	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 19:37	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 19:37	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 19:37	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 19:37	3/7/18	
Acetone	ND U	20	1	03/07/18 19:37	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 19:37	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 19:37	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 19:37	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 19:37	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 19:37	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 19:37	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 19:37	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 19:37	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 19:37	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 19:37	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 19:37	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 19:37	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 19:37	3/7/18	
Benzene	ND U	0.50	1	03/07/18 19:37	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 19:37	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 19:37	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 19:37	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 19:37	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 19:37	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 19:37	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 19:37	3/7/18	
Toluene	ND U	0.50	1	03/07/18 19:37	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 19:37	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 19:37	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 19:37	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 19:37	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 19:37	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 19:37	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 19:37	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 19:37	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 19:37	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 19:37	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 19:37	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 19:37	3/7/18	
Styrene	ND U	0.50	1	03/07/18 19:37	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 19:37	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 10:30
Date Received: 03/02/18 11:30

Sample Name: LB-030118-14-20S
Lab Code: K1801947-006

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 19:37	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 19:37	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 19:37	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 19:37	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 19:37	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 19:37	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 19:37	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 19:37	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 19:37	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 19:37	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 19:37	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 19:37	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 19:37	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 19:37	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 19:37	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 19:37	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 19:37	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 19:37	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 19:37	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 19:37	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 19:37	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	138	73 - 122	03/07/18 19:37	*
Toluene-d8	113	65 - 144	03/07/18 19:37	
4-Bromofluorobenzene	97	68 - 117	03/07/18 19:37	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 16:20
Date Received: 03/02/18 11:30

Sample Name: LB-030118-21-26S
Lab Code: K1801947-007

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 20:05	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 20:05	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 20:05	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 20:05	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 20:05	3/7/18	
Acetone	ND U	20	1	03/07/18 20:05	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 20:05	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 20:05	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 20:05	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 20:05	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 20:05	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 20:05	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 20:05	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 20:05	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 20:05	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 20:05	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 20:05	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 20:05	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 20:05	3/7/18	
Benzene	ND U	0.50	1	03/07/18 20:05	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 20:05	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 20:05	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 20:05	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 20:05	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 20:05	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 20:05	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 20:05	3/7/18	
Toluene	ND U	0.50	1	03/07/18 20:05	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 20:05	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 20:05	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 20:05	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 20:05	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 20:05	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 20:05	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 20:05	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 20:05	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 20:05	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 20:05	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 20:05	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 20:05	3/7/18	
Styrene	ND U	0.50	1	03/07/18 20:05	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 20:05	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 16:20
Date Received: 03/02/18 11:30

Sample Name: LB-030118-21-26S
Lab Code: K1801947-007

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 20:05	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 20:05	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 20:05	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 20:05	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 20:05	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 20:05	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 20:05	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 20:05	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 20:05	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 20:05	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 20:05	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 20:05	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 20:05	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 20:05	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 20:05	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 20:05	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 20:05	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 20:05	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 20:05	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 20:05	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 20:05	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	131	73 - 122	03/07/18 20:05	*
Toluene-d8	110	65 - 144	03/07/18 20:05	
4-Bromofluorobenzene	96	68 - 117	03/07/18 20:05	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 14:45
Date Received: 03/02/18 11:30

Sample Name: LB-030118-19-27I
Lab Code: K1801947-008

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/09/18 13:45	3/9/18	
Chloromethane	ND U	0.50	1	03/09/18 13:45	3/9/18	
Bromomethane	ND U	0.50	1	03/09/18 13:45	3/9/18	
Chloroethane	ND U	0.50	1	03/09/18 13:45	3/9/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/09/18 13:45	3/9/18	
Acetone	ND U	20	1	03/09/18 13:45	3/9/18	
Carbon Disulfide	ND U	0.50	1	03/09/18 13:45	3/9/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/09/18 13:45	3/9/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/09/18 13:45	3/9/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/09/18 13:45	3/9/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/09/18 13:45	3/9/18	
2,2-Dichloropropane	ND U	0.50	1	03/09/18 13:45	3/9/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/09/18 13:45	3/9/18	
2-Butanone (MEK)	ND U	20	1	03/09/18 13:45	3/9/18	
Bromochloromethane	ND U	0.50	1	03/09/18 13:45	3/9/18	
Chloroform	ND U	0.50	1	03/09/18 13:45	3/9/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/09/18 13:45	3/9/18	
Carbon Tetrachloride	ND U	0.50	1	03/09/18 13:45	3/9/18	
1,1-Dichloropropene	ND U	0.50	1	03/09/18 13:45	3/9/18	
Benzene	ND U	0.50	1	03/09/18 13:45	3/9/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/09/18 13:45	3/9/18	
Trichloroethene (TCE)	ND U	0.50	1	03/09/18 13:45	3/9/18	
1,2-Dichloropropane	ND U	0.50	1	03/09/18 13:45	3/9/18	
Dibromomethane	ND U	0.50	1	03/09/18 13:45	3/9/18	
Bromodichloromethane	ND U	0.50	1	03/09/18 13:45	3/9/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/09/18 13:45	3/9/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/09/18 13:45	3/9/18	
Toluene	ND U	0.50	1	03/09/18 13:45	3/9/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/09/18 13:45	3/9/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/09/18 13:45	3/9/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/09/18 13:45	3/9/18	
2-Hexanone	ND U	20	1	03/09/18 13:45	3/9/18	
1,3-Dichloropropane	ND U	0.50	1	03/09/18 13:45	3/9/18	
Dibromochloromethane	ND U	0.50	1	03/09/18 13:45	3/9/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/09/18 13:45	3/9/18	
Chlorobenzene	ND U	0.50	1	03/09/18 13:45	3/9/18	
Ethylbenzene	ND U	0.50	1	03/09/18 13:45	3/9/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/09/18 13:45	3/9/18	
m,p-Xylenes	ND U	0.50	1	03/09/18 13:45	3/9/18	
o-Xylene	ND U	0.50	1	03/09/18 13:45	3/9/18	
Styrene	ND U	0.50	1	03/09/18 13:45	3/9/18	
Bromoform	ND U	0.50	1	03/09/18 13:45	3/9/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18 14:45
Date Received: 03/02/18 11:30

Sample Name: LB-030118-19-27I
Lab Code: K1801947-008

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/09/18 13:45	3/9/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/09/18 13:45	3/9/18	
Bromobenzene	ND U	2.0	1	03/09/18 13:45	3/9/18	
n-Propylbenzene	ND U	2.0	1	03/09/18 13:45	3/9/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/09/18 13:45	3/9/18	
2-Chlorotoluene	ND U	2.0	1	03/09/18 13:45	3/9/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/09/18 13:45	3/9/18	
4-Chlorotoluene	ND U	2.0	1	03/09/18 13:45	3/9/18	
tert-Butylbenzene	ND U	2.0	1	03/09/18 13:45	3/9/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/09/18 13:45	3/9/18	
sec-Butylbenzene	ND U	2.0	1	03/09/18 13:45	3/9/18	
4-Isopropyltoluene	ND U	2.0	1	03/09/18 13:45	3/9/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/09/18 13:45	3/9/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/09/18 13:45	3/9/18	
n-Butylbenzene	ND U	2.0	1	03/09/18 13:45	3/9/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/09/18 13:45	3/9/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/09/18 13:45	3/9/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/09/18 13:45	3/9/18	
Hexachlorobutadiene	ND U	2.0	1	03/09/18 13:45	3/9/18	
Naphthalene	ND U	2.0	1	03/09/18 13:45	3/9/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/09/18 13:45	3/9/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	128	73 - 122	03/09/18 13:45	*
Toluene-d8	111	65 - 144	03/09/18 13:45	
4-Bromofluorobenzene	99	68 - 117	03/09/18 13:45	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18
Date Received: 03/02/18 11:30

Sample Name: Trip Blanks
Lab Code: K1801947-009

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 14:07	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 14:07	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 14:07	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 14:07	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 14:07	3/7/18	
Acetone	ND U	20	1	03/07/18 14:07	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 14:07	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 14:07	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 14:07	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 14:07	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 14:07	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 14:07	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 14:07	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 14:07	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 14:07	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 14:07	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 14:07	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 14:07	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 14:07	3/7/18	
Benzene	ND U	0.50	1	03/07/18 14:07	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 14:07	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 14:07	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 14:07	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 14:07	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 14:07	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 14:07	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 14:07	3/7/18	
Toluene	ND U	0.50	1	03/07/18 14:07	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 14:07	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 14:07	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 14:07	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 14:07	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 14:07	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 14:07	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 14:07	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 14:07	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 14:07	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 14:07	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 14:07	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 14:07	3/7/18	
Styrene	ND U	0.50	1	03/07/18 14:07	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 14:07	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18
Date Received: 03/02/18 11:30

Sample Name: Trip Blanks
Lab Code: K1801947-009

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 14:07	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 14:07	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 14:07	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 14:07	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 14:07	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 14:07	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 14:07	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 14:07	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 14:07	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 14:07	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 14:07	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 14:07	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 14:07	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 14:07	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 14:07	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 14:07	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 14:07	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 14:07	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 14:07	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 14:07	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 14:07	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	135	73 - 122	03/07/18 14:07	*
Toluene-d8	113	65 - 144	03/07/18 14:07	
4-Bromofluorobenzene	101	68 - 117	03/07/18 14:07	



Metals

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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-15-5S
Lab Code: K1801947-001

Service Request: K1801947
Date Collected: 03/01/18 11:40
Date Received: 03/02/18 11:30
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 13:43	03/07/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/08/18 13:43	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-17-6S
Lab Code: K1801947-002

Service Request: K1801947
Date Collected: 03/01/18 13:45
Date Received: 03/02/18 11:30
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 13:45	03/07/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/08/18 13:45	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-18-DUP2
Lab Code: K1801947-003

Service Request: K1801947
Date Collected: 03/01/18 13:50
Date Received: 03/02/18 11:30
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 13:48	03/07/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/08/18 13:48	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-20-13I
Lab Code: K1801947-004

Service Request: K1801947
Date Collected: 03/01/18 15:30
Date Received: 03/02/18 11:30
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 13:50	03/07/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/08/18 13:50	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-16-17I
Lab Code: K1801947-005

Service Request: K1801947
Date Collected: 03/01/18 12:25
Date Received: 03/02/18 11:30
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	7460	ug/L	42	1	03/08/18 13:53	03/07/18	
Manganese	6010C	1210	ug/L	1.1	1	03/08/18 13:53	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-14-20S
Lab Code: K1801947-006

Service Request: K1801947
Date Collected: 03/01/18 10:30
Date Received: 03/02/18 11:30
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	214	ug/L	42	1	03/08/18 13:55	03/07/18	
Manganese	6010C	1470	ug/L	1.1	1	03/08/18 13:55	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-21-26S
Lab Code: K1801947-007

Service Request: K1801947
Date Collected: 03/01/18 16:20
Date Received: 03/02/18 11:30
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	46	ug/L	42	1	03/08/18 14:06	03/07/18	
Manganese	6010C	1.7	ug/L	1.1	1	03/08/18 14:06	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-19-27I
Lab Code: K1801947-008

Service Request: K1801947
Date Collected: 03/01/18 14:45
Date Received: 03/02/18 11:30
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 14:08	03/07/18	
Manganese	6010C	239	ug/L	1.1	1	03/08/18 14:08	03/07/18	



General Chemistry

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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-15-5S
Lab Code: K1801947-001

Service Request: K1801947
Date Collected: 03/01/18 11:40
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Chloride	300.0	4.19	mg/L	0.20	2	03/02/18 16:39	
Nitrate as Nitrogen	300.0	5.03	mg/L	0.10	2	03/02/18 16:39	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-15-5S
Lab Code: K1801947-001

Service Request: K1801947
Date Collected: 03/01/18 11:40
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	148	mg/L	5.0	1	03/05/18 13:05	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-17-6S
Lab Code: K1801947-002

Service Request: K1801947
Date Collected: 03/01/18 13:45
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	2.64	mg/L	0.20	2	03/02/18 16:50	
Nitrate as Nitrogen	300.0	1.41	mg/L	0.10	2	03/02/18 16:50	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-17-6S
Lab Code: K1801947-002

Service Request: K1801947
Date Collected: 03/01/18 13:45
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	142	mg/L	5.0	1	03/05/18 13:05	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-18-DUP2
Lab Code: K1801947-003

Service Request: K1801947
Date Collected: 03/01/18 13:50
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	2.68	mg/L	0.20	2	03/02/18 17:00	
Nitrate as Nitrogen	300.0	1.41	mg/L	0.10	2	03/02/18 17:00	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-18-DUP2
Lab Code: K1801947-003

Service Request: K1801947
Date Collected: 03/01/18 13:50
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	147	mg/L	5.0	1	03/05/18 13:05	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-20-13I
Lab Code: K1801947-004

Service Request: K1801947
Date Collected: 03/01/18 15:30
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	7.97	mg/L	0.20	2	03/02/18 17:11	
Nitrate as Nitrogen	300.0	2.54	mg/L	0.10	2	03/02/18 17:11	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-20-13I
Lab Code: K1801947-004

Service Request: K1801947
Date Collected: 03/01/18 15:30
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	168	mg/L	5.0	1	03/05/18 13:05	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-16-17I
Lab Code: K1801947-005

Service Request: K1801947
Date Collected: 03/01/18 12:25
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	10.9	mg/L	0.20	2	03/02/18 17:22	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	2	03/02/18 17:22	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-16-17I
Lab Code: K1801947-005

Service Request: K1801947
Date Collected: 03/01/18 12:25
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	174	mg/L	5.0	1	03/05/18 13:05	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-14-20S
Lab Code: K1801947-006

Service Request: K1801947
Date Collected: 03/01/18 10:30
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	10.6	mg/L	0.20	2	03/02/18 15:57	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	2	03/02/18 15:57	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-14-20S
Lab Code: K1801947-006

Service Request: K1801947
Date Collected: 03/01/18 10:30
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	166	mg/L	5.0	1	03/05/18 13:05	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-21-26S
Lab Code: K1801947-007

Service Request: K1801947
Date Collected: 03/01/18 16:20
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	8.05	mg/L	0.20	2	03/02/18 17:32	
Nitrate as Nitrogen	300.0	3.02	mg/L	0.10	2	03/02/18 17:32	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-21-26S
Lab Code: K1801947-007

Service Request: K1801947
Date Collected: 03/01/18 16:20
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	173	mg/L	5.0	1	03/05/18 13:05	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-19-27I
Lab Code: K1801947-008

Service Request: K1801947
Date Collected: 03/01/18 14:45
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	19.2	mg/L	2.0	20	03/02/18 18:04	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	2	03/02/18 18:15	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: LB-030118-19-27I
Lab Code: K1801947-008

Service Request: K1801947
Date Collected: 03/01/18 14:45
Date Received: 03/02/18 11:30
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	299	mg/L	5.0	1	03/05/18 13:05	



QC Summary Forms

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
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds

Analysis Method: 8260C
Extraction Method: EPA 5030B

Sample Name	Lab Code	4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
		68 - 117	73 - 122	65 - 144
LB-030118-15-5S	K1801947-001	97	132 *	111
LB-030118-17-6S	K1801947-002	96	135 *	111
LB-030118-18-DUP2	K1801947-003	93	138 *	114
LB-030118-20-13I	K1801947-004	96	131 *	113
LB-030118-16-17I	K1801947-005	95	135 *	111
LB-030118-14-20S	K1801947-006	97	138 *	113
LB-030118-21-26S	K1801947-007	96	131 *	110
LB-030118-19-27I	K1801947-008	99	128 *	111
Trip Blanks	K1801947-009	101	135 *	113
Lab Control Sample	KWG1801301-3	116	117	118
Method Blank	KWG1801301-5	98	129 *	112
LB-030118-19-27I MS	KWG1801341-1	115	112	117
LB-030118-19-27I DMS	KWG1801341-2	113	112	114
Lab Control Sample	KWG1801341-3	115	111	118
Method Blank	KWG1801341-4	98	126 *	111

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18
Date Received: 03/02/18
Date Analyzed: 03/9/18
Date Extracted: 03/9/18

**Duplicate Matrix Spike Summary
Volatile Organic Compounds**

Sample Name: LB-030118-19-27I
Lab Code: K1801947-008
Analysis Method: 8260C
Prep Method: EPA 5030B

Units: ug/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike KWG1801341-1			Duplicate Matrix Spike KWG1801341-2			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chloroform	ND U	9.93	10.0	99	9.53	10.0	95	64-133	4	30
Carbon Tetrachloride	ND U	10.2	10.0	102	9.79	10.0	98	53-161	4	30
Benzene	ND U	9.75	10.0	98	9.23	10.0	92	63-144	5	30
Trichloroethene (TCE)	ND U	10.3	10.0	103	10.2	10.0	102	53-139	1	30
Bromodichloromethane	ND U	10.2	10.0	102	10.1	10.0	101	61-134	1	30
Toluene	ND U	10.3	10.0	103	9.78	10.0	98	71-136	5	30
1,1,2-Trichloroethane	ND U	9.30	10.0	93	9.64	10.0	96	74-124	4	30
2-Hexanone	ND U	51.2	50.0	102	56.0	50.0	112	53-132	9	30
Chlorobenzene	ND U	10.7	10.0	107	10.2	10.0	102	69-126	4	30
Ethylbenzene	ND U	10.7	10.0	107	9.89	10.0	99	66-136	8	30
1,2,3-Trichloropropane	ND U	9.12	10.0	91	9.56	10.0	96	71-127	5	30
2-Chlorotoluene	ND U	9.97	10.0	100	9.21	10.0	92	55-139	8	30
1,2-Dichlorobenzene	ND U	10.3	10.0	103	9.71	10.0	97	72-119	6	30
Naphthalene	ND U	7.38	10.0	74	7.69	10.0	77	52-147	4	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.

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: KWG1801301-5

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/07/18 13:12	3/7/18	
Chloromethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Bromomethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Chloroethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/07/18 13:12	3/7/18	
Acetone	ND U	20	1	03/07/18 13:12	3/7/18	
Carbon Disulfide	ND U	0.50	1	03/07/18 13:12	3/7/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/07/18 13:12	3/7/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/07/18 13:12	3/7/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/07/18 13:12	3/7/18	
2,2-Dichloropropane	ND U	0.50	1	03/07/18 13:12	3/7/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/07/18 13:12	3/7/18	
2-Butanone (MEK)	ND U	20	1	03/07/18 13:12	3/7/18	
Bromochloromethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Chloroform	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/07/18 13:12	3/7/18	
Carbon Tetrachloride	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,1-Dichloropropene	ND U	0.50	1	03/07/18 13:12	3/7/18	
Benzene	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/07/18 13:12	3/7/18	
Trichloroethene (TCE)	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,2-Dichloropropane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Dibromomethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Bromodichloromethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/07/18 13:12	3/7/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/07/18 13:12	3/7/18	
Toluene	ND U	0.50	1	03/07/18 13:12	3/7/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/07/18 13:12	3/7/18	
2-Hexanone	ND U	20	1	03/07/18 13:12	3/7/18	
1,3-Dichloropropane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Dibromochloromethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/07/18 13:12	3/7/18	
Chlorobenzene	ND U	0.50	1	03/07/18 13:12	3/7/18	
Ethylbenzene	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
m,p-Xylenes	ND U	0.50	1	03/07/18 13:12	3/7/18	
o-Xylene	ND U	0.50	1	03/07/18 13:12	3/7/18	
Styrene	ND U	0.50	1	03/07/18 13:12	3/7/18	
Bromoform	ND U	0.50	1	03/07/18 13:12	3/7/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: KWG1801301-5

Service Request: K1801947
Date Collected: NA
Date Received: NA
Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/07/18 13:12	3/7/18	
Bromobenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
n-Propylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/07/18 13:12	3/7/18	
2-Chlorotoluene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
4-Chlorotoluene	ND U	2.0	1	03/07/18 13:12	3/7/18	
tert-Butylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
sec-Butylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
4-Isopropyltoluene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/07/18 13:12	3/7/18	
n-Butylbenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/07/18 13:12	3/7/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	
Hexachlorobutadiene	ND U	2.0	1	03/07/18 13:12	3/7/18	
Naphthalene	ND U	2.0	1	03/07/18 13:12	3/7/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/07/18 13:12	3/7/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	129	73 - 122	03/07/18 13:12	*
Toluene-d8	112	65 - 144	03/07/18 13:12	
4-Bromofluorobenzene	98	68 - 117	03/07/18 13:12	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: KWG1801341-4

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	03/09/18 12:22	3/9/18	
Chloromethane	ND U	0.50	1	03/09/18 12:22	3/9/18	
Bromomethane	ND U	0.50	1	03/09/18 12:22	3/9/18	
Chloroethane	ND U	0.50	1	03/09/18 12:22	3/9/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	03/09/18 12:22	3/9/18	
Acetone	ND U	20	1	03/09/18 12:22	3/9/18	
Carbon Disulfide	ND U	0.50	1	03/09/18 12:22	3/9/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	03/09/18 12:22	3/9/18	
Methyl tert-Butyl Ether	ND U	0.50	1	03/09/18 12:22	3/9/18	
trans-1,2-Dichloroethene	ND U	0.50	1	03/09/18 12:22	3/9/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	03/09/18 12:22	3/9/18	
2,2-Dichloropropane	ND U	0.50	1	03/09/18 12:22	3/9/18	
cis-1,2-Dichloroethene	ND U	0.50	1	03/09/18 12:22	3/9/18	
2-Butanone (MEK)	ND U	20	1	03/09/18 12:22	3/9/18	
Bromochloromethane	ND U	0.50	1	03/09/18 12:22	3/9/18	
Chloroform	ND U	0.50	1	03/09/18 12:22	3/9/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	03/09/18 12:22	3/9/18	
Carbon Tetrachloride	ND U	0.50	1	03/09/18 12:22	3/9/18	
1,1-Dichloropropene	ND U	0.50	1	03/09/18 12:22	3/9/18	
Benzene	ND U	0.50	1	03/09/18 12:22	3/9/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	03/09/18 12:22	3/9/18	
Trichloroethene (TCE)	ND U	0.50	1	03/09/18 12:22	3/9/18	
1,2-Dichloropropane	ND U	0.50	1	03/09/18 12:22	3/9/18	
Dibromomethane	ND U	0.50	1	03/09/18 12:22	3/9/18	
Bromodichloromethane	ND U	0.50	1	03/09/18 12:22	3/9/18	
cis-1,3-Dichloropropene	ND U	0.50	1	03/09/18 12:22	3/9/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	03/09/18 12:22	3/9/18	
Toluene	ND U	0.50	1	03/09/18 12:22	3/9/18	
trans-1,3-Dichloropropene	ND U	0.50	1	03/09/18 12:22	3/9/18	
1,1,2-Trichloroethane	ND U	0.50	1	03/09/18 12:22	3/9/18	
Tetrachloroethene (PCE)	ND U	0.50	1	03/09/18 12:22	3/9/18	
2-Hexanone	ND U	20	1	03/09/18 12:22	3/9/18	
1,3-Dichloropropane	ND U	0.50	1	03/09/18 12:22	3/9/18	
Dibromochloromethane	ND U	0.50	1	03/09/18 12:22	3/9/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	03/09/18 12:22	3/9/18	
Chlorobenzene	ND U	0.50	1	03/09/18 12:22	3/9/18	
Ethylbenzene	ND U	0.50	1	03/09/18 12:22	3/9/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	03/09/18 12:22	3/9/18	
m,p-Xylenes	ND U	0.50	1	03/09/18 12:22	3/9/18	
o-Xylene	ND U	0.50	1	03/09/18 12:22	3/9/18	
Styrene	ND U	0.50	1	03/09/18 12:22	3/9/18	
Bromoform	ND U	0.50	1	03/09/18 12:22	3/9/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: KWG1801341-4

Service Request: K1801947
Date Collected: NA
Date Received: NA
Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	03/09/18 12:22	3/9/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	03/09/18 12:22	3/9/18	
Bromobenzene	ND U	2.0	1	03/09/18 12:22	3/9/18	
n-Propylbenzene	ND U	2.0	1	03/09/18 12:22	3/9/18	
1,2,3-Trichloropropane	ND U	0.50	1	03/09/18 12:22	3/9/18	
2-Chlorotoluene	ND U	2.0	1	03/09/18 12:22	3/9/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	03/09/18 12:22	3/9/18	
4-Chlorotoluene	ND U	2.0	1	03/09/18 12:22	3/9/18	
tert-Butylbenzene	ND U	2.0	1	03/09/18 12:22	3/9/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	03/09/18 12:22	3/9/18	
sec-Butylbenzene	ND U	2.0	1	03/09/18 12:22	3/9/18	
4-Isopropyltoluene	ND U	2.0	1	03/09/18 12:22	3/9/18	
1,3-Dichlorobenzene	ND U	0.50	1	03/09/18 12:22	3/9/18	
1,4-Dichlorobenzene	ND U	0.50	1	03/09/18 12:22	3/9/18	
n-Butylbenzene	ND U	2.0	1	03/09/18 12:22	3/9/18	
1,2-Dichlorobenzene	ND U	0.50	1	03/09/18 12:22	3/9/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	03/09/18 12:22	3/9/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	03/09/18 12:22	3/9/18	
Hexachlorobutadiene	ND U	2.0	1	03/09/18 12:22	3/9/18	
Naphthalene	ND U	2.0	1	03/09/18 12:22	3/9/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	03/09/18 12:22	3/9/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	126	73 - 122	03/09/18 12:22	*
Toluene-d8	111	65 - 144	03/09/18 12:22	
4-Bromofluorobenzene	98	68 - 117	03/09/18 12:22	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Lechner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Analyzed: 03/07/18
Date Extracted: 03/07/18

Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Units: ug/L
Basis: NA
Analysis Lot: KWG1801293

Lab Control Sample
KWG1801301-3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	10.3	10.0	103	66-124
1,1,1-Trichloroethane (TCA)	10.2	10.0	102	59-136
1,1,2,2-Tetrachloroethane	10.6	10.0	106	70-127
1,1,2-Trichloroethane	10.8	10.0	108	74-118
1,1-Dichloroethane (1,1-DCA)	10.8	10.0	108	68-132
1,1-Dichloropropene	9.55	10.0	96	59-134
1,2,3-Trichlorobenzene	10.5	10.0	105	68-120
1,2,3-Trichloropropane	10.5	10.0	105	69-123
1,2,4-Trichlorobenzene	10.3	10.0	103	58-126
1,2,4-Trimethylbenzene	9.01	10.0	90	63-122
1,2-Dibromo-3-chloropropane (DBCP)	11.4	10.0	114	55-132
1,2-Dibromoethane (EDB)	11.1	10.0	111	74-118
1,2-Dichlorobenzene	11.1	10.0	111	72-115
1,2-Dichloroethane (EDC)	11.2	10.0	112	56-142
1,2-Dichloropropane	10.8	10.0	108	67-126
1,3,5-Trimethylbenzene	9.78	10.0	98	62-126
1,3-Dichlorobenzene	10.7	10.0	107	70-116
1,3-Dichloropropane	10.8	10.0	108	75-116
1,4-Dichlorobenzene	10.9	10.0	109	73-115
2,2-Dichloropropane	10.3	10.0	103	37-145
2-Butanone (MEK)	59.1	50.0	118	71-149
2-Chlorotoluene	9.96	10.0	100	55-131
2-Hexanone	59.1	50.0	118	59-131
4-Chlorotoluene	10.6	10.0	106	66-121
4-Isopropyltoluene	8.79	10.0	88	61-128
4-Methyl-2-pentanone (MIBK)	59.3	50.0	119	64-134
Acetone	60.9	50.0	122	68-135
Benzene	10.2	10.0	102	69-124
Bromobenzene	10.4	10.0	104	72-116
Bromochloromethane	10.6	10.0	106	75-131
Bromodichloromethane	11.8	10.0	118	63-129
Bromoform	11.5	10.0	115	52-144
Bromomethane	11.7	10.0	117	35-113
Carbon Disulfide	18.0	20.0	90	46-144
Carbon Tetrachloride	9.72	10.0	97	55-140
Chlorobenzene	11.3	10.0	113	72-116
Chloroethane	10.3	10.0	103	58-134
Chloroform	10.8	10.0	108	70-129
Chloromethane	9.61	10.0	96	34-130
cis-1,2-Dichloroethene	10.9	10.0	109	71-118
cis-1,3-Dichloropropene	11.8	10.0	118	62-132

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Analyzed: 03/07/18
Date Extracted: 03/07/18

Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Units: ug/L
Basis: NA
Analysis Lot: KWG1801293

Lab Control Sample
KWG1801301-3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Dibromochloromethane	10.9	10.0	109	67-126
Dibromomethane	11.3	10.0	113	69-128
Dichlorodifluoromethane (CFC 12)	7.65	10.0	77	32-124
Dichloromethane (Methylene Chloride)	11.0	10.0	110	71-122
Ethylbenzene	10.3	10.0	103	67-121
Hexachlorobutadiene	9.15	10.0	92	57-119
Isopropylbenzene	10.3	10.0	103	67-129
m,p-Xylenes	18.8	20.0	94	69-121
Methyl tert-Butyl Ether	11.4	10.0	114	54-126
Naphthalene	8.73	10.0	87	64-126
n-Butylbenzene	9.87	10.0	99	55-130
n-Propylbenzene	9.64	10.0	96	61-124
o-Xylene	10.9	10.0	109	71-119
sec-Butylbenzene	9.62	10.0	96	59-128
Styrene	11.7	10.0	117	74-121
tert-Butylbenzene	9.72	10.0	97	61-127
Tetrachloroethene (PCE)	10.1	10.0	101	62-126
Toluene	10.9	10.0	109	69-124
trans-1,2-Dichloroethene	10.3	10.0	103	67-125
trans-1,3-Dichloropropene	11.1	10.0	111	59-125
Trichloroethene (TCE)	10.4	10.0	104	67-128
Trichlorofluoromethane (CFC 11)	8.37	10.0	84	52-141

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Lechner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Analyzed: 03/09/18
Date Extracted: 03/09/18

Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Units: ug/L
Basis: NA
Analysis Lot: KWG1801338

Lab Control Sample
KWG1801341-3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	9.55	10.0	96	66-124
1,1,1-Trichloroethane (TCA)	8.26	10.0	83	59-136
1,1,2,2-Tetrachloroethane	9.21	10.0	92	70-127
1,1,2-Trichloroethane	9.36	10.0	94	74-118
1,1-Dichloroethane (1,1-DCA)	9.38	10.0	94	68-132
1,1-Dichloropropene	7.72	10.0	77	59-134
1,2,3-Trichlorobenzene	9.50	10.0	95	68-120
1,2,3-Trichloropropane	8.80	10.0	88	69-123
1,2,4-Trichlorobenzene	9.40	10.0	94	58-126
1,2,4-Trimethylbenzene	7.85	10.0	79	63-122
1,2-Dibromo-3-chloropropane (DBCP)	9.40	10.0	94	55-132
1,2-Dibromoethane (EDB)	9.85	10.0	99	74-118
1,2-Dichlorobenzene	9.78	10.0	98	72-115
1,2-Dichloroethane (EDC)	9.71	10.0	97	56-142
1,2-Dichloropropane	9.60	10.0	96	67-126
1,3,5-Trimethylbenzene	8.42	10.0	84	62-126
1,3-Dichlorobenzene	9.58	10.0	96	70-116
1,3-Dichloropropane	9.67	10.0	97	75-116
1,4-Dichlorobenzene	9.89	10.0	99	73-115
2,2-Dichloropropane	8.43	10.0	84	37-145
2-Butanone (MEK)	52.3	50.0	105	71-149
2-Chlorotoluene	8.78	10.0	88	55-131
2-Hexanone	51.4	50.0	103	59-131
4-Chlorotoluene	9.36	10.0	94	66-121
4-Isopropyltoluene	7.60	10.0	76	61-128
4-Methyl-2-pentanone (MIBK)	51.3	50.0	103	64-134
Acetone	53.6	50.0	107	68-135
Benzene	8.90	10.0	89	69-124
Bromobenzene	9.16	10.0	92	72-116
Bromochloromethane	10.1	10.0	101	75-131
Bromodichloromethane	10.2	10.0	102	63-129
Bromoform	10.4	10.0	104	52-144
Bromomethane	9.15	10.0	92	35-113
Carbon Disulfide	14.8	20.0	74	46-144
Carbon Tetrachloride	7.88	10.0	79	55-140
Chlorobenzene	10.3	10.0	103	72-116
Chloroethane	8.24	10.0	82	58-134
Chloroform	9.66	10.0	97	70-129
Chloromethane	7.83	10.0	78	34-130
cis-1,2-Dichloroethene	9.86	10.0	99	71-118
cis-1,3-Dichloropropene	10.4	10.0	104	62-132

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Analyzed: 03/09/18
Date Extracted: 03/09/18

Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Units: ug/L
Basis: NA
Analysis Lot: KWG1801338

Lab Control Sample
KWG1801341-3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Dibromochloromethane	9.65	10.0	97	67-126
Dibromomethane	10.4	10.0	104	69-128
Dichlorodifluoromethane (CFC 12)	5.71	10.0	57	32-124
Dichloromethane (Methylene Chloride)	9.77	10.0	98	71-122
Ethylbenzene	9.19	10.0	92	67-121
Hexachlorobutadiene	8.37	10.0	84	57-119
Isopropylbenzene	9.04	10.0	90	67-129
m,p-Xylenes	16.8	20.0	84	69-121
Methyl tert-Butyl Ether	9.94	10.0	99	54-126
Naphthalene	7.36	10.0	74	64-126
n-Butylbenzene	8.39	10.0	84	55-130
n-Propylbenzene	8.22	10.0	82	61-124
o-Xylene	9.94	10.0	99	71-119
sec-Butylbenzene	8.36	10.0	84	59-128
Styrene	10.3	10.0	103	74-121
tert-Butylbenzene	8.06	10.0	81	61-127
Tetrachloroethene (PCE)	8.54	10.0	85	62-126
Toluene	9.54	10.0	95	69-124
trans-1,2-Dichloroethene	8.64	10.0	86	67-125
trans-1,3-Dichloropropene	9.66	10.0	97	59-125
Trichloroethene (TCE)	8.87	10.0	89	67-128
Trichlorofluoromethane (CFC 11)	6.94	10.0	69	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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: KQ1802908-02

Service Request: K1801947
Date Collected: NA
Date Received: NA
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	42	1	03/08/18 12:46	03/07/18	
Manganese	6010C	ND U	ug/L	1.1	1	03/08/18 12:46	03/07/18	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Analyzed: 03/08/18

Lab Control Sample Summary
Dissolved Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ1802908-01

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron	6010C	2520	2500	101	80-120
Manganese	6010C	1160	1250	93	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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1801947-MB1

Service Request: K1801947
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	1	03/02/18 11:14	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.050	1	03/02/18 11:14	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1801947-MB1

Service Request: K1801947
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	03/05/18 13:05	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1801947-MB2

Service Request: K1801947
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	03/05/18 13:05	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18
Date Received: 03/02/18
Date Analyzed: 3/2/18

**Duplicate Matrix Spike Summary
General Chemistry Parameters**

Sample Name: LB-030118-14-20S
Lab Code: K1801947-006

Units: mg/L
Basis: NA

**Matrix Spike
K1801947-006MS**

**Duplicate Matrix Spike
K1801947-006DMS**

Analyte Name	Method	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Chloride	300.0	10.6	18.1	80.0	9 *	18.2	80.0	9 *	90-110	<1	20
Nitrate as Nitrogen	300.0	ND U	7.94	80.0	10 *	8.02	80.0	10 *	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
Project Leichner Landfill/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Collected: 03/01/18
Date Received: 03/02/18
Date Analyzed: 03/02/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name: LB-030118-14-20S
Lab Code: K1801947-006

Units: mg/L
Basis: NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample K1801947-006DUP Result	Average	RPD	RPD Limit
Chloride	300.0	0.20	10.6	10.4	10.5	2	20
Nitrate as Nitrogen	300.0	0.10	ND U	ND U	NC	NC	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/04218030.13
Sample Matrix: Ground Water

Service Request: K1801947
Date Analyzed: 03/02/18 - 03/05/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
K1801947-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	5.00	5.00	100	90-110
Nitrate as Nitrogen	300.0	2.52	2.50	101	90-110
Solids, Total Dissolved	SM 2540 C	1640	1640	100	85-115



Third Quarter (August) 2018 Laboratory Reports



August 31, 2018

Service Request No:K1807742

Tiffany Andrews
SCS Engineers
15940 SW 72nd Ave
Portland, OR 97224

Laboratory Results for: Leichner Landfill, WA

Dear Tiffany,

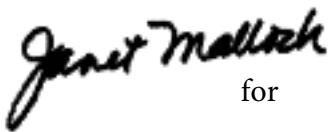
Enclosed are the results of the sample(s) submitted to our laboratory August 15, 2018
For your reference, these analyses have been assigned our service request number **K1807742**.

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


for

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, WA
Sample Matrix: Ground Water

Service Request: K1807742
Date Received: 08/15/2018

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 08/15/2018. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C 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:

Method 8260C, 08/22/2018: The following analytes were flagged as outside the control criterion for Continuing Calibration Verification (CCV) MS46\0822F003.D: Dichlorodifluoromethane, Chloromethane, Chloroethane and Carbon Disulfide. 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.

Method 8260C, 08/22/2018: The matrix spike recovery of 1,2,3-Trichloropropane for sample Batch QC was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicated the analytical batch was in control. The matrix spike outlier suggested a potential high bias in this matrix. No further corrective action was appropriate.



Approved by _____

Date 08/31/2018



SAMPLE DETECTION SUMMARY

CLIENT ID: LB-081418-03-1S **Lab ID: K1807742-001**

Analyte	Results	Flag	MDL	MRL	Units	Method
Solids, Total Dissolved	195			5.0	mg/L	SM 2540 C
Chloride	7.41			0.20	mg/L	300.0
Nitrate as Nitrogen	3.83			0.10	mg/L	300.0

CLIENT ID: LB-081418-05-5S **Lab ID: K1807742-002**

Analyte	Results	Flag	MDL	MRL	Units	Method
Solids, Total Dissolved	113			5.0	mg/L	SM 2540 C
Chloride	4.11			0.20	mg/L	300.0
Nitrate as Nitrogen	4.77			0.10	mg/L	300.0

CLIENT ID: LB-081418-09-6S **Lab ID: K1807742-003**

Analyte	Results	Flag	MDL	MRL	Units	Method
Solids, Total Dissolved	72.0			5.0	mg/L	SM 2540 C
Chloride	2.27			0.20	mg/L	300.0
Nitrate as Nitrogen	0.97			0.10	mg/L	300.0

CLIENT ID: LB-081418-04-10SR **Lab ID: K1807742-004**

Analyte	Results	Flag	MDL	MRL	Units	Method
Solids, Total Dissolved	176			5.0	mg/L	SM 2540 C
Chloride	11.0			0.20	mg/L	300.0
Nitrate as Nitrogen	0.99			0.10	mg/L	300.0

CLIENT ID: LB-081418-07-13I **Lab ID: K1807742-005**

Analyte	Results	Flag	MDL	MRL	Units	Method
Solids, Total Dissolved	169			5.0	mg/L	SM 2540 C
Chloride	8.89			0.20	mg/L	300.0
Nitrate as Nitrogen	2.73			0.10	mg/L	300.0
Manganese, Dissolved	1.5			1.1	ug/L	6010C

CLIENT ID: LB-081418-06-FB **Lab ID: K1807742-006**

Analyte	Results	Flag	MDL	MRL	Units	Method
Solids, Total Dissolved	104			5.0	mg/L	SM 2540 C
Toluene	3.3		0.054	0.50	ug/L	8260C

CLIENT ID: LB-081418-08-26I **Lab ID: K1807742-007**

Analyte	Results	Flag	MDL	MRL	Units	Method
Solids, Total Dissolved	158			5.0	mg/L	SM 2540 C
Chloride	8.67			0.20	mg/L	300.0
Nitrate as Nitrogen	3.22			0.10	mg/L	300.0
Manganese, Dissolved	2.0			1.1	ug/L	6010C

CLIENT ID: LB-081418-01-27I **Lab ID: K1807742-008**

Analyte	Results	Flag	MDL	MRL	Units	Method
Solids, Total Dissolved	302			5.0	mg/L	SM 2540 C
Chloride	33.2			0.50	mg/L	300.0

SAMPLE DETECTION SUMMARY

CLIENT ID: LB-081418-01-271	Lab ID: K1807742-008
------------------------------------	-----------------------------

Analyte	Results	Flag	MDL	MRL	Units	Method
Manganese, Dissolved	288			1.1	ug/L	6010C

CLIENT ID: LB-081418-02-DUP	Lab ID: K1807742-009
------------------------------------	-----------------------------

Analyte	Results	Flag	MDL	MRL	Units	Method
Solids, Total Dissolved	324			5.0	mg/L	SM 2540 C
Chloride	33.2			0.50	mg/L	300.0
Manganese, Dissolved	292			1.1	ug/L	6010C

CLIENT ID: Trip Blanks	Lab ID: K1807742-010
-------------------------------	-----------------------------

Analyte	Results	Flag	MDL	MRL	Units	Method
Toluene	0.76		0.054	0.50	ug/L	8260C



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
Project: Lechner Landfill, WA/04218030.18

Service Request:K1807742

SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	<u>CLIENT SAMPLE ID</u>	<u>DATE</u>	<u>TIME</u>
K1807742-001	LB-081418-03-1S	8/14/2018	0840
K1807742-002	LB-081418-05-5S	8/14/2018	1025
K1807742-003	LB-081418-09-6S	8/14/2018	1250
K1807742-004	LB-081418-04-10SR	8/14/2018	0920
K1807742-005	LB-081418-07-13I	8/14/2018	1115
K1807742-006	LB-081418-06-FB	8/14/2018	1040
K1807742-007	LB-081418-08-26I	8/14/2018	1200
K1807742-008	LB-081418-01-27I	8/14/2018	0750
K1807742-009	LB-081418-02-DUP	8/14/2018	0755
K1807742-010	Trip Blanks	8/14/2018	



CHAIN OF CUSTODY


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

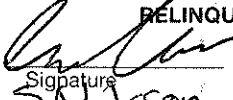
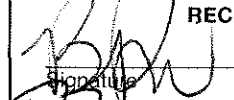
PAGE 1 OF 1 COC#

SR# K1807742

PROJECT NAME	<u>Leichner Landfill</u>
PROJECT NUMBER	<u>04218030.18</u>
PROJECT MANAGER	<u>T. ffany Andrews</u>
COMPANY NAME	<u>SCS Engineers</u>
ADDRESS	<u>15940 SW 72nd Ave</u>
CITY/STATE/ZIP	<u>Portland, OR 97224</u>
E-MAIL ADDRESS	<u>Andrews@scsengineers.com</u>
PHONE #	<u>503-639-9601</u>
FAX #	
SAMPLER'S SIGNATURE	

SAMPLE I.D.	DATE	TIME	LAB I.D.	MATRIX	NUMBER OF CONTAINERS	Semivolatile Organics by GC/MS 625 <input type="checkbox"/> 8270 <input type="checkbox"/> 8270LL <input type="checkbox"/> SIM PAH <input type="checkbox"/>	Volatile Organics 624 <input type="checkbox"/> 8260 <input type="checkbox"/>	Hydrocarbons Gas <input type="checkbox"/> 8021 <input type="checkbox"/>	Oil & Grease/TRPH Diesel <input type="checkbox"/> Oil <input type="checkbox"/>	BTEX 1664 HEM <input type="checkbox"/> 1664 SGT <input type="checkbox"/>	PCBs Aroclors <input type="checkbox"/>	Pesticides/Herbicides 608 <input type="checkbox"/> 8081 <input type="checkbox"/>	Congeners Tri <input type="checkbox"/> 8141 <input type="checkbox"/>	Chlorophenolics 8151 <input type="checkbox"/>	Metals, Total or Dissolved (See List below)	Cyanide <input type="checkbox"/>	Hex-Chrom (circle) pH, Cond <input type="checkbox"/>	NO ₂ , BOD, TSS, (circle) SO ₄ , PO ₄ , F, NO ₂ , DOC, NH ₃ -N, COD, TKN, TOC, TOX 9020 <input type="checkbox"/> AOX 1650 <input type="checkbox"/> 506 <input type="checkbox"/>	Alkalinity <input type="checkbox"/> CO ₃ <input type="checkbox"/> HCO ₃ <input type="checkbox"/>	Dioxins/Furans 1613 <input type="checkbox"/> 8290 <input type="checkbox"/>	HCO ₃ <input type="checkbox"/>	Dissolved Gases RSK-175 <input type="checkbox"/> Methane <input type="checkbox"/> CO ₂ <input type="checkbox"/>	Ethane <input type="checkbox"/> Ethene <input type="checkbox"/>	REMARKS		
LB-081418-03-1S	8/14/18	0840		W	5	X								X	X											
LB-081418-05-5S	8/14/18	1025		W	5	X								X	X											
LB-081418-09-6S	8/14/18	1250		W	5	X								X	X											
LB-081418-04-10SR	8/14/18	0920		W	5	X								X	X											
LB-081418-07-13I	8/14/18	1115		W	5	X								X	X											
LB-081418-06-FB	8/14/18	1040		W	5	X								X	X											
LB-081418-08-26T	8/14/18	1200		W	5	X								X	X											
LB-081418-01-27I	8/14/18	0750		W	5	X								X	X											
LB-081418-02-DUP	8/14/18	0755		W	5	X								X	X											
Trip Blanks	—	—		W	6	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: _____ _____ _____	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 Ti Sn V Zn Hg Dissolved Metals: Al As Sb Ba Be B Ca Cd Co Cr Cu <u>Fe</u> Pb Mg <u>Mn</u> Mo Ni K Ag Na Se Sr Ti Sn V Zn Hg *INDICATE STATE HYDROCARBON PROCEDURE: AK CA WI NORTHWEST OTHER: _____ (CIRCLE ONE)
	TURNAROUND REQUIREMENTS ___ 24 hr. ___ 48 hr. ___ 5 day <input checked="" type="checkbox"/> Standard (15 working days) ___ Provide FAX Results Requested Report Date _____	SPECIAL INSTRUCTIONS/COMMENTS: <u>Samples are field filtered for metals</u> Container Supply Number  91493 <input type="checkbox"/> Sample Shipment contains USDA regulated soil samples (check box if applicable)

RELINQUISHED BY:  Signature <u>SN Jsson</u> Printed Name Date/Time <u>8/15/18 1145</u> Firm <u>SCS</u>	RECEIVED BY:  Signature <u>AW</u> Printed Name Date/Time <u>8/15/18 1145</u> Firm <u>AW</u>	RELINQUISHED BY: Signature _____ Date/Time _____ Printed Name _____ Firm _____	RECEIVED BY: Signature _____ Date/Time _____ Printed Name _____ Firm _____
---	---	---	---



PC #12

Cooler Receipt and Preservation Form

Client Leichner L.F / SCS Engineers Service Request K18 07742

Received: 8/15/18 Opened: 8/15/18 By: JM Unloaded: 8/15/18 By: KL

- 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	Tracking Number	NA	Filed
-0.1	-0.3	N/A	N/A	-0.2	SMO392	01493		<input checked="" type="checkbox"/>	
0.0	0.2	4.7	4.9	+0.2	SMO374	"			

- 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

ALS Environmental—Kelso Laboratory
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/analyte 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
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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 08:40
Date Received: 08/15/18 11:45

Sample Name: LB-081418-03-1S
Lab Code: K1807742-001

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	08/22/18 15:42	8/22/18	
Chloromethane	ND U	0.50	1	08/22/18 15:42	8/22/18	
Bromomethane	ND U	0.50	1	08/22/18 15:42	8/22/18	
Chloroethane	ND U	0.50	1	08/22/18 15:42	8/22/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	08/22/18 15:42	8/22/18	
Acetone	ND U	20	1	08/22/18 15:42	8/22/18	
Carbon Disulfide	ND U	0.50	1	08/22/18 15:42	8/22/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	08/22/18 15:42	8/22/18	
Methyl tert-Butyl Ether	ND U	0.50	1	08/22/18 15:42	8/22/18	
trans-1,2-Dichloroethene	ND U	0.50	1	08/22/18 15:42	8/22/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	08/22/18 15:42	8/22/18	
2,2-Dichloropropane	ND U	0.50	1	08/22/18 15:42	8/22/18	
cis-1,2-Dichloroethene	ND U	0.50	1	08/22/18 15:42	8/22/18	
2-Butanone (MEK)	ND U	20	1	08/22/18 15:42	8/22/18	
Bromochloromethane	ND U	0.50	1	08/22/18 15:42	8/22/18	
Chloroform	ND U	0.50	1	08/22/18 15:42	8/22/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	08/22/18 15:42	8/22/18	
Carbon Tetrachloride	ND U	0.50	1	08/22/18 15:42	8/22/18	
1,1-Dichloropropene	ND U	0.50	1	08/22/18 15:42	8/22/18	
Benzene	ND U	0.50	1	08/22/18 15:42	8/22/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	08/22/18 15:42	8/22/18	
Trichloroethene (TCE)	ND U	0.50	1	08/22/18 15:42	8/22/18	
1,2-Dichloropropane	ND U	0.50	1	08/22/18 15:42	8/22/18	
Dibromomethane	ND U	0.50	1	08/22/18 15:42	8/22/18	
Bromodichloromethane	ND U	0.50	1	08/22/18 15:42	8/22/18	
cis-1,3-Dichloropropene	ND U	0.50	1	08/22/18 15:42	8/22/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	08/22/18 15:42	8/22/18	
Toluene	ND U	0.50	1	08/22/18 15:42	8/22/18	
trans-1,3-Dichloropropene	ND U	0.50	1	08/22/18 15:42	8/22/18	
1,1,2-Trichloroethane	ND U	0.50	1	08/22/18 15:42	8/22/18	
Tetrachloroethene (PCE)	ND U	0.50	1	08/22/18 15:42	8/22/18	
2-Hexanone	ND U	20	1	08/22/18 15:42	8/22/18	
1,3-Dichloropropane	ND U	0.50	1	08/22/18 15:42	8/22/18	
Dibromochloromethane	ND U	0.50	1	08/22/18 15:42	8/22/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	08/22/18 15:42	8/22/18	
Chlorobenzene	ND U	0.50	1	08/22/18 15:42	8/22/18	
Ethylbenzene	ND U	0.50	1	08/22/18 15:42	8/22/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	08/22/18 15:42	8/22/18	
m,p-Xylenes	ND U	0.50	1	08/22/18 15:42	8/22/18	
o-Xylene	ND U	0.50	1	08/22/18 15:42	8/22/18	
Styrene	ND U	0.50	1	08/22/18 15:42	8/22/18	
Bromoform	ND U	0.50	1	08/22/18 15:42	8/22/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 08:40
Date Received: 08/15/18 11:45

Sample Name: LB-081418-03-1S
Lab Code: K1807742-001

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	08/22/18 15:42	8/22/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	08/22/18 15:42	8/22/18	
Bromobenzene	ND U	2.0	1	08/22/18 15:42	8/22/18	
n-Propylbenzene	ND U	2.0	1	08/22/18 15:42	8/22/18	
1,2,3-Trichloropropane	ND U	0.50	1	08/22/18 15:42	8/22/18	
2-Chlorotoluene	ND U	2.0	1	08/22/18 15:42	8/22/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	08/22/18 15:42	8/22/18	
4-Chlorotoluene	ND U	2.0	1	08/22/18 15:42	8/22/18	
tert-Butylbenzene	ND U	2.0	1	08/22/18 15:42	8/22/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	08/22/18 15:42	8/22/18	
sec-Butylbenzene	ND U	2.0	1	08/22/18 15:42	8/22/18	
4-Isopropyltoluene	ND U	2.0	1	08/22/18 15:42	8/22/18	
1,3-Dichlorobenzene	ND U	0.50	1	08/22/18 15:42	8/22/18	
1,4-Dichlorobenzene	ND U	0.50	1	08/22/18 15:42	8/22/18	
n-Butylbenzene	ND U	2.0	1	08/22/18 15:42	8/22/18	
1,2-Dichlorobenzene	ND U	0.50	1	08/22/18 15:42	8/22/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	08/22/18 15:42	8/22/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	08/22/18 15:42	8/22/18	
Hexachlorobutadiene	ND U	2.0	1	08/22/18 15:42	8/22/18	
Naphthalene	ND U	2.0	1	08/22/18 15:42	8/22/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	08/22/18 15:42	8/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	116	73 - 122	08/22/18 15:42	
Toluene-d8	93	65 - 144	08/22/18 15:42	
4-Bromofluorobenzene	101	68 - 117	08/22/18 15:42	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 10:25
Date Received: 08/15/18 11:45

Sample Name: LB-081418-05-5S
Lab Code: K1807742-002

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	08/22/18 16:08	8/22/18	
Chloromethane	ND U	0.50	1	08/22/18 16:08	8/22/18	
Bromomethane	ND U	0.50	1	08/22/18 16:08	8/22/18	
Chloroethane	ND U	0.50	1	08/22/18 16:08	8/22/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	08/22/18 16:08	8/22/18	
Acetone	ND U	20	1	08/22/18 16:08	8/22/18	
Carbon Disulfide	ND U	0.50	1	08/22/18 16:08	8/22/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	08/22/18 16:08	8/22/18	
Methyl tert-Butyl Ether	ND U	0.50	1	08/22/18 16:08	8/22/18	
trans-1,2-Dichloroethene	ND U	0.50	1	08/22/18 16:08	8/22/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	08/22/18 16:08	8/22/18	
2,2-Dichloropropane	ND U	0.50	1	08/22/18 16:08	8/22/18	
cis-1,2-Dichloroethene	ND U	0.50	1	08/22/18 16:08	8/22/18	
2-Butanone (MEK)	ND U	20	1	08/22/18 16:08	8/22/18	
Bromochloromethane	ND U	0.50	1	08/22/18 16:08	8/22/18	
Chloroform	ND U	0.50	1	08/22/18 16:08	8/22/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	08/22/18 16:08	8/22/18	
Carbon Tetrachloride	ND U	0.50	1	08/22/18 16:08	8/22/18	
1,1-Dichloropropene	ND U	0.50	1	08/22/18 16:08	8/22/18	
Benzene	ND U	0.50	1	08/22/18 16:08	8/22/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	08/22/18 16:08	8/22/18	
Trichloroethene (TCE)	ND U	0.50	1	08/22/18 16:08	8/22/18	
1,2-Dichloropropane	ND U	0.50	1	08/22/18 16:08	8/22/18	
Dibromomethane	ND U	0.50	1	08/22/18 16:08	8/22/18	
Bromodichloromethane	ND U	0.50	1	08/22/18 16:08	8/22/18	
cis-1,3-Dichloropropene	ND U	0.50	1	08/22/18 16:08	8/22/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	08/22/18 16:08	8/22/18	
Toluene	ND U	0.50	1	08/22/18 16:08	8/22/18	
trans-1,3-Dichloropropene	ND U	0.50	1	08/22/18 16:08	8/22/18	
1,1,2-Trichloroethane	ND U	0.50	1	08/22/18 16:08	8/22/18	
Tetrachloroethene (PCE)	ND U	0.50	1	08/22/18 16:08	8/22/18	
2-Hexanone	ND U	20	1	08/22/18 16:08	8/22/18	
1,3-Dichloropropane	ND U	0.50	1	08/22/18 16:08	8/22/18	
Dibromochloromethane	ND U	0.50	1	08/22/18 16:08	8/22/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	08/22/18 16:08	8/22/18	
Chlorobenzene	ND U	0.50	1	08/22/18 16:08	8/22/18	
Ethylbenzene	ND U	0.50	1	08/22/18 16:08	8/22/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	08/22/18 16:08	8/22/18	
m,p-Xylenes	ND U	0.50	1	08/22/18 16:08	8/22/18	
o-Xylene	ND U	0.50	1	08/22/18 16:08	8/22/18	
Styrene	ND U	0.50	1	08/22/18 16:08	8/22/18	
Bromoform	ND U	0.50	1	08/22/18 16:08	8/22/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 10:25
Date Received: 08/15/18 11:45

Sample Name: LB-081418-05-5S
Lab Code: K1807742-002

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	08/22/18 16:08	8/22/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	08/22/18 16:08	8/22/18	
Bromobenzene	ND U	2.0	1	08/22/18 16:08	8/22/18	
n-Propylbenzene	ND U	2.0	1	08/22/18 16:08	8/22/18	
1,2,3-Trichloropropane	ND U	0.50	1	08/22/18 16:08	8/22/18	
2-Chlorotoluene	ND U	2.0	1	08/22/18 16:08	8/22/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	08/22/18 16:08	8/22/18	
4-Chlorotoluene	ND U	2.0	1	08/22/18 16:08	8/22/18	
tert-Butylbenzene	ND U	2.0	1	08/22/18 16:08	8/22/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	08/22/18 16:08	8/22/18	
sec-Butylbenzene	ND U	2.0	1	08/22/18 16:08	8/22/18	
4-Isopropyltoluene	ND U	2.0	1	08/22/18 16:08	8/22/18	
1,3-Dichlorobenzene	ND U	0.50	1	08/22/18 16:08	8/22/18	
1,4-Dichlorobenzene	ND U	0.50	1	08/22/18 16:08	8/22/18	
n-Butylbenzene	ND U	2.0	1	08/22/18 16:08	8/22/18	
1,2-Dichlorobenzene	ND U	0.50	1	08/22/18 16:08	8/22/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	08/22/18 16:08	8/22/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	08/22/18 16:08	8/22/18	
Hexachlorobutadiene	ND U	2.0	1	08/22/18 16:08	8/22/18	
Naphthalene	ND U	2.0	1	08/22/18 16:08	8/22/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	08/22/18 16:08	8/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	117	73 - 122	08/22/18 16:08	
Toluene-d8	103	65 - 144	08/22/18 16:08	
4-Bromofluorobenzene	100	68 - 117	08/22/18 16:08	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 12:50
Date Received: 08/15/18 11:45

Sample Name: LB-081418-09-6S
Lab Code: K1807742-003

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	08/22/18 16:34	8/22/18	
Chloromethane	ND U	0.50	1	08/22/18 16:34	8/22/18	
Bromomethane	ND U	0.50	1	08/22/18 16:34	8/22/18	
Chloroethane	ND U	0.50	1	08/22/18 16:34	8/22/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	08/22/18 16:34	8/22/18	
Acetone	ND U	20	1	08/22/18 16:34	8/22/18	
Carbon Disulfide	ND U	0.50	1	08/22/18 16:34	8/22/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	08/22/18 16:34	8/22/18	
Methyl tert-Butyl Ether	ND U	0.50	1	08/22/18 16:34	8/22/18	
trans-1,2-Dichloroethene	ND U	0.50	1	08/22/18 16:34	8/22/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	08/22/18 16:34	8/22/18	
2,2-Dichloropropane	ND U	0.50	1	08/22/18 16:34	8/22/18	
cis-1,2-Dichloroethene	ND U	0.50	1	08/22/18 16:34	8/22/18	
2-Butanone (MEK)	ND U	20	1	08/22/18 16:34	8/22/18	
Bromochloromethane	ND U	0.50	1	08/22/18 16:34	8/22/18	
Chloroform	ND U	0.50	1	08/22/18 16:34	8/22/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	08/22/18 16:34	8/22/18	
Carbon Tetrachloride	ND U	0.50	1	08/22/18 16:34	8/22/18	
1,1-Dichloropropene	ND U	0.50	1	08/22/18 16:34	8/22/18	
Benzene	ND U	0.50	1	08/22/18 16:34	8/22/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	08/22/18 16:34	8/22/18	
Trichloroethene (TCE)	ND U	0.50	1	08/22/18 16:34	8/22/18	
1,2-Dichloropropane	ND U	0.50	1	08/22/18 16:34	8/22/18	
Dibromomethane	ND U	0.50	1	08/22/18 16:34	8/22/18	
Bromodichloromethane	ND U	0.50	1	08/22/18 16:34	8/22/18	
cis-1,3-Dichloropropene	ND U	0.50	1	08/22/18 16:34	8/22/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	08/22/18 16:34	8/22/18	
Toluene	ND U	0.50	1	08/22/18 16:34	8/22/18	
trans-1,3-Dichloropropene	ND U	0.50	1	08/22/18 16:34	8/22/18	
1,1,2-Trichloroethane	ND U	0.50	1	08/22/18 16:34	8/22/18	
Tetrachloroethene (PCE)	ND U	0.50	1	08/22/18 16:34	8/22/18	
2-Hexanone	ND U	20	1	08/22/18 16:34	8/22/18	
1,3-Dichloropropane	ND U	0.50	1	08/22/18 16:34	8/22/18	
Dibromochloromethane	ND U	0.50	1	08/22/18 16:34	8/22/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	08/22/18 16:34	8/22/18	
Chlorobenzene	ND U	0.50	1	08/22/18 16:34	8/22/18	
Ethylbenzene	ND U	0.50	1	08/22/18 16:34	8/22/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	08/22/18 16:34	8/22/18	
m,p-Xylenes	ND U	0.50	1	08/22/18 16:34	8/22/18	
o-Xylene	ND U	0.50	1	08/22/18 16:34	8/22/18	
Styrene	ND U	0.50	1	08/22/18 16:34	8/22/18	
Bromoform	ND U	0.50	1	08/22/18 16:34	8/22/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 12:50
Date Received: 08/15/18 11:45

Sample Name: LB-081418-09-6S
Lab Code: K1807742-003

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	08/22/18 16:34	8/22/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	08/22/18 16:34	8/22/18	
Bromobenzene	ND U	2.0	1	08/22/18 16:34	8/22/18	
n-Propylbenzene	ND U	2.0	1	08/22/18 16:34	8/22/18	
1,2,3-Trichloropropane	ND U	0.50	1	08/22/18 16:34	8/22/18	
2-Chlorotoluene	ND U	2.0	1	08/22/18 16:34	8/22/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	08/22/18 16:34	8/22/18	
4-Chlorotoluene	ND U	2.0	1	08/22/18 16:34	8/22/18	
tert-Butylbenzene	ND U	2.0	1	08/22/18 16:34	8/22/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	08/22/18 16:34	8/22/18	
sec-Butylbenzene	ND U	2.0	1	08/22/18 16:34	8/22/18	
4-Isopropyltoluene	ND U	2.0	1	08/22/18 16:34	8/22/18	
1,3-Dichlorobenzene	ND U	0.50	1	08/22/18 16:34	8/22/18	
1,4-Dichlorobenzene	ND U	0.50	1	08/22/18 16:34	8/22/18	
n-Butylbenzene	ND U	2.0	1	08/22/18 16:34	8/22/18	
1,2-Dichlorobenzene	ND U	0.50	1	08/22/18 16:34	8/22/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	08/22/18 16:34	8/22/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	08/22/18 16:34	8/22/18	
Hexachlorobutadiene	ND U	2.0	1	08/22/18 16:34	8/22/18	
Naphthalene	ND U	2.0	1	08/22/18 16:34	8/22/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	08/22/18 16:34	8/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	118	73 - 122	08/22/18 16:34	
Toluene-d8	120	65 - 144	08/22/18 16:34	
4-Bromofluorobenzene	103	68 - 117	08/22/18 16:34	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 09:20
Date Received: 08/15/18 11:45

Sample Name: LB-081418-04-10SR
Lab Code: K1807742-004

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	08/22/18 17:01	8/22/18	
Chloromethane	ND U	0.50	1	08/22/18 17:01	8/22/18	
Bromomethane	ND U	0.50	1	08/22/18 17:01	8/22/18	
Chloroethane	ND U	0.50	1	08/22/18 17:01	8/22/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	08/22/18 17:01	8/22/18	
Acetone	ND U	20	1	08/22/18 17:01	8/22/18	
Carbon Disulfide	ND U	0.50	1	08/22/18 17:01	8/22/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	08/22/18 17:01	8/22/18	
Methyl tert-Butyl Ether	ND U	0.50	1	08/22/18 17:01	8/22/18	
trans-1,2-Dichloroethene	ND U	0.50	1	08/22/18 17:01	8/22/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	08/22/18 17:01	8/22/18	
2,2-Dichloropropane	ND U	0.50	1	08/22/18 17:01	8/22/18	
cis-1,2-Dichloroethene	ND U	0.50	1	08/22/18 17:01	8/22/18	
2-Butanone (MEK)	ND U	20	1	08/22/18 17:01	8/22/18	
Bromochloromethane	ND U	0.50	1	08/22/18 17:01	8/22/18	
Chloroform	ND U	0.50	1	08/22/18 17:01	8/22/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	08/22/18 17:01	8/22/18	
Carbon Tetrachloride	ND U	0.50	1	08/22/18 17:01	8/22/18	
1,1-Dichloropropene	ND U	0.50	1	08/22/18 17:01	8/22/18	
Benzene	ND U	0.50	1	08/22/18 17:01	8/22/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	08/22/18 17:01	8/22/18	
Trichloroethene (TCE)	ND U	0.50	1	08/22/18 17:01	8/22/18	
1,2-Dichloropropane	ND U	0.50	1	08/22/18 17:01	8/22/18	
Dibromomethane	ND U	0.50	1	08/22/18 17:01	8/22/18	
Bromodichloromethane	ND U	0.50	1	08/22/18 17:01	8/22/18	
cis-1,3-Dichloropropene	ND U	0.50	1	08/22/18 17:01	8/22/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	08/22/18 17:01	8/22/18	
Toluene	ND U	0.50	1	08/22/18 17:01	8/22/18	
trans-1,3-Dichloropropene	ND U	0.50	1	08/22/18 17:01	8/22/18	
1,1,2-Trichloroethane	ND U	0.50	1	08/22/18 17:01	8/22/18	
Tetrachloroethene (PCE)	ND U	0.50	1	08/22/18 17:01	8/22/18	
2-Hexanone	ND U	20	1	08/22/18 17:01	8/22/18	
1,3-Dichloropropane	ND U	0.50	1	08/22/18 17:01	8/22/18	
Dibromochloromethane	ND U	0.50	1	08/22/18 17:01	8/22/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	08/22/18 17:01	8/22/18	
Chlorobenzene	ND U	0.50	1	08/22/18 17:01	8/22/18	
Ethylbenzene	ND U	0.50	1	08/22/18 17:01	8/22/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	08/22/18 17:01	8/22/18	
m,p-Xylenes	ND U	0.50	1	08/22/18 17:01	8/22/18	
o-Xylene	ND U	0.50	1	08/22/18 17:01	8/22/18	
Styrene	ND U	0.50	1	08/22/18 17:01	8/22/18	
Bromoform	ND U	0.50	1	08/22/18 17:01	8/22/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 09:20
Date Received: 08/15/18 11:45

Sample Name: LB-081418-04-10SR
Lab Code: K1807742-004

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	08/22/18 17:01	8/22/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	08/22/18 17:01	8/22/18	
Bromobenzene	ND U	2.0	1	08/22/18 17:01	8/22/18	
n-Propylbenzene	ND U	2.0	1	08/22/18 17:01	8/22/18	
1,2,3-Trichloropropane	ND U	0.50	1	08/22/18 17:01	8/22/18	
2-Chlorotoluene	ND U	2.0	1	08/22/18 17:01	8/22/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	08/22/18 17:01	8/22/18	
4-Chlorotoluene	ND U	2.0	1	08/22/18 17:01	8/22/18	
tert-Butylbenzene	ND U	2.0	1	08/22/18 17:01	8/22/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	08/22/18 17:01	8/22/18	
sec-Butylbenzene	ND U	2.0	1	08/22/18 17:01	8/22/18	
4-Isopropyltoluene	ND U	2.0	1	08/22/18 17:01	8/22/18	
1,3-Dichlorobenzene	ND U	0.50	1	08/22/18 17:01	8/22/18	
1,4-Dichlorobenzene	ND U	0.50	1	08/22/18 17:01	8/22/18	
n-Butylbenzene	ND U	2.0	1	08/22/18 17:01	8/22/18	
1,2-Dichlorobenzene	ND U	0.50	1	08/22/18 17:01	8/22/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	08/22/18 17:01	8/22/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	08/22/18 17:01	8/22/18	
Hexachlorobutadiene	ND U	2.0	1	08/22/18 17:01	8/22/18	
Naphthalene	ND U	2.0	1	08/22/18 17:01	8/22/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	08/22/18 17:01	8/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	116	73 - 122	08/22/18 17:01	
Toluene-d8	104	65 - 144	08/22/18 17:01	
4-Bromofluorobenzene	102	68 - 117	08/22/18 17:01	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 11:15
Date Received: 08/15/18 11:45

Sample Name: LB-081418-07-13I
Lab Code: K1807742-005

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	08/22/18 17:27	8/22/18	
Chloromethane	ND U	0.50	1	08/22/18 17:27	8/22/18	
Bromomethane	ND U	0.50	1	08/22/18 17:27	8/22/18	
Chloroethane	ND U	0.50	1	08/22/18 17:27	8/22/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	08/22/18 17:27	8/22/18	
Acetone	ND U	20	1	08/22/18 17:27	8/22/18	
Carbon Disulfide	ND U	0.50	1	08/22/18 17:27	8/22/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	08/22/18 17:27	8/22/18	
Methyl tert-Butyl Ether	ND U	0.50	1	08/22/18 17:27	8/22/18	
trans-1,2-Dichloroethene	ND U	0.50	1	08/22/18 17:27	8/22/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	08/22/18 17:27	8/22/18	
2,2-Dichloropropane	ND U	0.50	1	08/22/18 17:27	8/22/18	
cis-1,2-Dichloroethene	ND U	0.50	1	08/22/18 17:27	8/22/18	
2-Butanone (MEK)	ND U	20	1	08/22/18 17:27	8/22/18	
Bromochloromethane	ND U	0.50	1	08/22/18 17:27	8/22/18	
Chloroform	ND U	0.50	1	08/22/18 17:27	8/22/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	08/22/18 17:27	8/22/18	
Carbon Tetrachloride	ND U	0.50	1	08/22/18 17:27	8/22/18	
1,1-Dichloropropene	ND U	0.50	1	08/22/18 17:27	8/22/18	
Benzene	ND U	0.50	1	08/22/18 17:27	8/22/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	08/22/18 17:27	8/22/18	
Trichloroethene (TCE)	ND U	0.50	1	08/22/18 17:27	8/22/18	
1,2-Dichloropropane	ND U	0.50	1	08/22/18 17:27	8/22/18	
Dibromomethane	ND U	0.50	1	08/22/18 17:27	8/22/18	
Bromodichloromethane	ND U	0.50	1	08/22/18 17:27	8/22/18	
cis-1,3-Dichloropropene	ND U	0.50	1	08/22/18 17:27	8/22/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	08/22/18 17:27	8/22/18	
Toluene	ND U	0.50	1	08/22/18 17:27	8/22/18	
trans-1,3-Dichloropropene	ND U	0.50	1	08/22/18 17:27	8/22/18	
1,1,2-Trichloroethane	ND U	0.50	1	08/22/18 17:27	8/22/18	
Tetrachloroethene (PCE)	ND U	0.50	1	08/22/18 17:27	8/22/18	
2-Hexanone	ND U	20	1	08/22/18 17:27	8/22/18	
1,3-Dichloropropane	ND U	0.50	1	08/22/18 17:27	8/22/18	
Dibromochloromethane	ND U	0.50	1	08/22/18 17:27	8/22/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	08/22/18 17:27	8/22/18	
Chlorobenzene	ND U	0.50	1	08/22/18 17:27	8/22/18	
Ethylbenzene	ND U	0.50	1	08/22/18 17:27	8/22/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	08/22/18 17:27	8/22/18	
m,p-Xylenes	ND U	0.50	1	08/22/18 17:27	8/22/18	
o-Xylene	ND U	0.50	1	08/22/18 17:27	8/22/18	
Styrene	ND U	0.50	1	08/22/18 17:27	8/22/18	
Bromoform	ND U	0.50	1	08/22/18 17:27	8/22/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 11:15
Date Received: 08/15/18 11:45

Sample Name: LB-081418-07-13I
Lab Code: K1807742-005

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	08/22/18 17:27	8/22/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	08/22/18 17:27	8/22/18	
Bromobenzene	ND U	2.0	1	08/22/18 17:27	8/22/18	
n-Propylbenzene	ND U	2.0	1	08/22/18 17:27	8/22/18	
1,2,3-Trichloropropane	ND U	0.50	1	08/22/18 17:27	8/22/18	
2-Chlorotoluene	ND U	2.0	1	08/22/18 17:27	8/22/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	08/22/18 17:27	8/22/18	
4-Chlorotoluene	ND U	2.0	1	08/22/18 17:27	8/22/18	
tert-Butylbenzene	ND U	2.0	1	08/22/18 17:27	8/22/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	08/22/18 17:27	8/22/18	
sec-Butylbenzene	ND U	2.0	1	08/22/18 17:27	8/22/18	
4-Isopropyltoluene	ND U	2.0	1	08/22/18 17:27	8/22/18	
1,3-Dichlorobenzene	ND U	0.50	1	08/22/18 17:27	8/22/18	
1,4-Dichlorobenzene	ND U	0.50	1	08/22/18 17:27	8/22/18	
n-Butylbenzene	ND U	2.0	1	08/22/18 17:27	8/22/18	
1,2-Dichlorobenzene	ND U	0.50	1	08/22/18 17:27	8/22/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	08/22/18 17:27	8/22/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	08/22/18 17:27	8/22/18	
Hexachlorobutadiene	ND U	2.0	1	08/22/18 17:27	8/22/18	
Naphthalene	ND U	2.0	1	08/22/18 17:27	8/22/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	08/22/18 17:27	8/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	121	73 - 122	08/22/18 17:27	
Toluene-d8	99	65 - 144	08/22/18 17:27	
4-Bromofluorobenzene	102	68 - 117	08/22/18 17:27	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 10:40
Date Received: 08/15/18 11:45

Sample Name: LB-081418-06-FB
Lab Code: K1807742-006

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	08/22/18 17:54	8/22/18	
Chloromethane	ND U	0.50	1	08/22/18 17:54	8/22/18	
Bromomethane	ND U	0.50	1	08/22/18 17:54	8/22/18	
Chloroethane	ND U	0.50	1	08/22/18 17:54	8/22/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	08/22/18 17:54	8/22/18	
Acetone	ND U	20	1	08/22/18 17:54	8/22/18	
Carbon Disulfide	ND U	0.50	1	08/22/18 17:54	8/22/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	08/22/18 17:54	8/22/18	
Methyl tert-Butyl Ether	ND U	0.50	1	08/22/18 17:54	8/22/18	
trans-1,2-Dichloroethene	ND U	0.50	1	08/22/18 17:54	8/22/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	08/22/18 17:54	8/22/18	
2,2-Dichloropropane	ND U	0.50	1	08/22/18 17:54	8/22/18	
cis-1,2-Dichloroethene	ND U	0.50	1	08/22/18 17:54	8/22/18	
2-Butanone (MEK)	ND U	20	1	08/22/18 17:54	8/22/18	
Bromochloromethane	ND U	0.50	1	08/22/18 17:54	8/22/18	
Chloroform	ND U	0.50	1	08/22/18 17:54	8/22/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	08/22/18 17:54	8/22/18	
Carbon Tetrachloride	ND U	0.50	1	08/22/18 17:54	8/22/18	
1,1-Dichloropropene	ND U	0.50	1	08/22/18 17:54	8/22/18	
Benzene	ND U	0.50	1	08/22/18 17:54	8/22/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	08/22/18 17:54	8/22/18	
Trichloroethene (TCE)	ND U	0.50	1	08/22/18 17:54	8/22/18	
1,2-Dichloropropane	ND U	0.50	1	08/22/18 17:54	8/22/18	
Dibromomethane	ND U	0.50	1	08/22/18 17:54	8/22/18	
Bromodichloromethane	ND U	0.50	1	08/22/18 17:54	8/22/18	
cis-1,3-Dichloropropene	ND U	0.50	1	08/22/18 17:54	8/22/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	08/22/18 17:54	8/22/18	
Toluene	3.3	0.50	1	08/22/18 17:54	8/22/18	
trans-1,3-Dichloropropene	ND U	0.50	1	08/22/18 17:54	8/22/18	
1,1,2-Trichloroethane	ND U	0.50	1	08/22/18 17:54	8/22/18	
Tetrachloroethene (PCE)	ND U	0.50	1	08/22/18 17:54	8/22/18	
2-Hexanone	ND U	20	1	08/22/18 17:54	8/22/18	
1,3-Dichloropropane	ND U	0.50	1	08/22/18 17:54	8/22/18	
Dibromochloromethane	ND U	0.50	1	08/22/18 17:54	8/22/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	08/22/18 17:54	8/22/18	
Chlorobenzene	ND U	0.50	1	08/22/18 17:54	8/22/18	
Ethylbenzene	ND U	0.50	1	08/22/18 17:54	8/22/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	08/22/18 17:54	8/22/18	
m,p-Xylenes	ND U	0.50	1	08/22/18 17:54	8/22/18	
o-Xylene	ND U	0.50	1	08/22/18 17:54	8/22/18	
Styrene	ND U	0.50	1	08/22/18 17:54	8/22/18	
Bromoform	ND U	0.50	1	08/22/18 17:54	8/22/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 10:40
Date Received: 08/15/18 11:45

Sample Name: LB-081418-06-FB
Lab Code: K1807742-006

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	08/22/18 17:54	8/22/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	08/22/18 17:54	8/22/18	
Bromobenzene	ND U	2.0	1	08/22/18 17:54	8/22/18	
n-Propylbenzene	ND U	2.0	1	08/22/18 17:54	8/22/18	
1,2,3-Trichloropropane	ND U	0.50	1	08/22/18 17:54	8/22/18	
2-Chlorotoluene	ND U	2.0	1	08/22/18 17:54	8/22/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	08/22/18 17:54	8/22/18	
4-Chlorotoluene	ND U	2.0	1	08/22/18 17:54	8/22/18	
tert-Butylbenzene	ND U	2.0	1	08/22/18 17:54	8/22/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	08/22/18 17:54	8/22/18	
sec-Butylbenzene	ND U	2.0	1	08/22/18 17:54	8/22/18	
4-Isopropyltoluene	ND U	2.0	1	08/22/18 17:54	8/22/18	
1,3-Dichlorobenzene	ND U	0.50	1	08/22/18 17:54	8/22/18	
1,4-Dichlorobenzene	ND U	0.50	1	08/22/18 17:54	8/22/18	
n-Butylbenzene	ND U	2.0	1	08/22/18 17:54	8/22/18	
1,2-Dichlorobenzene	ND U	0.50	1	08/22/18 17:54	8/22/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	08/22/18 17:54	8/22/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	08/22/18 17:54	8/22/18	
Hexachlorobutadiene	ND U	2.0	1	08/22/18 17:54	8/22/18	
Naphthalene	ND U	2.0	1	08/22/18 17:54	8/22/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	08/22/18 17:54	8/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	121	73 - 122	08/22/18 17:54	
Toluene-d8	110	65 - 144	08/22/18 17:54	
4-Bromofluorobenzene	103	68 - 117	08/22/18 17:54	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 12:00
Date Received: 08/15/18 11:45

Sample Name: LB-081418-08-26I
Lab Code: K1807742-007

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	08/22/18 18:20	8/22/18	
Chloromethane	ND U	0.50	1	08/22/18 18:20	8/22/18	
Bromomethane	ND U	0.50	1	08/22/18 18:20	8/22/18	
Chloroethane	ND U	0.50	1	08/22/18 18:20	8/22/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	08/22/18 18:20	8/22/18	
Acetone	ND U	20	1	08/22/18 18:20	8/22/18	
Carbon Disulfide	ND U	0.50	1	08/22/18 18:20	8/22/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	08/22/18 18:20	8/22/18	
Methyl tert-Butyl Ether	ND U	0.50	1	08/22/18 18:20	8/22/18	
trans-1,2-Dichloroethene	ND U	0.50	1	08/22/18 18:20	8/22/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	08/22/18 18:20	8/22/18	
2,2-Dichloropropane	ND U	0.50	1	08/22/18 18:20	8/22/18	
cis-1,2-Dichloroethene	ND U	0.50	1	08/22/18 18:20	8/22/18	
2-Butanone (MEK)	ND U	20	1	08/22/18 18:20	8/22/18	
Bromochloromethane	ND U	0.50	1	08/22/18 18:20	8/22/18	
Chloroform	ND U	0.50	1	08/22/18 18:20	8/22/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	08/22/18 18:20	8/22/18	
Carbon Tetrachloride	ND U	0.50	1	08/22/18 18:20	8/22/18	
1,1-Dichloropropene	ND U	0.50	1	08/22/18 18:20	8/22/18	
Benzene	ND U	0.50	1	08/22/18 18:20	8/22/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	08/22/18 18:20	8/22/18	
Trichloroethene (TCE)	ND U	0.50	1	08/22/18 18:20	8/22/18	
1,2-Dichloropropane	ND U	0.50	1	08/22/18 18:20	8/22/18	
Dibromomethane	ND U	0.50	1	08/22/18 18:20	8/22/18	
Bromodichloromethane	ND U	0.50	1	08/22/18 18:20	8/22/18	
cis-1,3-Dichloropropene	ND U	0.50	1	08/22/18 18:20	8/22/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	08/22/18 18:20	8/22/18	
Toluene	ND U	0.50	1	08/22/18 18:20	8/22/18	
trans-1,3-Dichloropropene	ND U	0.50	1	08/22/18 18:20	8/22/18	
1,1,2-Trichloroethane	ND U	0.50	1	08/22/18 18:20	8/22/18	
Tetrachloroethene (PCE)	ND U	0.50	1	08/22/18 18:20	8/22/18	
2-Hexanone	ND U	20	1	08/22/18 18:20	8/22/18	
1,3-Dichloropropane	ND U	0.50	1	08/22/18 18:20	8/22/18	
Dibromochloromethane	ND U	0.50	1	08/22/18 18:20	8/22/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	08/22/18 18:20	8/22/18	
Chlorobenzene	ND U	0.50	1	08/22/18 18:20	8/22/18	
Ethylbenzene	ND U	0.50	1	08/22/18 18:20	8/22/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	08/22/18 18:20	8/22/18	
m,p-Xylenes	ND U	0.50	1	08/22/18 18:20	8/22/18	
o-Xylene	ND U	0.50	1	08/22/18 18:20	8/22/18	
Styrene	ND U	0.50	1	08/22/18 18:20	8/22/18	
Bromoform	ND U	0.50	1	08/22/18 18:20	8/22/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 12:00
Date Received: 08/15/18 11:45

Sample Name: LB-081418-08-26I
Lab Code: K1807742-007

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	08/22/18 18:20	8/22/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	08/22/18 18:20	8/22/18	
Bromobenzene	ND U	2.0	1	08/22/18 18:20	8/22/18	
n-Propylbenzene	ND U	2.0	1	08/22/18 18:20	8/22/18	
1,2,3-Trichloropropane	ND U	0.50	1	08/22/18 18:20	8/22/18	
2-Chlorotoluene	ND U	2.0	1	08/22/18 18:20	8/22/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	08/22/18 18:20	8/22/18	
4-Chlorotoluene	ND U	2.0	1	08/22/18 18:20	8/22/18	
tert-Butylbenzene	ND U	2.0	1	08/22/18 18:20	8/22/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	08/22/18 18:20	8/22/18	
sec-Butylbenzene	ND U	2.0	1	08/22/18 18:20	8/22/18	
4-Isopropyltoluene	ND U	2.0	1	08/22/18 18:20	8/22/18	
1,3-Dichlorobenzene	ND U	0.50	1	08/22/18 18:20	8/22/18	
1,4-Dichlorobenzene	ND U	0.50	1	08/22/18 18:20	8/22/18	
n-Butylbenzene	ND U	2.0	1	08/22/18 18:20	8/22/18	
1,2-Dichlorobenzene	ND U	0.50	1	08/22/18 18:20	8/22/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	08/22/18 18:20	8/22/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	08/22/18 18:20	8/22/18	
Hexachlorobutadiene	ND U	2.0	1	08/22/18 18:20	8/22/18	
Naphthalene	ND U	2.0	1	08/22/18 18:20	8/22/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	08/22/18 18:20	8/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	119	73 - 122	08/22/18 18:20	
Toluene-d8	104	65 - 144	08/22/18 18:20	
4-Bromofluorobenzene	104	68 - 117	08/22/18 18:20	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 07:50
Date Received: 08/15/18 11:45

Sample Name: LB-081418-01-27I
Lab Code: K1807742-008

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	08/22/18 18:47	8/22/18	
Chloromethane	ND U	0.50	1	08/22/18 18:47	8/22/18	
Bromomethane	ND U	0.50	1	08/22/18 18:47	8/22/18	
Chloroethane	ND U	0.50	1	08/22/18 18:47	8/22/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	08/22/18 18:47	8/22/18	
Acetone	ND U	20	1	08/22/18 18:47	8/22/18	
Carbon Disulfide	ND U	0.50	1	08/22/18 18:47	8/22/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	08/22/18 18:47	8/22/18	
Methyl tert-Butyl Ether	ND U	0.50	1	08/22/18 18:47	8/22/18	
trans-1,2-Dichloroethene	ND U	0.50	1	08/22/18 18:47	8/22/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	08/22/18 18:47	8/22/18	
2,2-Dichloropropane	ND U	0.50	1	08/22/18 18:47	8/22/18	
cis-1,2-Dichloroethene	ND U	0.50	1	08/22/18 18:47	8/22/18	
2-Butanone (MEK)	ND U	20	1	08/22/18 18:47	8/22/18	
Bromochloromethane	ND U	0.50	1	08/22/18 18:47	8/22/18	
Chloroform	ND U	0.50	1	08/22/18 18:47	8/22/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	08/22/18 18:47	8/22/18	
Carbon Tetrachloride	ND U	0.50	1	08/22/18 18:47	8/22/18	
1,1-Dichloropropene	ND U	0.50	1	08/22/18 18:47	8/22/18	
Benzene	ND U	0.50	1	08/22/18 18:47	8/22/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	08/22/18 18:47	8/22/18	
Trichloroethene (TCE)	ND U	0.50	1	08/22/18 18:47	8/22/18	
1,2-Dichloropropane	ND U	0.50	1	08/22/18 18:47	8/22/18	
Dibromomethane	ND U	0.50	1	08/22/18 18:47	8/22/18	
Bromodichloromethane	ND U	0.50	1	08/22/18 18:47	8/22/18	
cis-1,3-Dichloropropene	ND U	0.50	1	08/22/18 18:47	8/22/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	08/22/18 18:47	8/22/18	
Toluene	ND U	0.50	1	08/22/18 18:47	8/22/18	
trans-1,3-Dichloropropene	ND U	0.50	1	08/22/18 18:47	8/22/18	
1,1,2-Trichloroethane	ND U	0.50	1	08/22/18 18:47	8/22/18	
Tetrachloroethene (PCE)	ND U	0.50	1	08/22/18 18:47	8/22/18	
2-Hexanone	ND U	20	1	08/22/18 18:47	8/22/18	
1,3-Dichloropropane	ND U	0.50	1	08/22/18 18:47	8/22/18	
Dibromochloromethane	ND U	0.50	1	08/22/18 18:47	8/22/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	08/22/18 18:47	8/22/18	
Chlorobenzene	ND U	0.50	1	08/22/18 18:47	8/22/18	
Ethylbenzene	ND U	0.50	1	08/22/18 18:47	8/22/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	08/22/18 18:47	8/22/18	
m,p-Xylenes	ND U	0.50	1	08/22/18 18:47	8/22/18	
o-Xylene	ND U	0.50	1	08/22/18 18:47	8/22/18	
Styrene	ND U	0.50	1	08/22/18 18:47	8/22/18	
Bromoform	ND U	0.50	1	08/22/18 18:47	8/22/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-01-27I
Lab Code: K1807742-008

Service Request: K1807742
Date Collected: 08/14/18 07:50
Date Received: 08/15/18 11:45

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	08/22/18 18:47	8/22/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	08/22/18 18:47	8/22/18	
Bromobenzene	ND U	2.0	1	08/22/18 18:47	8/22/18	
n-Propylbenzene	ND U	2.0	1	08/22/18 18:47	8/22/18	
1,2,3-Trichloropropane	ND U	0.50	1	08/22/18 18:47	8/22/18	
2-Chlorotoluene	ND U	2.0	1	08/22/18 18:47	8/22/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	08/22/18 18:47	8/22/18	
4-Chlorotoluene	ND U	2.0	1	08/22/18 18:47	8/22/18	
tert-Butylbenzene	ND U	2.0	1	08/22/18 18:47	8/22/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	08/22/18 18:47	8/22/18	
sec-Butylbenzene	ND U	2.0	1	08/22/18 18:47	8/22/18	
4-Isopropyltoluene	ND U	2.0	1	08/22/18 18:47	8/22/18	
1,3-Dichlorobenzene	ND U	0.50	1	08/22/18 18:47	8/22/18	
1,4-Dichlorobenzene	ND U	0.50	1	08/22/18 18:47	8/22/18	
n-Butylbenzene	ND U	2.0	1	08/22/18 18:47	8/22/18	
1,2-Dichlorobenzene	ND U	0.50	1	08/22/18 18:47	8/22/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	08/22/18 18:47	8/22/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	08/22/18 18:47	8/22/18	
Hexachlorobutadiene	ND U	2.0	1	08/22/18 18:47	8/22/18	
Naphthalene	ND U	2.0	1	08/22/18 18:47	8/22/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	08/22/18 18:47	8/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	120	73 - 122	08/22/18 18:47	
Toluene-d8	103	65 - 144	08/22/18 18:47	
4-Bromofluorobenzene	101	68 - 117	08/22/18 18:47	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 07:55
Date Received: 08/15/18 11:45

Sample Name: LB-081418-02-DUP
Lab Code: K1807742-009

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	08/22/18 19:13	8/22/18	
Chloromethane	ND U	0.50	1	08/22/18 19:13	8/22/18	
Bromomethane	ND U	0.50	1	08/22/18 19:13	8/22/18	
Chloroethane	ND U	0.50	1	08/22/18 19:13	8/22/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	08/22/18 19:13	8/22/18	
Acetone	ND U	20	1	08/22/18 19:13	8/22/18	
Carbon Disulfide	ND U	0.50	1	08/22/18 19:13	8/22/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	08/22/18 19:13	8/22/18	
Methyl tert-Butyl Ether	ND U	0.50	1	08/22/18 19:13	8/22/18	
trans-1,2-Dichloroethene	ND U	0.50	1	08/22/18 19:13	8/22/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	08/22/18 19:13	8/22/18	
2,2-Dichloropropane	ND U	0.50	1	08/22/18 19:13	8/22/18	
cis-1,2-Dichloroethene	ND U	0.50	1	08/22/18 19:13	8/22/18	
2-Butanone (MEK)	ND U	20	1	08/22/18 19:13	8/22/18	
Bromochloromethane	ND U	0.50	1	08/22/18 19:13	8/22/18	
Chloroform	ND U	0.50	1	08/22/18 19:13	8/22/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	08/22/18 19:13	8/22/18	
Carbon Tetrachloride	ND U	0.50	1	08/22/18 19:13	8/22/18	
1,1-Dichloropropene	ND U	0.50	1	08/22/18 19:13	8/22/18	
Benzene	ND U	0.50	1	08/22/18 19:13	8/22/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	08/22/18 19:13	8/22/18	
Trichloroethene (TCE)	ND U	0.50	1	08/22/18 19:13	8/22/18	
1,2-Dichloropropane	ND U	0.50	1	08/22/18 19:13	8/22/18	
Dibromomethane	ND U	0.50	1	08/22/18 19:13	8/22/18	
Bromodichloromethane	ND U	0.50	1	08/22/18 19:13	8/22/18	
cis-1,3-Dichloropropene	ND U	0.50	1	08/22/18 19:13	8/22/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	08/22/18 19:13	8/22/18	
Toluene	ND U	0.50	1	08/22/18 19:13	8/22/18	
trans-1,3-Dichloropropene	ND U	0.50	1	08/22/18 19:13	8/22/18	
1,1,2-Trichloroethane	ND U	0.50	1	08/22/18 19:13	8/22/18	
Tetrachloroethene (PCE)	ND U	0.50	1	08/22/18 19:13	8/22/18	
2-Hexanone	ND U	20	1	08/22/18 19:13	8/22/18	
1,3-Dichloropropane	ND U	0.50	1	08/22/18 19:13	8/22/18	
Dibromochloromethane	ND U	0.50	1	08/22/18 19:13	8/22/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	08/22/18 19:13	8/22/18	
Chlorobenzene	ND U	0.50	1	08/22/18 19:13	8/22/18	
Ethylbenzene	ND U	0.50	1	08/22/18 19:13	8/22/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	08/22/18 19:13	8/22/18	
m,p-Xylenes	ND U	0.50	1	08/22/18 19:13	8/22/18	
o-Xylene	ND U	0.50	1	08/22/18 19:13	8/22/18	
Styrene	ND U	0.50	1	08/22/18 19:13	8/22/18	
Bromoform	ND U	0.50	1	08/22/18 19:13	8/22/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18 07:55
Date Received: 08/15/18 11:45

Sample Name: LB-081418-02-DUP
Lab Code: K1807742-009

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	08/22/18 19:13	8/22/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	08/22/18 19:13	8/22/18	
Bromobenzene	ND U	2.0	1	08/22/18 19:13	8/22/18	
n-Propylbenzene	ND U	2.0	1	08/22/18 19:13	8/22/18	
1,2,3-Trichloropropane	ND U	0.50	1	08/22/18 19:13	8/22/18	
2-Chlorotoluene	ND U	2.0	1	08/22/18 19:13	8/22/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	08/22/18 19:13	8/22/18	
4-Chlorotoluene	ND U	2.0	1	08/22/18 19:13	8/22/18	
tert-Butylbenzene	ND U	2.0	1	08/22/18 19:13	8/22/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	08/22/18 19:13	8/22/18	
sec-Butylbenzene	ND U	2.0	1	08/22/18 19:13	8/22/18	
4-Isopropyltoluene	ND U	2.0	1	08/22/18 19:13	8/22/18	
1,3-Dichlorobenzene	ND U	0.50	1	08/22/18 19:13	8/22/18	
1,4-Dichlorobenzene	ND U	0.50	1	08/22/18 19:13	8/22/18	
n-Butylbenzene	ND U	2.0	1	08/22/18 19:13	8/22/18	
1,2-Dichlorobenzene	ND U	0.50	1	08/22/18 19:13	8/22/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	08/22/18 19:13	8/22/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	08/22/18 19:13	8/22/18	
Hexachlorobutadiene	ND U	2.0	1	08/22/18 19:13	8/22/18	
Naphthalene	ND U	2.0	1	08/22/18 19:13	8/22/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	08/22/18 19:13	8/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	117	73 - 122	08/22/18 19:13	
Toluene-d8	106	65 - 144	08/22/18 19:13	
4-Bromofluorobenzene	105	68 - 117	08/22/18 19:13	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18
Date Received: 08/15/18 11:45

Sample Name: Trip Blanks
Lab Code: K1807742-010

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	08/22/18 14:49	8/22/18	
Chloromethane	ND U	0.50	1	08/22/18 14:49	8/22/18	
Bromomethane	ND U	0.50	1	08/22/18 14:49	8/22/18	
Chloroethane	ND U	0.50	1	08/22/18 14:49	8/22/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	08/22/18 14:49	8/22/18	
Acetone	ND U	20	1	08/22/18 14:49	8/22/18	
Carbon Disulfide	ND U	0.50	1	08/22/18 14:49	8/22/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	08/22/18 14:49	8/22/18	
Methyl tert-Butyl Ether	ND U	0.50	1	08/22/18 14:49	8/22/18	
trans-1,2-Dichloroethene	ND U	0.50	1	08/22/18 14:49	8/22/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	08/22/18 14:49	8/22/18	
2,2-Dichloropropane	ND U	0.50	1	08/22/18 14:49	8/22/18	
cis-1,2-Dichloroethene	ND U	0.50	1	08/22/18 14:49	8/22/18	
2-Butanone (MEK)	ND U	20	1	08/22/18 14:49	8/22/18	
Bromochloromethane	ND U	0.50	1	08/22/18 14:49	8/22/18	
Chloroform	ND U	0.50	1	08/22/18 14:49	8/22/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	08/22/18 14:49	8/22/18	
Carbon Tetrachloride	ND U	0.50	1	08/22/18 14:49	8/22/18	
1,1-Dichloropropene	ND U	0.50	1	08/22/18 14:49	8/22/18	
Benzene	ND U	0.50	1	08/22/18 14:49	8/22/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	08/22/18 14:49	8/22/18	
Trichloroethene (TCE)	ND U	0.50	1	08/22/18 14:49	8/22/18	
1,2-Dichloropropane	ND U	0.50	1	08/22/18 14:49	8/22/18	
Dibromomethane	ND U	0.50	1	08/22/18 14:49	8/22/18	
Bromodichloromethane	ND U	0.50	1	08/22/18 14:49	8/22/18	
cis-1,3-Dichloropropene	ND U	0.50	1	08/22/18 14:49	8/22/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	08/22/18 14:49	8/22/18	
Toluene	0.76	0.50	1	08/22/18 14:49	8/22/18	
trans-1,3-Dichloropropene	ND U	0.50	1	08/22/18 14:49	8/22/18	
1,1,2-Trichloroethane	ND U	0.50	1	08/22/18 14:49	8/22/18	
Tetrachloroethene (PCE)	ND U	0.50	1	08/22/18 14:49	8/22/18	
2-Hexanone	ND U	20	1	08/22/18 14:49	8/22/18	
1,3-Dichloropropane	ND U	0.50	1	08/22/18 14:49	8/22/18	
Dibromochloromethane	ND U	0.50	1	08/22/18 14:49	8/22/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	08/22/18 14:49	8/22/18	
Chlorobenzene	ND U	0.50	1	08/22/18 14:49	8/22/18	
Ethylbenzene	ND U	0.50	1	08/22/18 14:49	8/22/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	08/22/18 14:49	8/22/18	
m,p-Xylenes	ND U	0.50	1	08/22/18 14:49	8/22/18	
o-Xylene	ND U	0.50	1	08/22/18 14:49	8/22/18	
Styrene	ND U	0.50	1	08/22/18 14:49	8/22/18	
Bromoform	ND U	0.50	1	08/22/18 14:49	8/22/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18
Date Received: 08/15/18 11:45

Sample Name: Trip Blanks
Lab Code: K1807742-010

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	08/22/18 14:49	8/22/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	08/22/18 14:49	8/22/18	
Bromobenzene	ND U	2.0	1	08/22/18 14:49	8/22/18	
n-Propylbenzene	ND U	2.0	1	08/22/18 14:49	8/22/18	
1,2,3-Trichloropropane	ND U	0.50	1	08/22/18 14:49	8/22/18	
2-Chlorotoluene	ND U	2.0	1	08/22/18 14:49	8/22/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	08/22/18 14:49	8/22/18	
4-Chlorotoluene	ND U	2.0	1	08/22/18 14:49	8/22/18	
tert-Butylbenzene	ND U	2.0	1	08/22/18 14:49	8/22/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	08/22/18 14:49	8/22/18	
sec-Butylbenzene	ND U	2.0	1	08/22/18 14:49	8/22/18	
4-Isopropyltoluene	ND U	2.0	1	08/22/18 14:49	8/22/18	
1,3-Dichlorobenzene	ND U	0.50	1	08/22/18 14:49	8/22/18	
1,4-Dichlorobenzene	ND U	0.50	1	08/22/18 14:49	8/22/18	
n-Butylbenzene	ND U	2.0	1	08/22/18 14:49	8/22/18	
1,2-Dichlorobenzene	ND U	0.50	1	08/22/18 14:49	8/22/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	08/22/18 14:49	8/22/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	08/22/18 14:49	8/22/18	
Hexachlorobutadiene	ND U	2.0	1	08/22/18 14:49	8/22/18	
Naphthalene	ND U	2.0	1	08/22/18 14:49	8/22/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	08/22/18 14:49	8/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	117	73 - 122	08/22/18 14:49	
Toluene-d8	106	65 - 144	08/22/18 14:49	
4-Bromofluorobenzene	102	68 - 117	08/22/18 14:49	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Water
Sample Name: Batch QC
Lab Code: K1807867-003

Service Request: K1807742
Date Collected: NA
Date Received: NA
Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	08/22/18 15:15	8/22/18	
Chloromethane	ND U	0.50	1	08/22/18 15:15	8/22/18	
Bromomethane	ND U	0.50	1	08/22/18 15:15	8/22/18	
Chloroethane	ND U	0.50	1	08/22/18 15:15	8/22/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	08/22/18 15:15	8/22/18	
Acetone	ND U	20	1	08/22/18 15:15	8/22/18	
Carbon Disulfide	ND U	0.50	1	08/22/18 15:15	8/22/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	08/22/18 15:15	8/22/18	
Methyl tert-Butyl Ether	ND U	0.50	1	08/22/18 15:15	8/22/18	
trans-1,2-Dichloroethene	ND U	0.50	1	08/22/18 15:15	8/22/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	08/22/18 15:15	8/22/18	
2,2-Dichloropropane	ND U	0.50	1	08/22/18 15:15	8/22/18	
cis-1,2-Dichloroethene	ND U	0.50	1	08/22/18 15:15	8/22/18	
2-Butanone (MEK)	ND U	20	1	08/22/18 15:15	8/22/18	
Bromochloromethane	ND U	0.50	1	08/22/18 15:15	8/22/18	
Chloroform	ND U	0.50	1	08/22/18 15:15	8/22/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	08/22/18 15:15	8/22/18	
Carbon Tetrachloride	ND U	0.50	1	08/22/18 15:15	8/22/18	
1,1-Dichloropropene	ND U	0.50	1	08/22/18 15:15	8/22/18	
Benzene	ND U	0.50	1	08/22/18 15:15	8/22/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	08/22/18 15:15	8/22/18	
Trichloroethene (TCE)	ND U	0.50	1	08/22/18 15:15	8/22/18	
1,2-Dichloropropane	3.4	0.50	1	08/22/18 15:15	8/22/18	
Dibromomethane	ND U	0.50	1	08/22/18 15:15	8/22/18	
Bromodichloromethane	ND U	0.50	1	08/22/18 15:15	8/22/18	
cis-1,3-Dichloropropene	ND U	0.50	1	08/22/18 15:15	8/22/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	08/22/18 15:15	8/22/18	
Toluene	ND U	0.50	1	08/22/18 15:15	8/22/18	
trans-1,3-Dichloropropene	ND U	0.50	1	08/22/18 15:15	8/22/18	
1,1,2-Trichloroethane	ND U	0.50	1	08/22/18 15:15	8/22/18	
Tetrachloroethene (PCE)	ND U	0.50	1	08/22/18 15:15	8/22/18	
2-Hexanone	ND U	20	1	08/22/18 15:15	8/22/18	
1,3-Dichloropropane	ND U	0.50	1	08/22/18 15:15	8/22/18	
Dibromochloromethane	ND U	0.50	1	08/22/18 15:15	8/22/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	08/22/18 15:15	8/22/18	
Chlorobenzene	ND U	0.50	1	08/22/18 15:15	8/22/18	
Ethylbenzene	ND U	0.50	1	08/22/18 15:15	8/22/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	08/22/18 15:15	8/22/18	
m,p-Xylenes	ND U	0.50	1	08/22/18 15:15	8/22/18	
o-Xylene	ND U	0.50	1	08/22/18 15:15	8/22/18	
Styrene	ND U	0.50	1	08/22/18 15:15	8/22/18	
Bromoform	ND U	0.50	1	08/22/18 15:15	8/22/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Water
Sample Name: Batch QC
Lab Code: K1807867-003

Service Request: K1807742
Date Collected: NA
Date Received: NA
Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	08/22/18 15:15	8/22/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	08/22/18 15:15	8/22/18	
Bromobenzene	ND U	2.0	1	08/22/18 15:15	8/22/18	
n-Propylbenzene	ND U	2.0	1	08/22/18 15:15	8/22/18	
1,2,3-Trichloropropane	ND U	0.50	1	08/22/18 15:15	8/22/18	
2-Chlorotoluene	ND U	2.0	1	08/22/18 15:15	8/22/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	08/22/18 15:15	8/22/18	
4-Chlorotoluene	ND U	2.0	1	08/22/18 15:15	8/22/18	
tert-Butylbenzene	ND U	2.0	1	08/22/18 15:15	8/22/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	08/22/18 15:15	8/22/18	
sec-Butylbenzene	ND U	2.0	1	08/22/18 15:15	8/22/18	
4-Isopropyltoluene	ND U	2.0	1	08/22/18 15:15	8/22/18	
1,3-Dichlorobenzene	ND U	0.50	1	08/22/18 15:15	8/22/18	
1,4-Dichlorobenzene	ND U	0.50	1	08/22/18 15:15	8/22/18	
n-Butylbenzene	ND U	2.0	1	08/22/18 15:15	8/22/18	
1,2-Dichlorobenzene	ND U	0.50	1	08/22/18 15:15	8/22/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	08/22/18 15:15	8/22/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	08/22/18 15:15	8/22/18	
Hexachlorobutadiene	ND U	2.0	1	08/22/18 15:15	8/22/18	
Naphthalene	ND U	2.0	1	08/22/18 15:15	8/22/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	08/22/18 15:15	8/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	119	73 - 122	08/22/18 15:15	
Toluene-d8	104	65 - 144	08/22/18 15:15	
4-Bromofluorobenzene	105	68 - 117	08/22/18 15:15	



Metals

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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-03-1S
Lab Code: K1807742-001

Service Request: K1807742
Date Collected: 08/14/18 08:40
Date Received: 08/15/18 11:45
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	08/24/18 10:05	08/21/18	
Manganese	6010C	ND U	ug/L	1.1	1	08/24/18 10:05	08/21/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-05-5S
Lab Code: K1807742-002

Service Request: K1807742
Date Collected: 08/14/18 10:25
Date Received: 08/15/18 11:45
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	08/24/18 10:15	08/21/18	
Manganese	6010C	ND U	ug/L	1.1	1	08/24/18 10:15	08/21/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-09-6S
Lab Code: K1807742-003

Service Request: K1807742
Date Collected: 08/14/18 12:50
Date Received: 08/15/18 11:45
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	08/24/18 10:17	08/21/18	
Manganese	6010C	ND U	ug/L	1.1	1	08/24/18 10:17	08/21/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-04-10SR
Lab Code: K1807742-004

Service Request: K1807742
Date Collected: 08/14/18 09:20
Date Received: 08/15/18 11:45
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	08/24/18 10:20	08/21/18	
Manganese	6010C	ND U	ug/L	1.1	1	08/24/18 10:20	08/21/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-07-13I
Lab Code: K1807742-005

Service Request: K1807742
Date Collected: 08/14/18 11:15
Date Received: 08/15/18 11:45
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	08/24/18 10:22	08/21/18	
Manganese	6010C	1.5	ug/L	1.1	1	08/24/18 10:22	08/21/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-06-FB
Lab Code: K1807742-006

Service Request: K1807742
Date Collected: 08/14/18 10:40
Date Received: 08/15/18 11:45
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	08/24/18 10:32	08/21/18	
Manganese	6010C	ND U	ug/L	1.1	1	08/24/18 10:32	08/21/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-08-26I
Lab Code: K1807742-007

Service Request: K1807742
Date Collected: 08/14/18 12:00
Date Received: 08/15/18 11:45
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	08/24/18 10:35	08/21/18	
Manganese	6010C	2.0	ug/L	1.1	1	08/24/18 10:35	08/21/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-01-27I
Lab Code: K1807742-008

Service Request: K1807742
Date Collected: 08/14/18 07:50
Date Received: 08/15/18 11:45
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	08/24/18 10:37	08/21/18	
Manganese	6010C	288	ug/L	1.1	1	08/24/18 10:37	08/21/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-02-DUP
Lab Code: K1807742-009

Service Request: K1807742
Date Collected: 08/14/18 07:55
Date Received: 08/15/18 11:45
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	08/24/18 10:40	08/21/18	
Manganese	6010C	292	ug/L	1.1	1	08/24/18 10:40	08/21/18	



General Chemistry

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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-03-1S
Lab Code: K1807742-001

Service Request: K1807742
Date Collected: 08/14/18 08:40
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	7.41	mg/L	0.20	2	08/15/18 17:26	
Nitrate as Nitrogen	300.0	3.83	mg/L	0.10	2	08/15/18 17:26	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-03-1S
Lab Code: K1807742-001

Service Request: K1807742
Date Collected: 08/14/18 08:40
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	195	mg/L	5.0	1	08/17/18 11:28	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-05-5S
Lab Code: K1807742-002

Service Request: K1807742
Date Collected: 08/14/18 10:25
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	4.11	mg/L	0.20	2	08/15/18 17:36	
Nitrate as Nitrogen	300.0	4.77	mg/L	0.10	2	08/15/18 17:36	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-05-5S
Lab Code: K1807742-002

Service Request: K1807742
Date Collected: 08/14/18 10:25
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	113	mg/L	5.0	1	08/17/18 11:28	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-09-6S
Lab Code: K1807742-003

Service Request: K1807742
Date Collected: 08/14/18 12:50
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	2.27	mg/L	0.20	2	08/15/18 18:01	
Nitrate as Nitrogen	300.0	0.97	mg/L	0.10	2	08/15/18 18:01	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-09-6S
Lab Code: K1807742-003

Service Request: K1807742
Date Collected: 08/14/18 12:50
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	72.0	mg/L	5.0	1	08/17/18 11:28	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-04-10SR
Lab Code: K1807742-004

Service Request: K1807742
Date Collected: 08/14/18 09:20
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	11.0	mg/L	0.20	2	08/15/18 18:32	
Nitrate as Nitrogen	300.0	0.99	mg/L	0.10	2	08/15/18 18:32	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-04-10SR
Lab Code: K1807742-004

Service Request: K1807742
Date Collected: 08/14/18 09:20
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	176	mg/L	5.0	1	08/17/18 11:28	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-07-13I
Lab Code: K1807742-005

Service Request: K1807742
Date Collected: 08/14/18 11:15
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	8.89	mg/L	0.20	2	08/15/18 18:42	
Nitrate as Nitrogen	300.0	2.73	mg/L	0.10	2	08/15/18 18:42	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-07-13I
Lab Code: K1807742-005

Service Request: K1807742
Date Collected: 08/14/18 11:15
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	169	mg/L	5.0	1	08/17/18 11:28	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-06-FB
Lab Code: K1807742-006

Service Request: K1807742
Date Collected: 08/14/18 10:40
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	1	08/16/18 09:21	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.050	1	08/16/18 09:21	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-06-FB
Lab Code: K1807742-006

Service Request: K1807742
Date Collected: 08/14/18 10:40
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	104	mg/L	5.0	1	08/17/18 11:28	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-08-26I
Lab Code: K1807742-007

Service Request: K1807742
Date Collected: 08/14/18 12:00
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	8.67	mg/L	0.20	2	08/15/18 19:02	
Nitrate as Nitrogen	300.0	3.22	mg/L	0.10	2	08/15/18 19:02	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-08-26I
Lab Code: K1807742-007

Service Request: K1807742
Date Collected: 08/14/18 12:00
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	158	mg/L	5.0	1	08/17/18 11:28	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-01-27I
Lab Code: K1807742-008

Service Request: K1807742
Date Collected: 08/14/18 07:50
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	33.2	mg/L	0.50	5	08/16/18 09:31	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	2	08/15/18 19:12	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-01-27I
Lab Code: K1807742-008

Service Request: K1807742
Date Collected: 08/14/18 07:50
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	302	mg/L	5.0	1	08/17/18 11:28	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-02-DUP
Lab Code: K1807742-009

Service Request: K1807742
Date Collected: 08/14/18 07:55
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	33.2	mg/L	0.50	5	08/16/18 09:41	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.10	2	08/15/18 19:22	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: LB-081418-02-DUP
Lab Code: K1807742-009

Service Request: K1807742
Date Collected: 08/14/18 07:55
Date Received: 08/15/18 11:45
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	324	mg/L	5.0	1	08/17/18 11:28	



QC Summary Forms

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
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds

Analysis Method: 8260C
Extraction Method: EPA 5030B

Sample Name	Lab Code	4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
		68 - 117	73 - 122	65 - 144
LB-081418-03-1S	K1807742-001	101	116	93
LB-081418-05-5S	K1807742-002	100	117	103
LB-081418-09-6S	K1807742-003	103	118	120
LB-081418-04-10SR	K1807742-004	102	116	104
LB-081418-07-13I	K1807742-005	102	121	99
LB-081418-06-FB	K1807742-006	103	121	110
LB-081418-08-26I	K1807742-007	104	119	104
LB-081418-01-27I	K1807742-008	101	120	103
LB-081418-02-DUP	K1807742-009	105	117	106
Trip Blanks	K1807742-010	102	117	106

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Water

Service Request: K1807742

SURROGATE RECOVERY SUMMARY
Volatile Organic Compounds

Analysis Method: 8260C
Extraction Method: EPA 5030B

Sample Name	Lab Code	4-Bromofluorobenzene	Dibromofluoromethane	Toluene-d8
		68 - 117	73 - 122	65 - 144
Batch QC	K1807867-003	105	119	104
Batch QC MS	KWG1804190-1	112	110	114
Batch QC DMS	KWG1804190-2	117	105	107
Lab Control Sample	KWG1804190-3	107	110	115
Method Blank	KWG1804190-4	109	118	106

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Water

Service Request: K1807742
Date Collected: N/A
Date Received: N/A
Date Analyzed: 08/22/18
Date Extracted: 08/22/18

Duplicate Matrix Spike Summary
Volatile Organic Compounds

Sample Name: Batch QC
Lab Code: K1807867-003
Analysis Method: 8260C
Prep Method: EPA 5030B

Units: ug/L
Basis: NA

Analyte Name	Sample Result	Matrix Spike KWG1804190-1			Duplicate Matrix Spike KWG1804190-2			% Rec Limits	RPD	RPD Limit
		Result	Spike Amount	% Rec	Result	Spike Amount	% Rec			
Chloroform	ND U	10.7	10.0	107	10.1	10.0	101	64-133	6	30
Carbon Tetrachloride	ND U	12.4	10.0	124	11.2	10.0	112	53-161	10	30
Benzene	ND U	11.1	10.0	111	10.8	10.0	108	63-144	3	30
Trichloroethene (TCE)	ND U	11.4	10.0	114	10.7	10.0	107	53-139	6	30
Bromodichloromethane	ND U	11.0	10.0	110	10.3	10.0	103	61-134	6	30
Toluene	ND U	12.4	10.0	124	11.4	10.0	114	71-136	8	30
1,1,2-Trichloroethane	ND U	11.7	10.0	117	11.0	10.0	110	74-124	6	30
2-Hexanone	ND U	59.3	50.0	119	60.0	50.0	120	53-132	1	30
Chlorobenzene	ND U	12.2	10.0	122	11.6	10.0	116	69-126	4	30
Ethylbenzene	ND U	12.7	10.0	127	12.0	10.0	120	66-136	5	30
1,2,3-Trichloropropane	ND U	12.9	10.0	129 *	11.6	10.0	116	71-127	11	30
2-Chlorotoluene	ND U	11.4	10.0	114	10.4	10.0	104	55-139	10	30
1,2-Dichlorobenzene	ND U	11.7	10.0	117	10.9	10.0	109	72-119	7	30
Naphthalene	ND U	12.3	10.0	123	10.4	10.0	104	52-147	16	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.

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Water

Service Request: K1807742
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: KWG1804190-4

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Dichlorodifluoromethane (CFC 12)	ND U	0.50	1	08/22/18 13:29	8/22/18	
Chloromethane	ND U	0.50	1	08/22/18 13:29	8/22/18	
Bromomethane	ND U	0.50	1	08/22/18 13:29	8/22/18	
Chloroethane	ND U	0.50	1	08/22/18 13:29	8/22/18	
Trichlorofluoromethane (CFC 11)	ND U	0.50	1	08/22/18 13:29	8/22/18	
Acetone	ND U	20	1	08/22/18 13:29	8/22/18	
Carbon Disulfide	ND U	0.50	1	08/22/18 13:29	8/22/18	
Dichloromethane (Methylene Chloride)	ND U	2.0	1	08/22/18 13:29	8/22/18	
Methyl tert-Butyl Ether	ND U	0.50	1	08/22/18 13:29	8/22/18	
trans-1,2-Dichloroethene	ND U	0.50	1	08/22/18 13:29	8/22/18	
1,1-Dichloroethane (1,1-DCA)	ND U	0.50	1	08/22/18 13:29	8/22/18	
2,2-Dichloropropane	ND U	0.50	1	08/22/18 13:29	8/22/18	
cis-1,2-Dichloroethene	ND U	0.50	1	08/22/18 13:29	8/22/18	
2-Butanone (MEK)	ND U	20	1	08/22/18 13:29	8/22/18	
Bromochloromethane	ND U	0.50	1	08/22/18 13:29	8/22/18	
Chloroform	ND U	0.50	1	08/22/18 13:29	8/22/18	
1,1,1-Trichloroethane (TCA)	ND U	0.50	1	08/22/18 13:29	8/22/18	
Carbon Tetrachloride	ND U	0.50	1	08/22/18 13:29	8/22/18	
1,1-Dichloropropene	ND U	0.50	1	08/22/18 13:29	8/22/18	
Benzene	ND U	0.50	1	08/22/18 13:29	8/22/18	
1,2-Dichloroethane (EDC)	ND U	0.50	1	08/22/18 13:29	8/22/18	
Trichloroethene (TCE)	ND U	0.50	1	08/22/18 13:29	8/22/18	
1,2-Dichloropropane	ND U	0.50	1	08/22/18 13:29	8/22/18	
Dibromomethane	ND U	0.50	1	08/22/18 13:29	8/22/18	
Bromodichloromethane	ND U	0.50	1	08/22/18 13:29	8/22/18	
cis-1,3-Dichloropropene	ND U	0.50	1	08/22/18 13:29	8/22/18	
4-Methyl-2-pentanone (MIBK)	ND U	20	1	08/22/18 13:29	8/22/18	
Toluene	ND U	0.50	1	08/22/18 13:29	8/22/18	
trans-1,3-Dichloropropene	ND U	0.50	1	08/22/18 13:29	8/22/18	
1,1,2-Trichloroethane	ND U	0.50	1	08/22/18 13:29	8/22/18	
Tetrachloroethene (PCE)	ND U	0.50	1	08/22/18 13:29	8/22/18	
2-Hexanone	ND U	20	1	08/22/18 13:29	8/22/18	
1,3-Dichloropropane	ND U	0.50	1	08/22/18 13:29	8/22/18	
Dibromochloromethane	ND U	0.50	1	08/22/18 13:29	8/22/18	
1,2-Dibromoethane (EDB)	ND U	2.0	1	08/22/18 13:29	8/22/18	
Chlorobenzene	ND U	0.50	1	08/22/18 13:29	8/22/18	
Ethylbenzene	ND U	0.50	1	08/22/18 13:29	8/22/18	
1,1,1,2-Tetrachloroethane	ND U	0.50	1	08/22/18 13:29	8/22/18	
m,p-Xylenes	ND U	0.50	1	08/22/18 13:29	8/22/18	
o-Xylene	ND U	0.50	1	08/22/18 13:29	8/22/18	
Styrene	ND U	0.50	1	08/22/18 13:29	8/22/18	
Bromoform	ND U	0.50	1	08/22/18 13:29	8/22/18	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Water

Service Request: K1807742
Date Collected: NA
Date Received: NA

Sample Name: Method Blank
Lab Code: KWG1804190-4

Units: ug/L
Basis: NA

Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Analyte Name	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
Isopropylbenzene	ND U	2.0	1	08/22/18 13:29	8/22/18	
1,1,2,2-Tetrachloroethane	ND U	0.50	1	08/22/18 13:29	8/22/18	
Bromobenzene	ND U	2.0	1	08/22/18 13:29	8/22/18	
n-Propylbenzene	ND U	2.0	1	08/22/18 13:29	8/22/18	
1,2,3-Trichloropropane	ND U	0.50	1	08/22/18 13:29	8/22/18	
2-Chlorotoluene	ND U	2.0	1	08/22/18 13:29	8/22/18	
1,3,5-Trimethylbenzene	ND U	2.0	1	08/22/18 13:29	8/22/18	
4-Chlorotoluene	ND U	2.0	1	08/22/18 13:29	8/22/18	
tert-Butylbenzene	ND U	2.0	1	08/22/18 13:29	8/22/18	
1,2,4-Trimethylbenzene	ND U	2.0	1	08/22/18 13:29	8/22/18	
sec-Butylbenzene	ND U	2.0	1	08/22/18 13:29	8/22/18	
4-Isopropyltoluene	ND U	2.0	1	08/22/18 13:29	8/22/18	
1,3-Dichlorobenzene	ND U	0.50	1	08/22/18 13:29	8/22/18	
1,4-Dichlorobenzene	ND U	0.50	1	08/22/18 13:29	8/22/18	
n-Butylbenzene	ND U	2.0	1	08/22/18 13:29	8/22/18	
1,2-Dichlorobenzene	ND U	0.50	1	08/22/18 13:29	8/22/18	
1,2-Dibromo-3-chloropropane (DBCP)	ND U	2.0	1	08/22/18 13:29	8/22/18	
1,2,4-Trichlorobenzene	ND U	2.0	1	08/22/18 13:29	8/22/18	
Hexachlorobutadiene	ND U	2.0	1	08/22/18 13:29	8/22/18	
Naphthalene	ND U	2.0	1	08/22/18 13:29	8/22/18	
1,2,3-Trichlorobenzene	ND U	2.0	1	08/22/18 13:29	8/22/18	

Surrogate Name	% Rec	Control Limits	Date Analyzed	Q
Dibromofluoromethane	118	73 - 122	08/22/18 13:29	
Toluene-d8	106	65 - 144	08/22/18 13:29	
4-Bromofluorobenzene	109	68 - 117	08/22/18 13:29	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Water

Service Request: K1807742
Date Analyzed: 08/22/18
Date Extracted: 08/22/18

Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Units: ug/L
Basis: NA
Analysis Lot: KWG1804189

Lab Control Sample
KWG1804190-3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
1,1,1,2-Tetrachloroethane	9.94	10.0	99	66-124
1,1,1-Trichloroethane (TCA)	9.36	10.0	94	59-136
1,1,2,2-Tetrachloroethane	8.71	10.0	87	70-127
1,1,2-Trichloroethane	10.0	10.0	100	74-118
1,1-Dichloroethane (1,1-DCA)	9.09	10.0	91	68-132
1,1-Dichloropropene	9.08	10.0	91	59-134
1,2,3-Trichlorobenzene	9.93	10.0	99	68-120
1,2,3-Trichloropropane	9.23	10.0	92	69-123
1,2,4-Trichlorobenzene	9.89	10.0	99	58-126
1,2,4-Trimethylbenzene	9.29	10.0	93	63-122
1,2-Dibromo-3-chloropropane (DBCP)	10.1	10.0	101	55-132
1,2-Dibromoethane (EDB)	10.5	10.0	105	74-118
1,2-Dichlorobenzene	9.59	10.0	96	72-115
1,2-Dichloroethane (EDC)	9.25	10.0	93	56-142
1,2-Dichloropropane	9.28	10.0	93	67-126
1,3,5-Trimethylbenzene	9.11	10.0	91	62-126
1,3-Dichlorobenzene	9.38	10.0	94	70-116
1,3-Dichloropropane	9.68	10.0	97	75-116
1,4-Dichlorobenzene	9.36	10.0	94	73-115
2,2-Dichloropropane	9.83	10.0	98	37-145
2-Butanone (MEK)	50.0	50.0	100	71-149
2-Chlorotoluene	8.95	10.0	90	55-131
2-Hexanone	45.3	50.0	91	59-131
4-Chlorotoluene	9.25	10.0	93	66-121
4-Isopropyltoluene	9.39	10.0	94	61-128
4-Methyl-2-pentanone (MIBK)	46.5	50.0	93	64-134
Acetone	46.3	50.0	93	68-135
Benzene	9.11	10.0	91	69-124
Bromobenzene	9.63	10.0	96	72-116
Bromochloromethane	10.6	10.0	106	75-131
Bromodichloromethane	9.78	10.0	98	63-129
Bromoform	10.9	10.0	109	52-144
Bromomethane	8.42	10.0	84	35-113
Carbon Disulfide	16.2	20.0	81	46-144
Carbon Tetrachloride	9.33	10.0	93	55-140
Chlorobenzene	10.5	10.0	105	72-116
Chloroethane	7.56	10.0	76	58-134
Chloroform	9.10	10.0	91	70-129
Chloromethane	8.44	10.0	84	34-130
cis-1,2-Dichloroethene	10.3	10.0	103	71-118
cis-1,3-Dichloropropene	9.90	10.0	99	62-132

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Water

Service Request: K1807742
Date Analyzed: 08/22/18
Date Extracted: 08/22/18

Lab Control Sample Summary
Volatile Organic Compounds

Analysis Method: 8260C
Prep Method: EPA 5030B

Units: ug/L
Basis: NA
Analysis Lot: KWG1804189

Lab Control Sample
KWG1804190-3

Analyte Name	Result	Spike Amount	% Rec	% Rec Limits
Dibromochloromethane	9.67	10.0	97	67-126
Dibromomethane	10.9	10.0	109	69-128
Dichlorodifluoromethane (CFC 12)	7.21	10.0	72	32-124
Dichloromethane (Methylene Chloride)	9.15	10.0	92	71-122
Ethylbenzene	9.90	10.0	99	67-121
Hexachlorobutadiene	10.1	10.0	101	57-119
Isopropylbenzene	9.75	10.0	98	67-129
m,p-Xylenes	20.3	20.0	101	69-121
Methyl tert-Butyl Ether	9.80	10.0	98	54-126
Naphthalene	9.46	10.0	95	64-126
n-Butylbenzene	8.69	10.0	87	55-130
n-Propylbenzene	8.72	10.0	87	61-124
o-Xylene	9.54	10.0	95	71-119
sec-Butylbenzene	9.00	10.0	90	59-128
Styrene	10.2	10.0	102	74-121
tert-Butylbenzene	9.05	10.0	91	61-127
Tetrachloroethene (PCE)	10.7	10.0	107	62-126
Toluene	10.6	10.0	106	69-124
trans-1,2-Dichloroethene	9.46	10.0	95	67-125
trans-1,3-Dichloropropene	9.37	10.0	94	59-125
Trichloroethene (TCE)	9.37	10.0	94	67-128
Trichlorofluoromethane (CFC 11)	7.96	10.0	80	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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: KQ1811408-02

Service Request: K1807742
Date Collected: NA
Date Received: NA
Basis: NA

Dissolved Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Iron	6010C	ND U	ug/L	21	1	08/24/18 10:00	08/21/18	
Manganese	6010C	ND U	ug/L	1.1	1	08/24/18 10:00	08/21/18	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18
Date Received: 08/15/18
Date Analyzed: 08/24/18
Date Extracted: 08/21/18

Matrix Spike Summary
Dissolved Metals

Sample Name: LB-081418-03-1S
Lab Code: K1807742-001
Analysis Method: 6010C
Prep Method: EPA CLP-METALS ILM04.0

Units: ug/L
Basis: NA

Matrix Spike
KQ1811408-04

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Iron	ND U	870	1000	87	75-125
Manganese	ND U	420	500	84	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.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18
Date Received: 08/15/18
Date Analyzed: 08/24/18

Replicate Sample Summary

Dissolved Metals

Sample Name: LB-081418-03-1S
Lab Code: K1807742-001

Units: ug/L
Basis: NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample	Average	RPD	RPD Limit
				KQ1811408-03 Result			
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, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Analyzed: 08/24/18

Lab Control Sample Summary
Dissolved Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ1811408-01

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Iron	6010C	2400	2500	96	80-120
Manganese	6010C	1170	1250	94	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

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1807742-MB1

Service Request: K1807742
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	1	08/15/18 09:12	
Nitrate as Nitrogen	300.0	ND U	mg/L	0.050	1	08/15/18 09:12	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1807742-MB1

Service Request: K1807742
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	08/17/18 11:28	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: SCS Engineers
Project: Lechner Landfill, WA/04218030.18
Sample Matrix: Ground Water
Sample Name: Method Blank
Lab Code: K1807742-MB2

Service Request: K1807742
Date Collected: NA
Date Received: NA
Basis: NA

General Chemistry Parameters

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>Result</u>	<u>Units</u>	<u>MRL</u>	<u>Dil.</u>	<u>Date Analyzed</u>	<u>Q</u>
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	5.0	1	08/17/18 11:28	

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18
Date Received: 08/15/18
Date Analyzed: 8/15/18

**Duplicate Matrix Spike Summary
General Chemistry Parameters**

Sample Name: LB-081418-03-1S
Lab Code: K1807742-001

Units: mg/L
Basis: NA

**Matrix Spike
K1807742-001MS**

**Duplicate Matrix Spike
K1807742-001DMS**

Analyte Name	Method	Sample		Spike		Duplicate Matrix Spike		% Rec	Limits	RPD	RPD Limit
		Result	Result	Amount	% Rec	Result	Amount				
Chloride	300.0	7.41	15.6	8.00	103	15.5	8.00	102	90-110	<1	20
Nitrate as Nitrogen	300.0	3.83	12.3	8.00	105	12.3	8.00	106	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
Project Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18
Date Received: 08/15/18
Date Analyzed: 08/15/18 - 08/17/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name: LB-081418-03-1S
Lab Code: K1807742-001

Units: mg/L
Basis: NA

Analyte Name	Analysis Method	MRL	Sample Result	Duplicate Sample K1807742-001DUP Result	Average	RPD	RPD Limit
Chloride	300.0	0.20	7.41	7.13	7.27	4	20
Nitrate as Nitrogen	300.0	0.10	3.83	3.67	3.75	4	20
Solids, Total Dissolved	SM 2540 C	5.0	195	190	192	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.

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Collected: 08/14/18
Date Received: 08/15/18
Date Analyzed: 08/17/18

Replicate Sample Summary
General Chemistry Parameters

Sample Name: LB-081418-05-5S
Lab Code: K1807742-002

Units: mg/L
Basis: NA

<u>Analyte Name</u>	<u>Analysis Method</u>	<u>MRL</u>	<u>Sample Result</u>	<u>Duplicate Sample K1807742-002DUP Result</u>	<u>Average</u>	<u>RPD</u>	<u>RPD Limit</u>
Solids, Total Dissolved	SM 2540 C	5.0	113	115	114	1	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.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: SCS Engineers
Project: Leichner Landfill, WA/04218030.18
Sample Matrix: Ground Water

Service Request: K1807742
Date Analyzed: 08/15/18 - 08/17/18

Lab Control Sample Summary
General Chemistry Parameters

Units:mg/L
Basis:NA

Lab Control Sample
K1807742-LCS

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	5.22	5.00	104	90-110
Nitrate as Nitrogen	300.0	2.57	2.50	103	90-110
Solids, Total Dissolved	SM 2540 C	503	523	96	85-115

APPENDIX D

2018 Groundwater Elevation Data and Groundwater Elevation Hydrographs

Table D-1
2018 Groundwater Elevation Data
Leichner Landfill

Monitoring Well	Date	Reference Elevation (feet, AMSL)	Depth to Groundwater (feet, BTOC)	Groundwater Elevation (feet, AMSL)
LB-R2	2/26/2018	222.27	42.48	179.79
LB-R2	8/13/2018	222.27	44.74	177.53
LB-1S	2/26/2018	210.12	30.58	179.54
LB-1S	8/13/2018	210.12	32.73	177.39
LB-1D	2/26/2018	209.74	33.19	176.55
LB-1D	8/13/2018	209.74	36.20	173.54
LB-3S	2/26/2018	218.25	35.99	182.26
LB-3S	8/13/2018	218.25	38.19	180.06
LB-3D	2/26/2018	219.29	37.01	182.28
LB-3D	8/13/2018	219.29	39.25	180.04
LB-5S	2/26/2018	206.89	15.09	191.80
LB-5S	8/13/2018	206.89	16.08	190.81
LB-5C	2/26/2018	206.70	29.95	176.75
LB-5C	8/13/2018	206.70	32.42	174.28
LB-5D	2/26/2018	207.56	34.54	173.02
LB-5D	8/13/2018	207.56	37.27	170.29
LB-6S	2/26/2018	202.80	24.39	178.41
LB-6S	8/13/2018	202.80	26.56	176.24
LB-9S(R)	2/26/2018	217.94	34.22	183.72
LB-9S(R)	8/13/2018	217.94	34.97	182.97
LB-10SR	2/26/2018	204.04	27.91	176.13
LB-10SR	8/13/2018	204.04	30.32	173.72
LB-10CR	2/26/2018	203.05	26.87	176.18
LB-10CR	8/13/2018	203.05	29.25	173.80
LB-10DR	2/26/2018	203.36	39.69	163.67
LB-10DR	8/13/2018	203.36	42.27	161.09
LB-13I	2/26/2018	202.36	25.10	177.26
LB-13I	8/13/2018	202.36	27.25	175.11
LB-13C	2/26/2018	202.68	25.52	177.16
LB-13C	8/13/2018	202.68	27.65	175.03
LB-13D	2/26/2018	202.96	25.80	177.16
LB-13D	8/13/2018	202.96	28.03	174.93

Table D-1
2018 Groundwater Elevation Data
Leichner Landfill

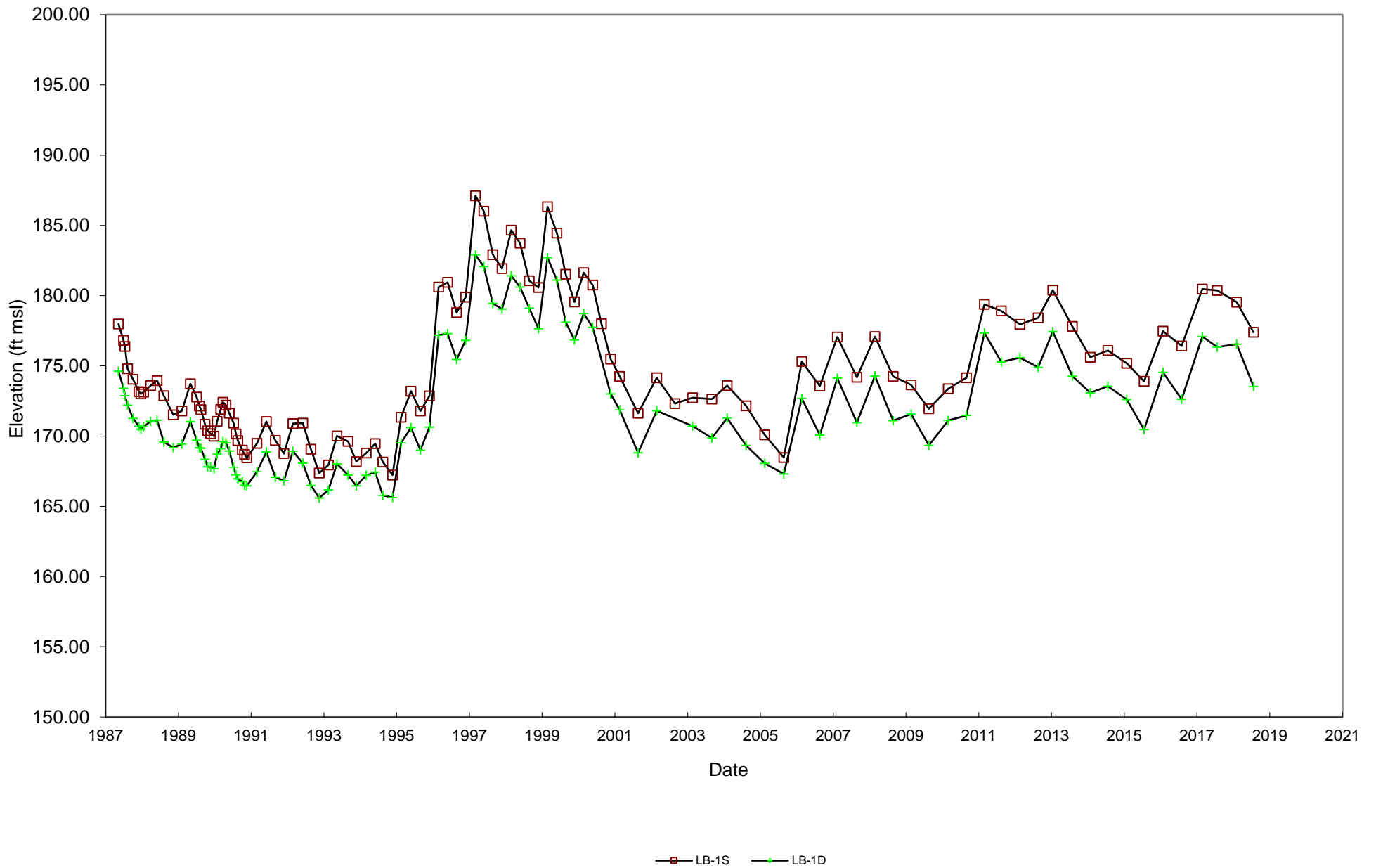
Monitoring Well	Date	Reference Elevation (feet, AMSL)	Depth to Groundwater (feet, BTOC)	Groundwater Elevation (feet, AMSL)
LB-17S	2/26/2018	208.18	28.29	179.89
LB-17S	8/13/2018	208.18	30.51	177.67
LB-17I	2/26/2018	212.96	33.43	179.53
LB-17I	8/13/2018	212.96	35.60	177.36
LB-17C	2/26/2018	207.97	27.50	180.47
LB-17C	8/13/2018	207.97	29.32	178.65
LB-17D	2/26/2018	213.17	34.35	178.82
LB-17D	8/13/2018	213.17	36.57	176.60
LB-20S	2/26/2018	221.22	37.42	183.80
LB-20S	8/13/2018	221.22	39.46	181.76
LB-21S	2/26/2018	223.35	34.92	188.43
LB-21S	8/13/2018	223.35	37.32	186.03
LB-21C	2/26/2018	223.32	35.36	187.96
LB-21C	8/13/2018	223.32	37.71	185.61
LB-21D	2/26/2018	223.63	38.14	185.49
LB-21D	8/13/2018	223.63	40.85	182.78
LB-22S	2/26/2018	208.42	4.80	203.62
LB-22S	8/13/2018	208.42	6.89	201.53
LB-23S	2/26/2018	229.19	29.53	199.66
LB-23S	8/13/2018	229.19	31.30	197.89
LB-24S	2/26/2018	235.13	37.65	197.48
LB-24S	8/13/2018	235.13	39.10	196.03
LB-26I	2/26/2018	200.22	22.44	177.78
LB-26I	8/13/2018	200.22	24.61	175.61
LB-26D	2/26/2018	200.75	22.16	178.59
LB-26D	8/13/2018	200.75	24.33	176.42
LB-27I	2/26/2018	205.35	28.38	176.97
LB-27I	8/13/2018	205.35	30.65	174.70
LB-27D	2/26/2018	204.63	34.65	169.98
LB-27D	8/13/2018	204.63	37.53	167.10
MW-1 N	2/26/2018	216.58	Dry	NA
MW-1 N	8/13/2018	216.58	Dry	NA

Table D-1
2018 Groundwater Elevation Data
Leichner Landfill

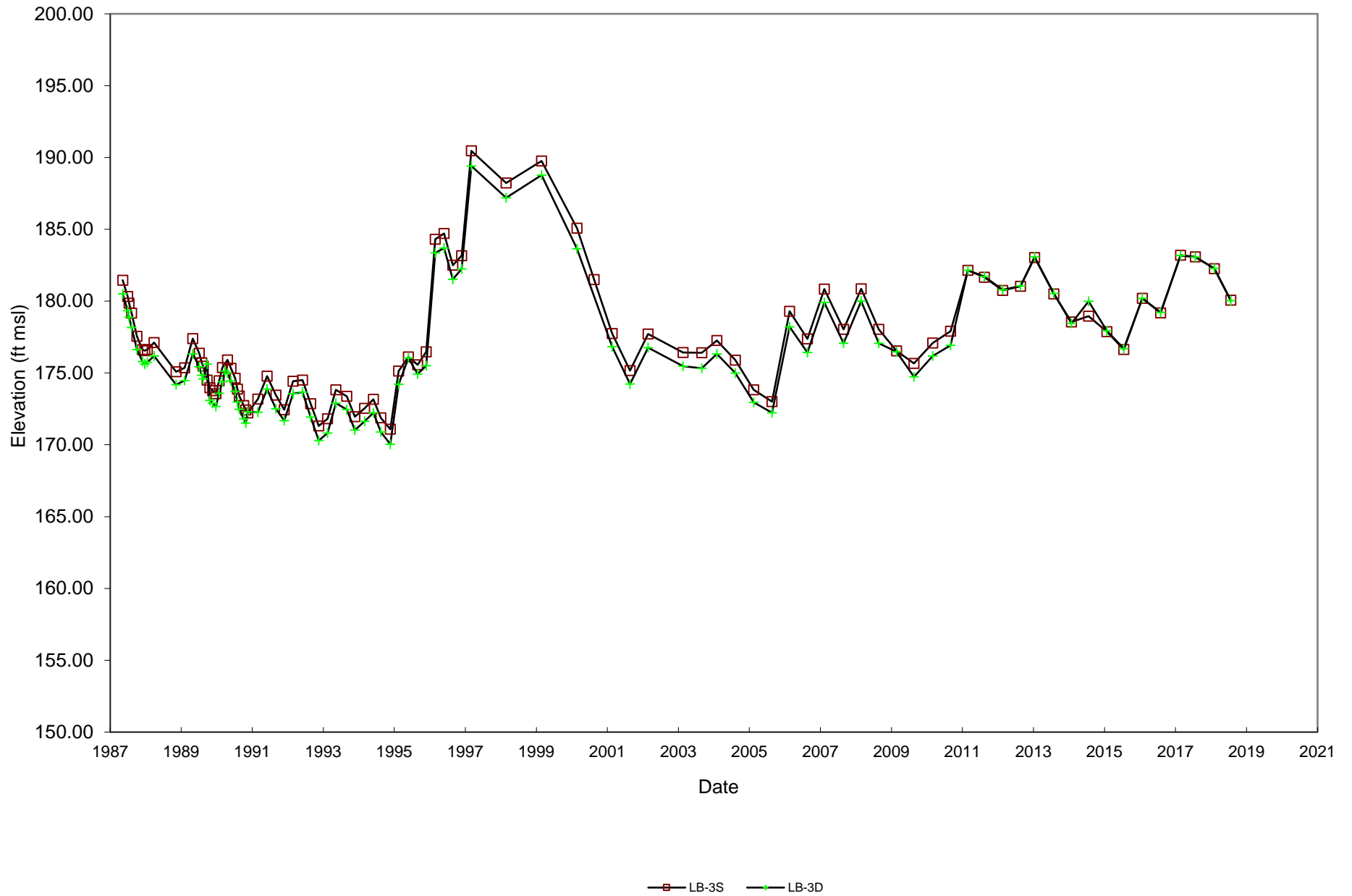
Monitoring Well	Date	Reference Elevation (feet, AMSL)	Depth to Groundwater (feet, BTOC)	Groundwater Elevation (feet, AMSL)
MW-1 S	2/26/2018	216.13	35.01	181.12
MW-1 S	8/13/2018	216.13	37.15	178.98
MW-1 E	2/26/2018	216.45	Dry	NA
MW-1 E	8/13/2018	216.45	Dry	NA
MW-NE	2/26/2018	220.06	12.23	207.83
MW-NE	8/13/2018	220.06	14.61	205.45

Notes:
 AMSL = above mean sea level; BTOC = below top of casing; NA = not applicable.

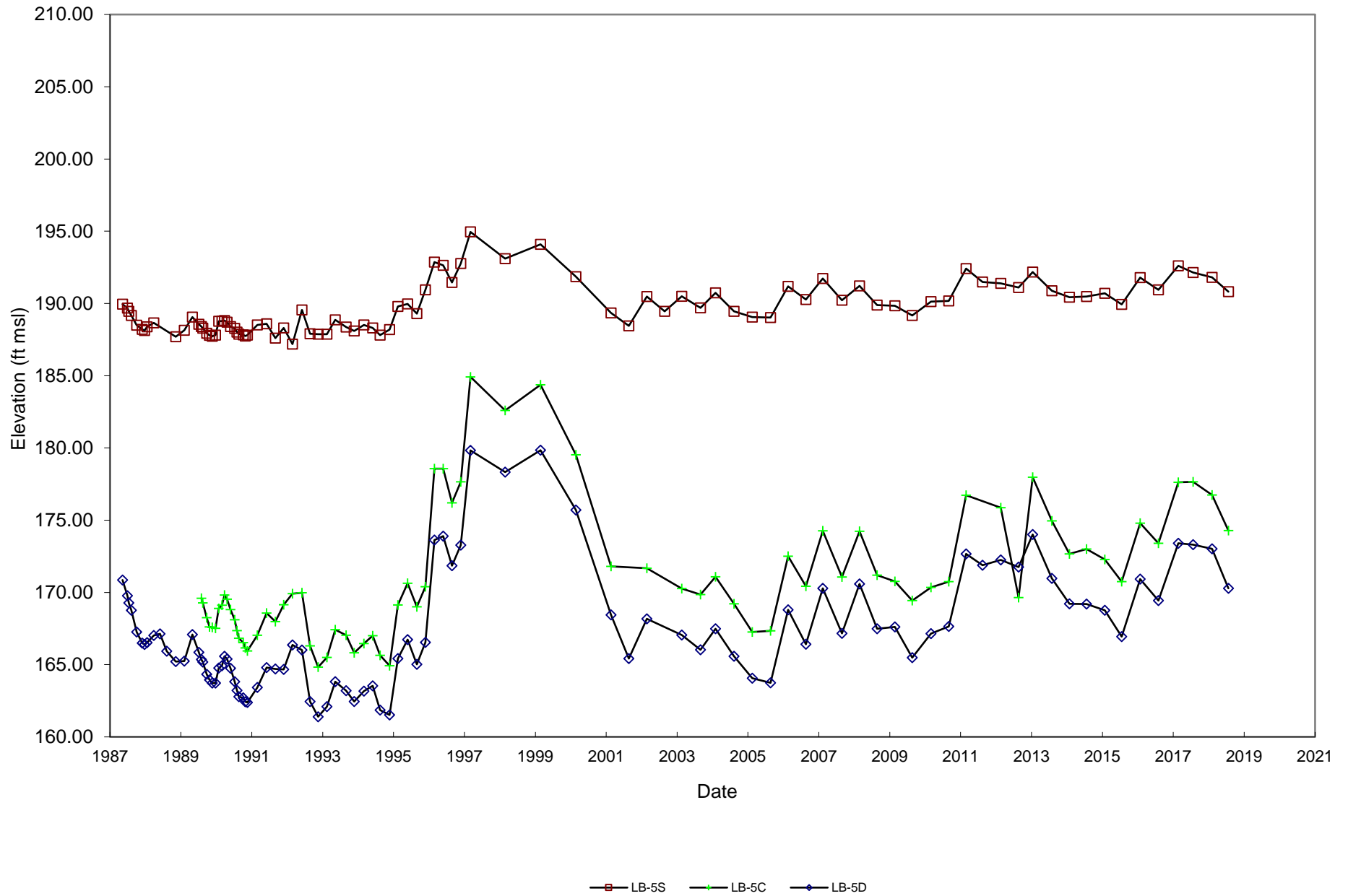
LB-1S and LB-1D Hydrographs Leichner Landfill



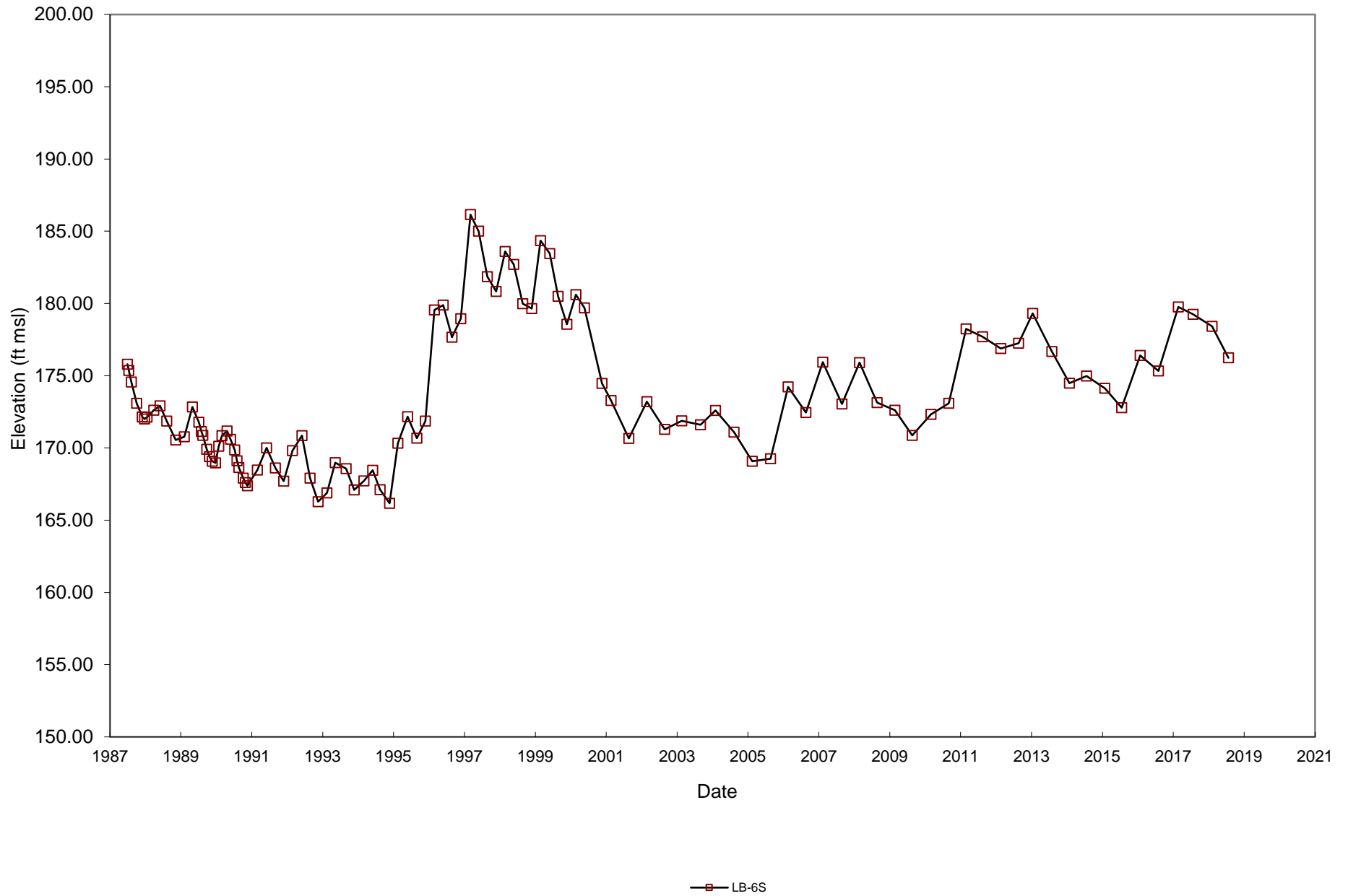
LB-3S and LB-3D Hydrographs Leichner Landfill



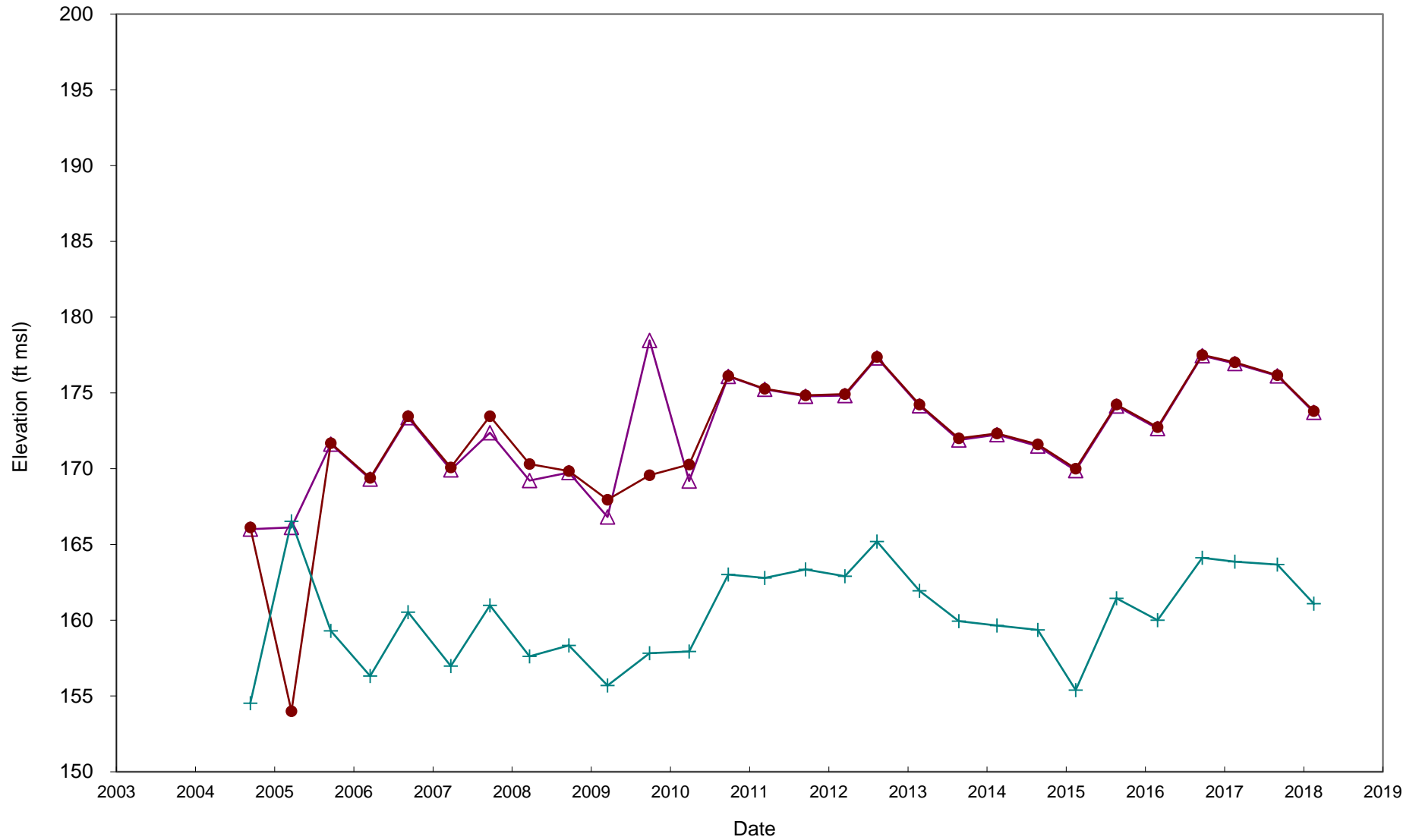
LB 5S, LB-5C, and LB-5D Hydrographs Leichner Landfill



LB-6S Hydrograph Leichner Landfill



LB-10SR, LB-10CR, and LB-10DR Hydrographs Leichner Landfill

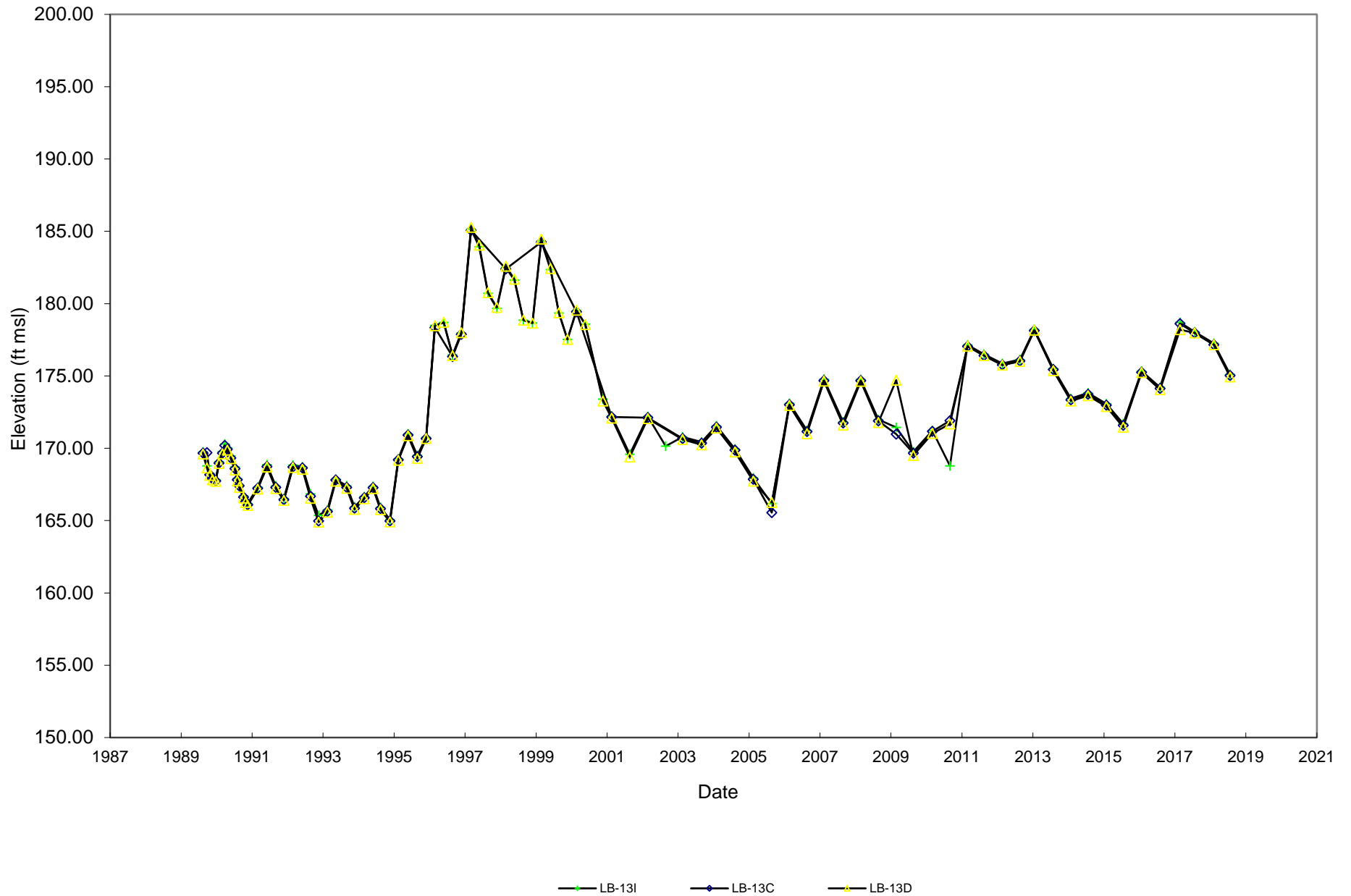


LB-10SR

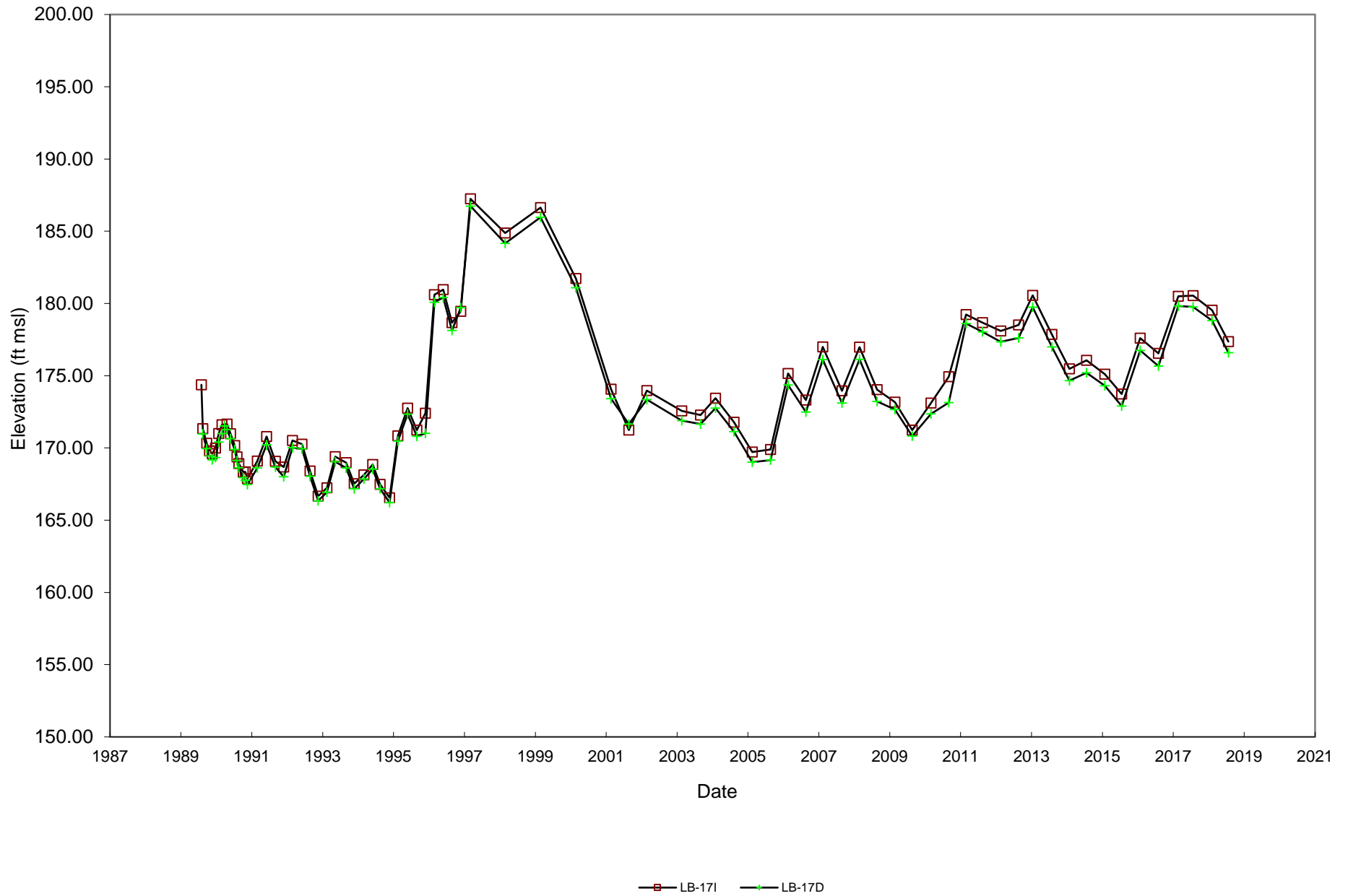
LB-10CR

LB-10DR

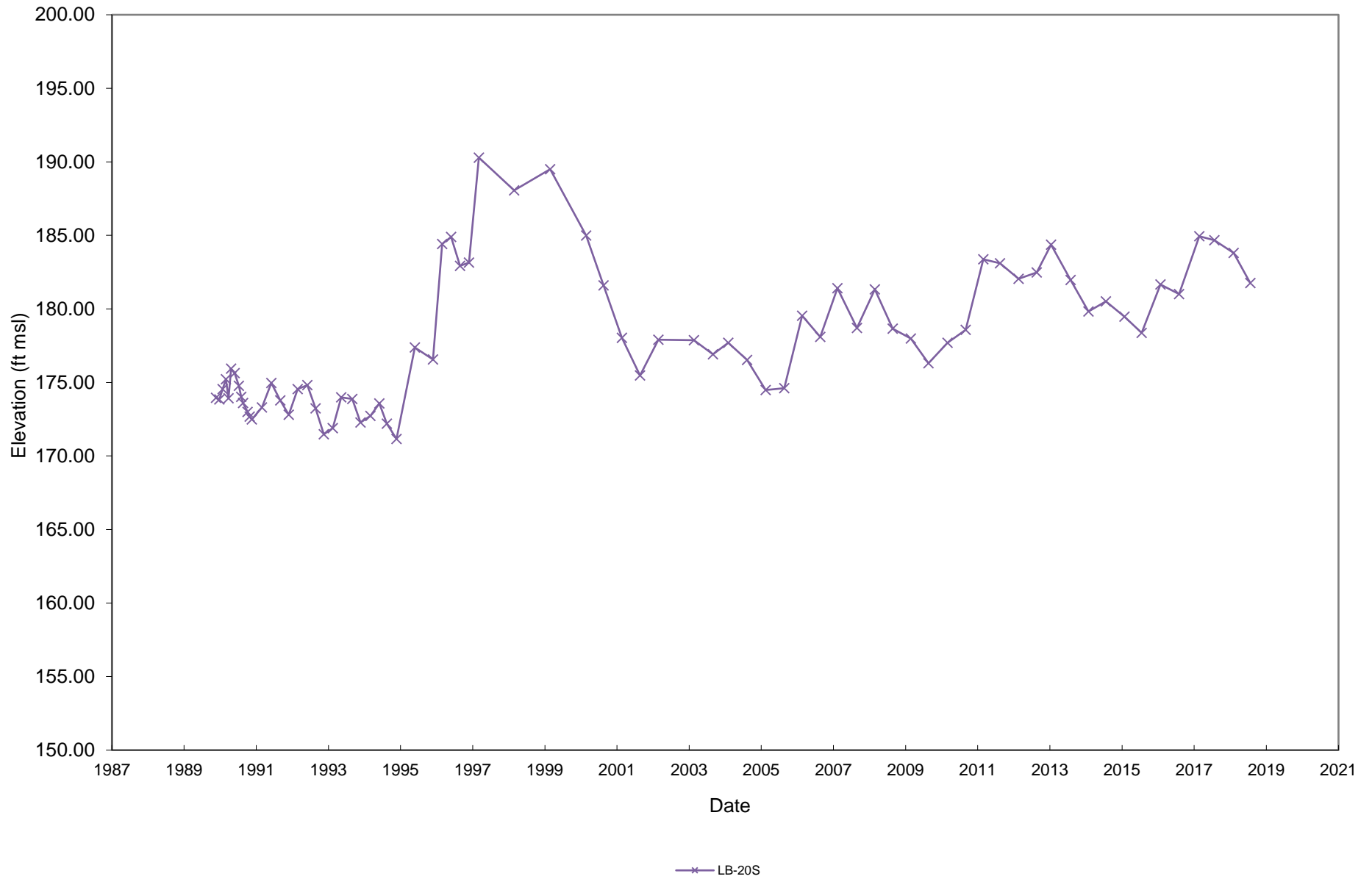
LB-13I, LB-13C, and LB-13D Hydrographs
Leichner Landfill



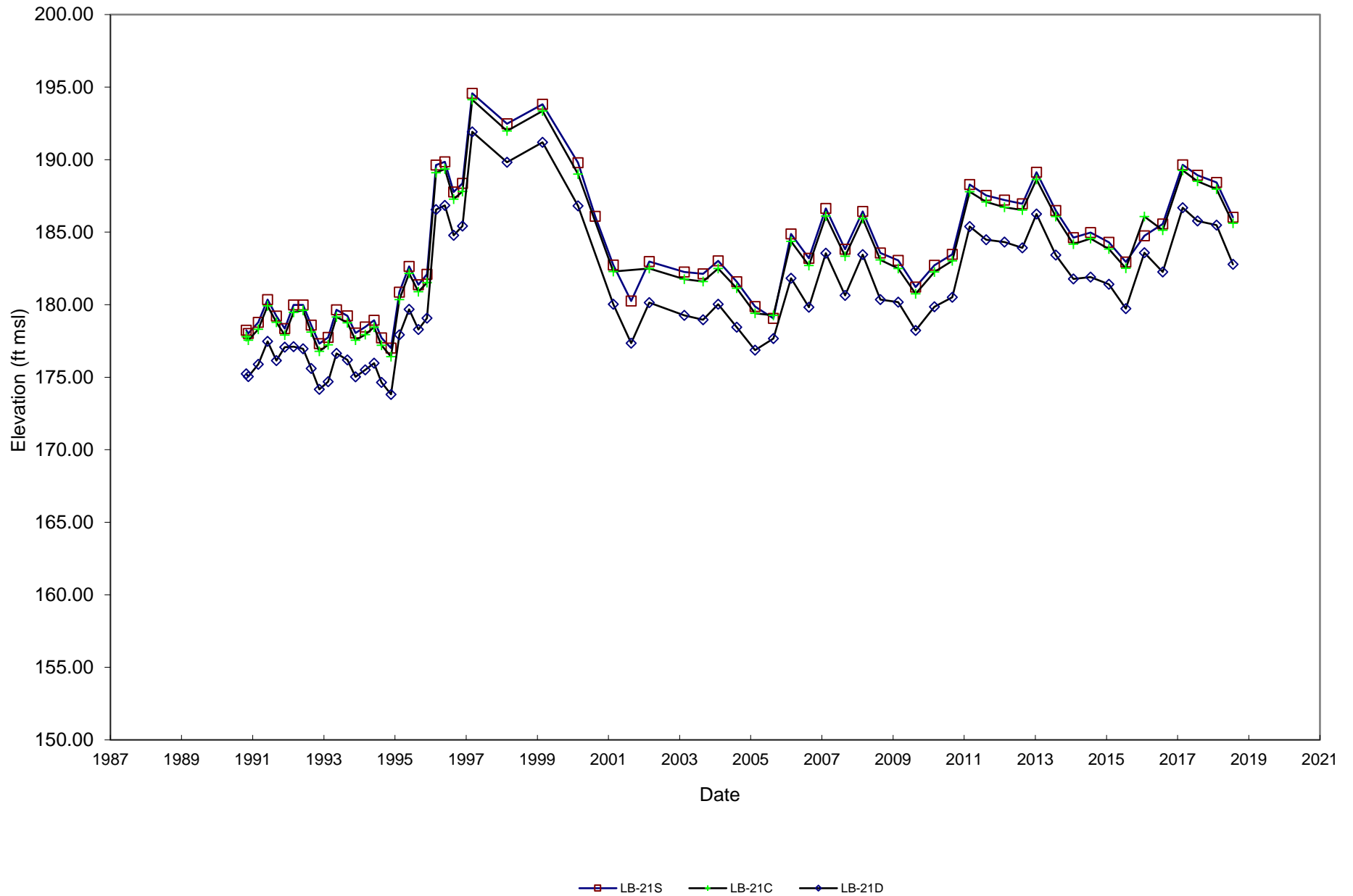
LB-17I and LB-17D Hydrographs Leichner Landfill



LB-20S Hydrograph Leichner Landfill



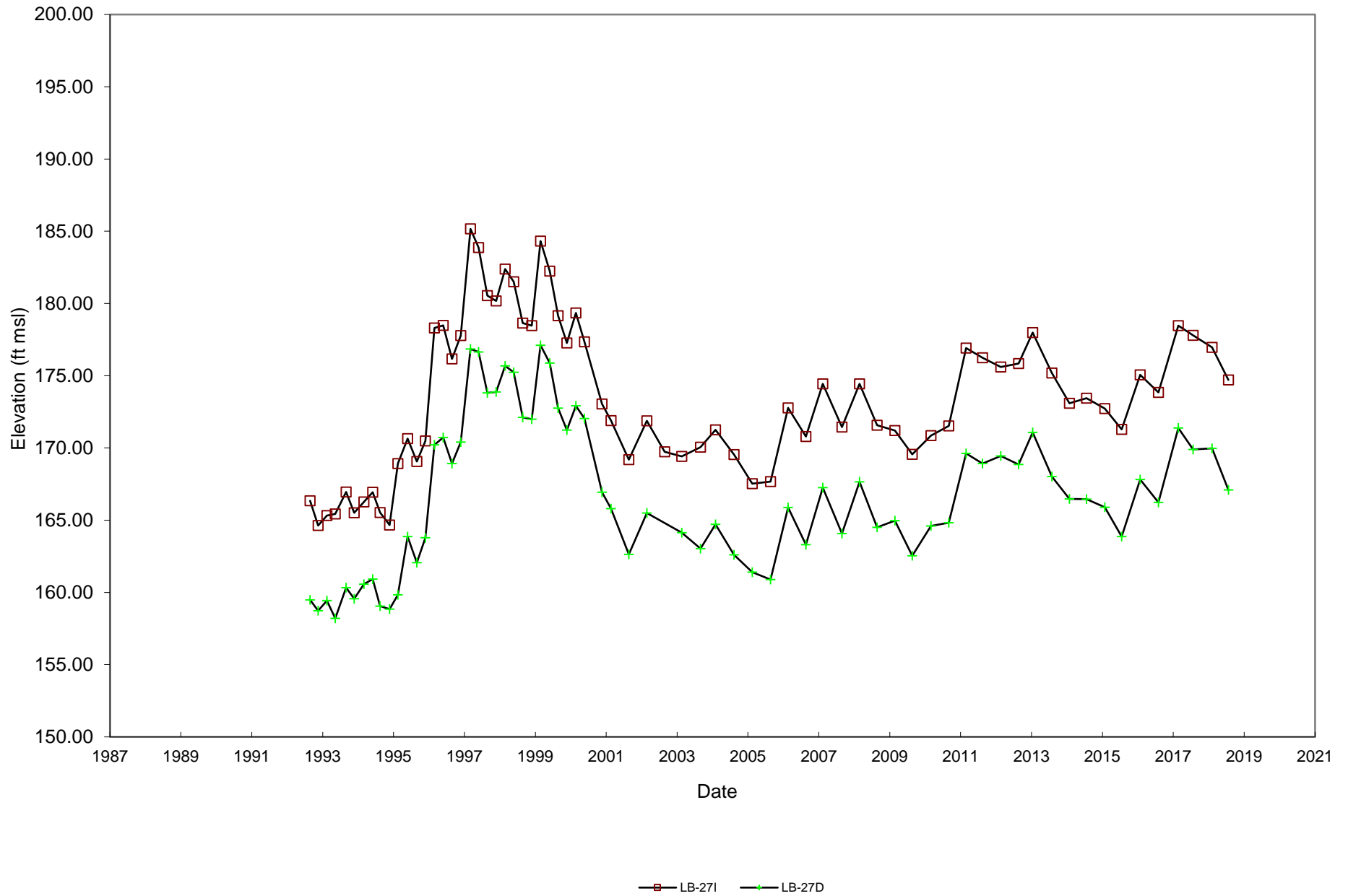
LB-21S, LB-21C, and LB-21D Hydrographs Leichner Landfill



LB-26I and LB-26D Hydrographs Leichner Landfill



LB-27I and LB-27D Hydrographs Leichner Landfill



APPENDIX E

Quality Assurance/Quality Control Reviews of 2018 Laboratory Analytical Data

First Quarter (February) 2018 QA/QC Reviews

**SCS Engineers QA/QC Review
Groundwater - 1Q 2018 Groundwater Monitoring Event
Leichner Brothers Landfill
ALS Environmental Lab Report No. K1801827**

Samples: LB-022618-01-5D (LB-5D), LB-022618-04-13D (LB-13D), LB-022618-07-17D (LB-17D), LB-022618-06-26D (LB-13D), LB-030817-05-26D (LB-26D), LB-022618-05-FB1 (FB1/LB-26D), LB-022618-02-27D (LB-27D), and LB-022618-03-DUP1 (DUP1/LB-27D).

Sample Date: 02/26/2018
Laboratory Sample Received Date: 02/27/2018
Sample Receipt Temperature: 0.9°C
Laboratory Data Received Date: 03/22/2018
QA/QC Review Date: 07/24/2018 (SEN)

VOCs

Method Blanks	All analytes were reported as non-detect.
Surrogates	All sample surrogates were within QC limits except for dibromofluoromethane in all samples and method blanks. This is noted and qualified in the case narrative.
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-022618-03-DUP1 (DUP1) was collected at monitoring well LB-27D (LB-022618-02-27D) on 02/26/2018. All calculated RPDs were within 20%.

Field Blank

A field blank sample LB022618-05-FB1 (FB1) was collected at monitoring well LB-26D (LB-022618-06-26D) on 02/26/18. All analytes were reported as nondetect except for TDS.

Trip Blank

A laboratory supplied trip blank was carried into the field on 02/26/2018 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

Dichlorodifluoromethane and chloromethane 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 K1801827 for Leichner Landfill, SCS Engineers finds the data are valid for their intended use (07/24/2018; SEN).

**SCS Engineers QA/QC Review
Groundwater - 1Q 2018 Groundwater Monitoring Event
Leichner Brothers Landfill
ALS Environmental Lab Report No. K1801872**

Samples: LB-022718-11-1S (LB-1S), LB-022718-10-1D (LB-1D), LB-022718-13-3S (LB-3S), LB-022718-12-3D (LB-3D), LB-022718-09-10SR (LB-10SR), LB-022718-08-10DR (LB-10DR), and Trip Blanks.

Sample Date: 02/27/2018
Laboratory Sample Received Date: 02/28/2018
Sample Receipt Temperature: 0.6°C
Laboratory Data Received Date: 03/30/2018
QA/QC Review Date: 07/26/2018 (SEN)

VOCs

Method Blanks	All analytes were reported as non-detect.
Surrogates	All sample surrogates were within QC limits except for dibromofluoromethane in all field samples, trip blank, and method blank. This is noted and qualified in the case narrative.
LCS	All % recoveries were within QC limits except for bromomethane in batch K1801301-5 (* flag). This is noted and qualified in the case narrative. 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 except for TDS in sample LB-022718-09-10SR (LB-10SR) (* flag). This is noted and qualified in the case narrative.

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 02/27/2018 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

Naphthalene was 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 K1801872 for Leichner Landfill, SCS Engineers finds the data are valid for their intended use (07/26/2018; SEN).

SCS Engineers QA/QC Review
Groundwater - 1Q 2018 Groundwater Monitoring Event
Leichner Brothers Landfill
ALS Environmental Lab Report No. K1801947

Samples: LB-030118-15-5S (LB-5S), LB-030118-17-6S (LB-6S), LB-030118-18-DUP2 (DUP2/LB-6S), LB-030118-20-13I (LB-13I), LB-030118-16-17I (LB-17I), LB-030118-14-20S (LB-20S), LB-030118-21-26S (LB-26S), LB-030118-19-27I (LB-27I), and Trip Blanks.

Sample Date: 03/01/2018
Laboratory Sample Received Date: 03/02/2018
Sample Receipt Temperature: 0.0°C
Laboratory Data Received Date: 03/28/2018
QA/QC Review Date: 07/26/2018 (SEN)

VOCs

Method Blanks	All analytes were reported as non-detect.
Surrogates	All sample surrogates were within QC limits except for dibromofluoromethane in all field samples, trip blank, and method blank. This is noted and qualified in the case narrative.
LCS	All % recoveries were within QC limits except for bromomethane in batch K1801301-5 (* flag). This is noted and qualified in the case narrative. 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 except for chloride and Nitrate as N for sample LB-030118-14-20S. This is noted and qualified in the case narrative.
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 03/01/2018 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.

Field Duplicate

A field duplicate (LB-030118-18-DUP2) was collected at LB-6S on 03/01/18. All RPDs were within 20%.

Notes

Naphthalene, dichlorodifluoromethane, chloromethane, trichlorofluoromethane, carbon disulfide, carbon tetrachloride, and 4-isopropyltoluene 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 K1801947 for Leichner Landfill, SCS Engineers finds the data are valid for their intended use (07/27/2018; SEN).

Third Quarter (August) 2018 QA/QC Reviews

**SCS Engineers QA/QC Review
Groundwater - 3Q 2018 Groundwater Monitoring Event
Leichner Brothers Landfill
ALS Environmental Lab Report No. K1807742**

Samples: LB-081418-03-1S, LB-081418-05-5S, LB-081418-09-6S, LB-081418-04-10SR, LB-081418-07-13I, LB-081418-06-FB, LB-081418-26I, LB-081418-01-27I, LB-081418-02-DUP, and Trip Blanks.

Sample Date: 08/14/2018

Laboratory Sample Received Date: 08/15/2018

Sample Receipt Temperature: -0.3, and 0.2°C

Laboratory Data Received Date: 08/31/2018

QA/QC Review Date: 10/30/2018 (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 except for 1,2,3-trichloropropane in batch KWG1804190-1(* flag). This is noted and qualified in the case narrative.
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-081418-02-DUP (DUP) was collected at monitoring well LB-27I (LB-081418-01-27I) on 08/14/2018. All calculated RPDs were within 20%.

Field Blank

A field blank sample LB081418-06-FB (FB) was collected at monitoring well LB-13I (LB-081418-07-13I) on 08/14/2018. All analytes were reported as non-detect except for TDS and toluene. It should be noted that toluene was also detected in the trip blanks and may be due to a laboratory artifact.

Trip Blank

A laboratory supplied trip blank was carried into the field on 08/14/2018 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 except for toluene.

Notes

Dichlorodifluoromethane, chloromethane, chloroethane, and carbon disulfide 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

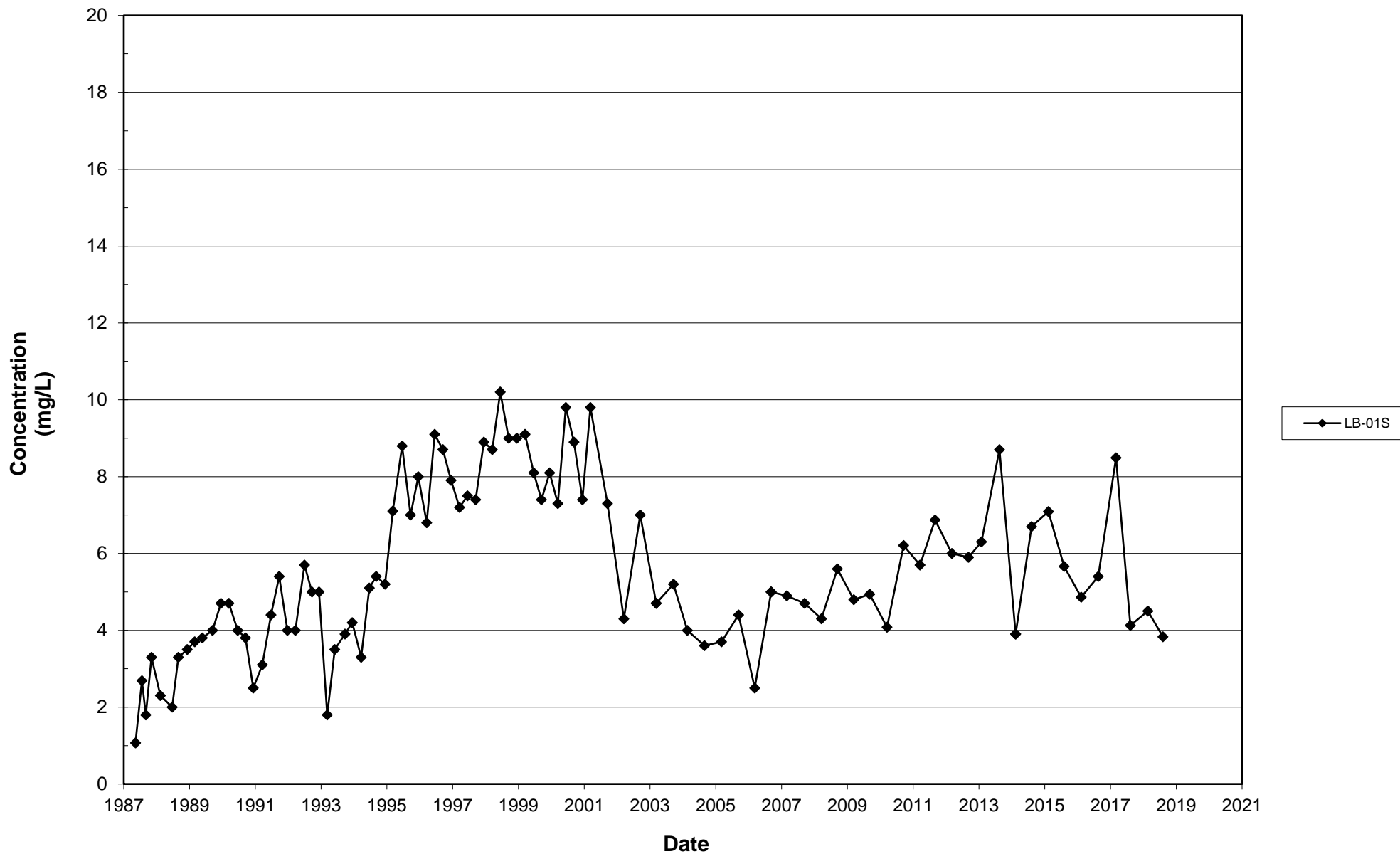
Upon final review of lab report K1807742 for Leichner Landfill, SCS Engineers finds the data are valid for their intended use (10/30/2018; SEN).

APPENDIX F

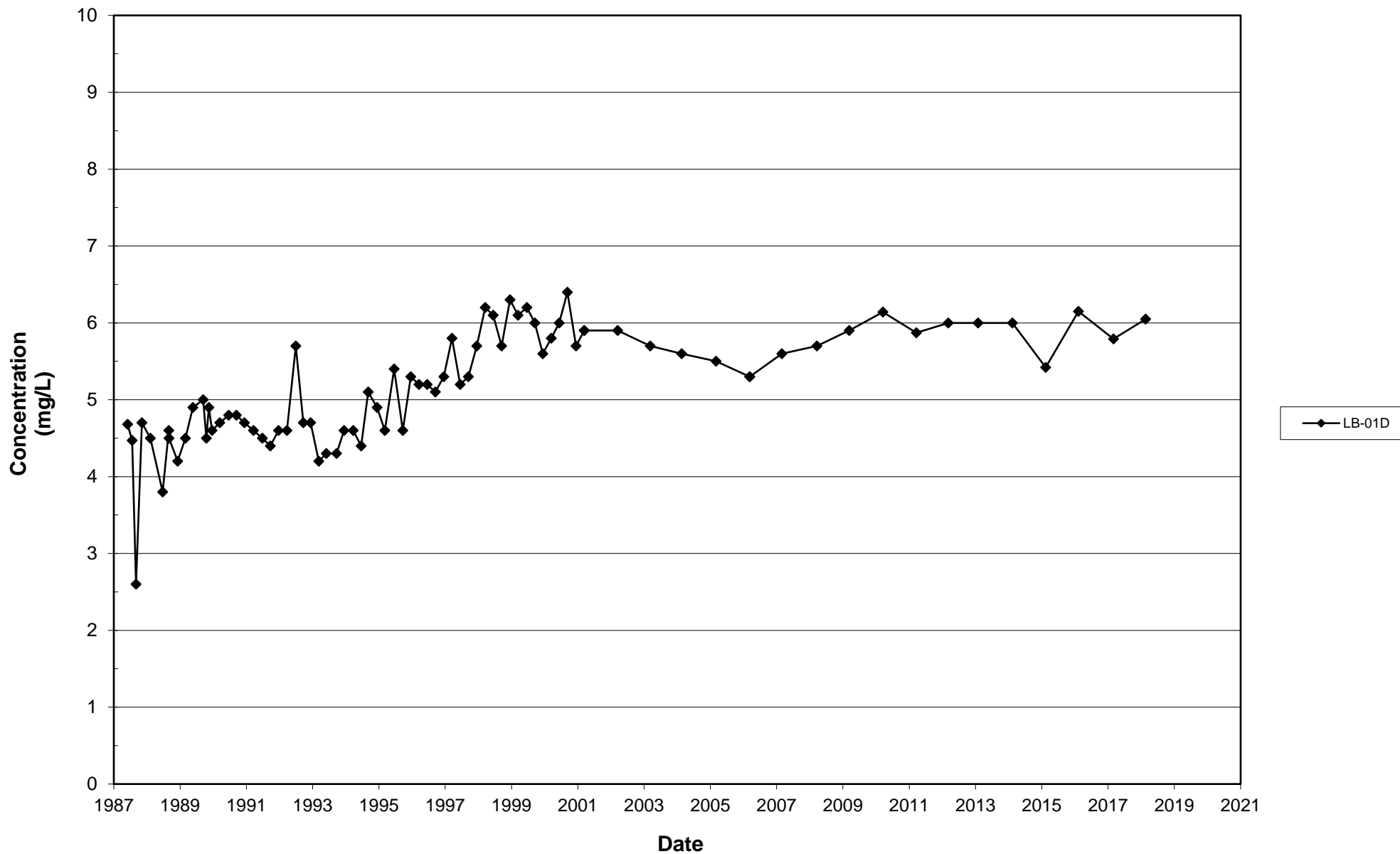
Groundwater Time-Concentration Graphs

Nitrate

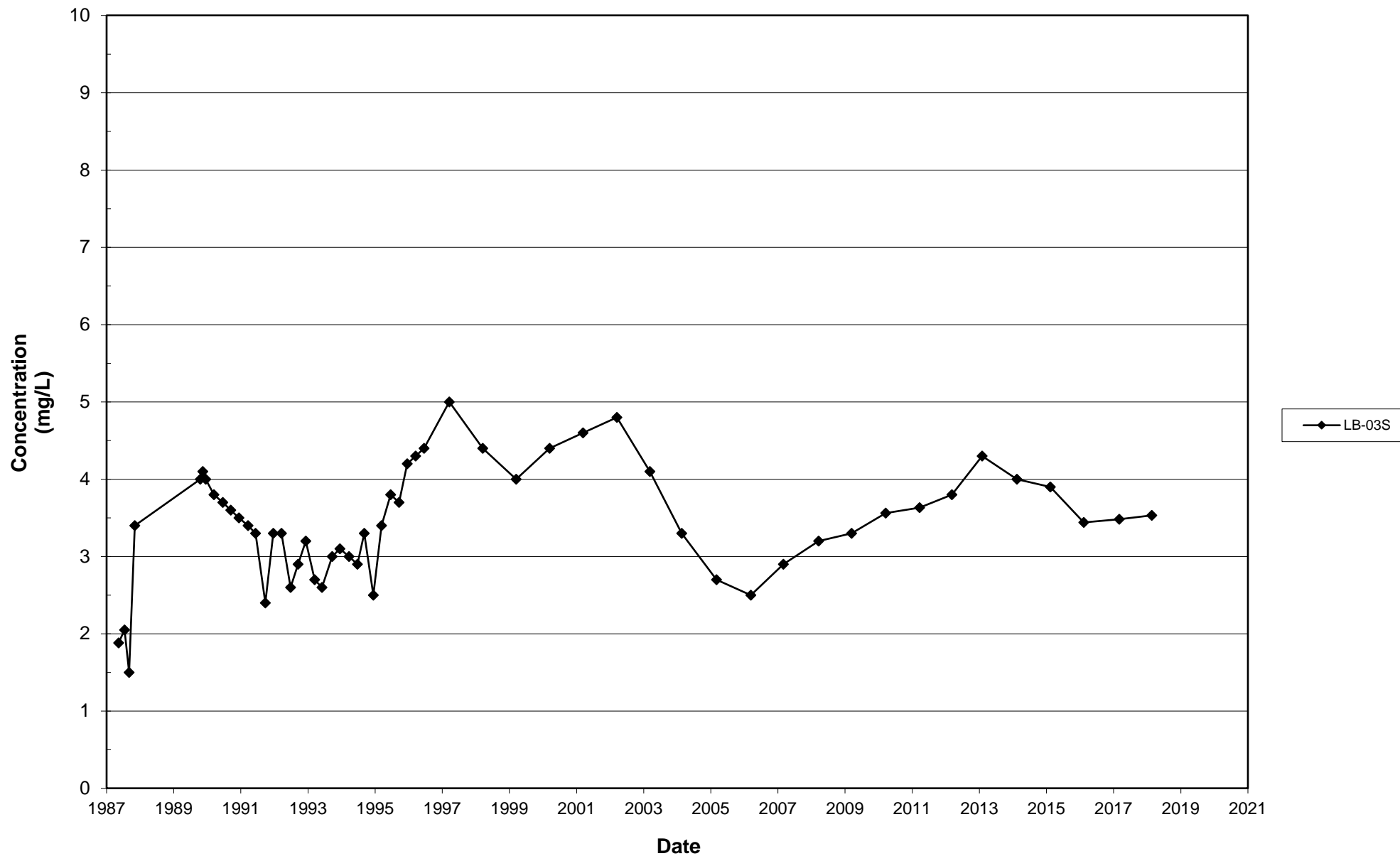
Leichner Landfill
Nitrate, LB-01S
1987 - 2018



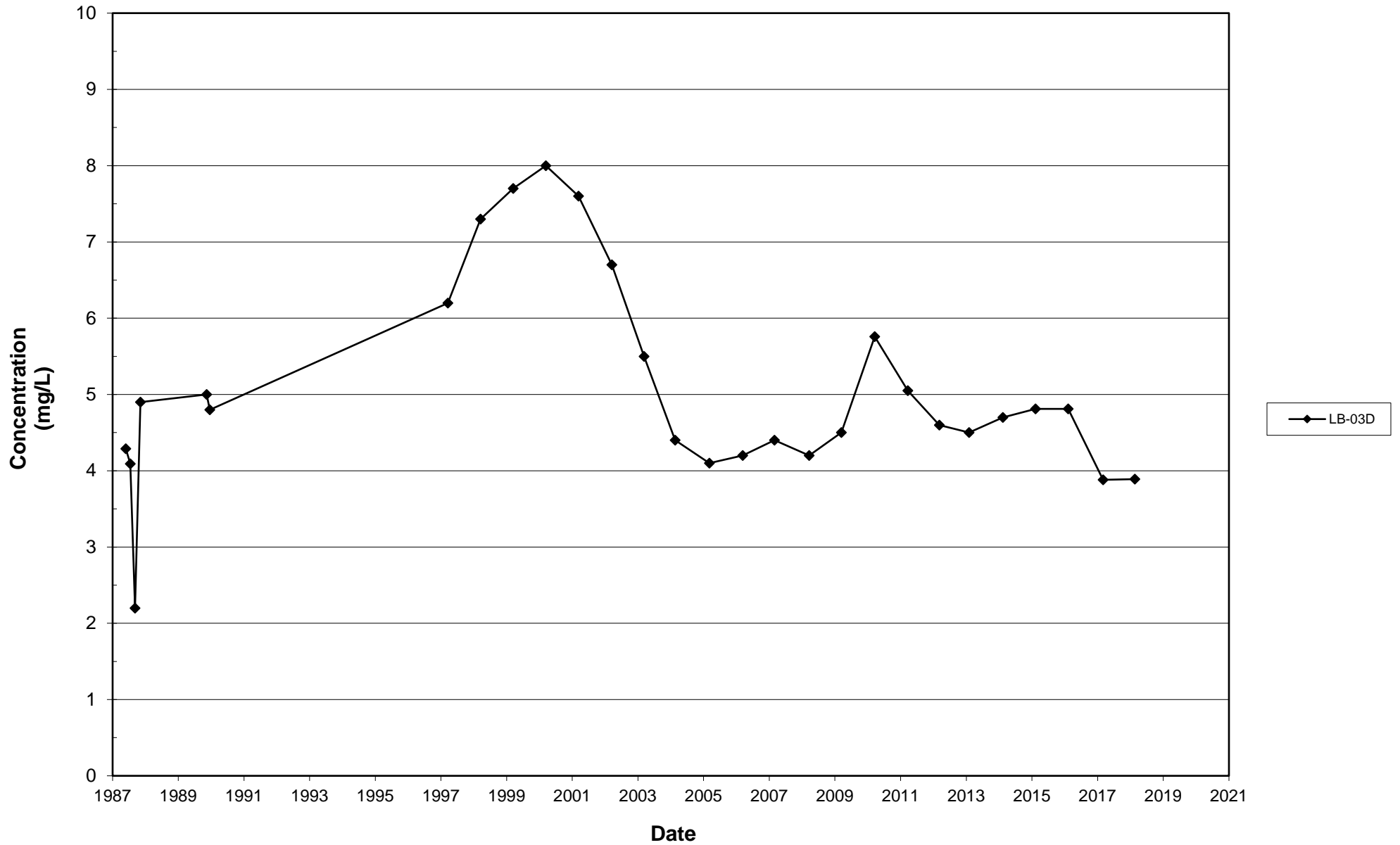
Leichner Landfill
Nitrate, LB-01D
1987 - 2018



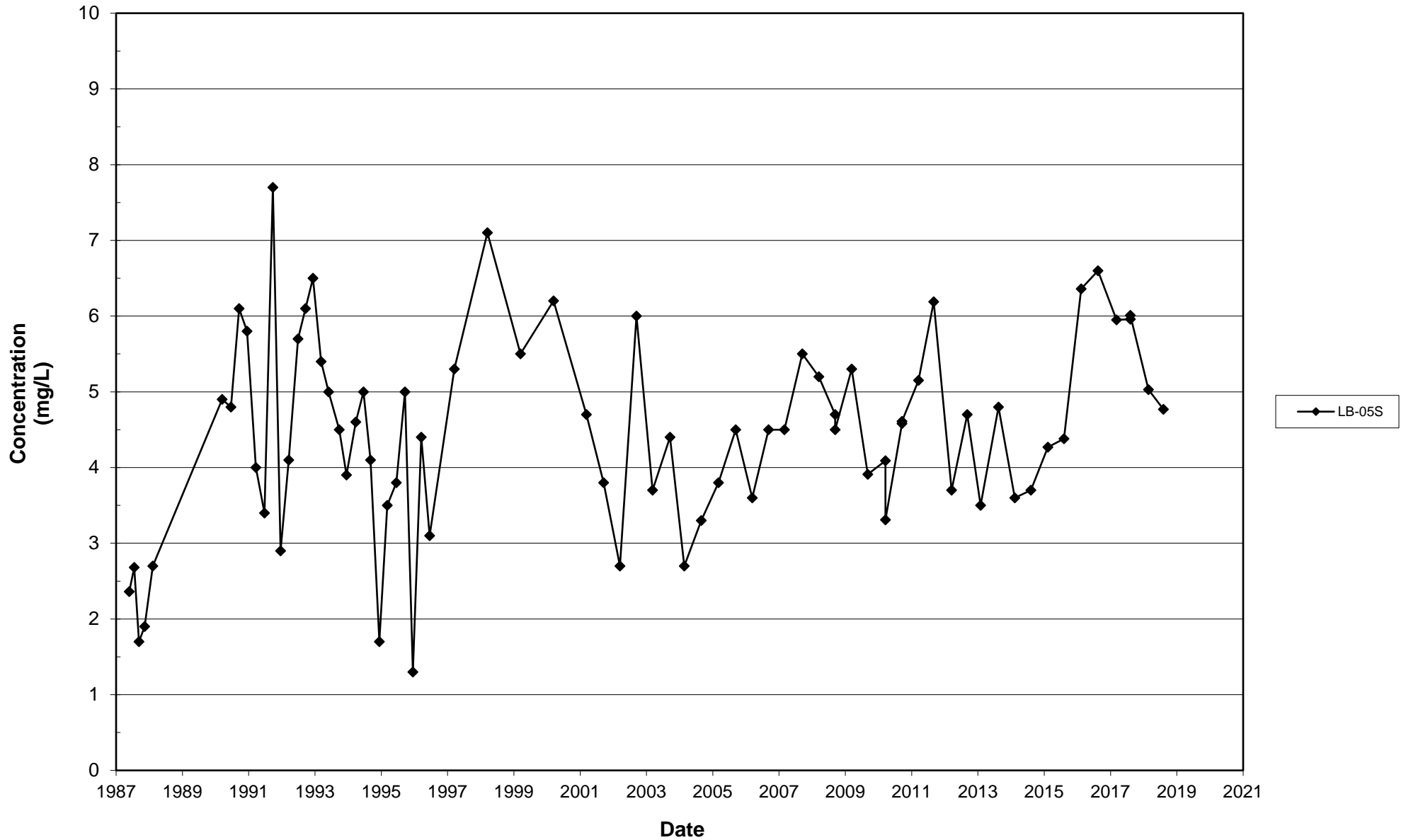
Leichner Landfill
Nitrate, LB-03S
1987 - 2018



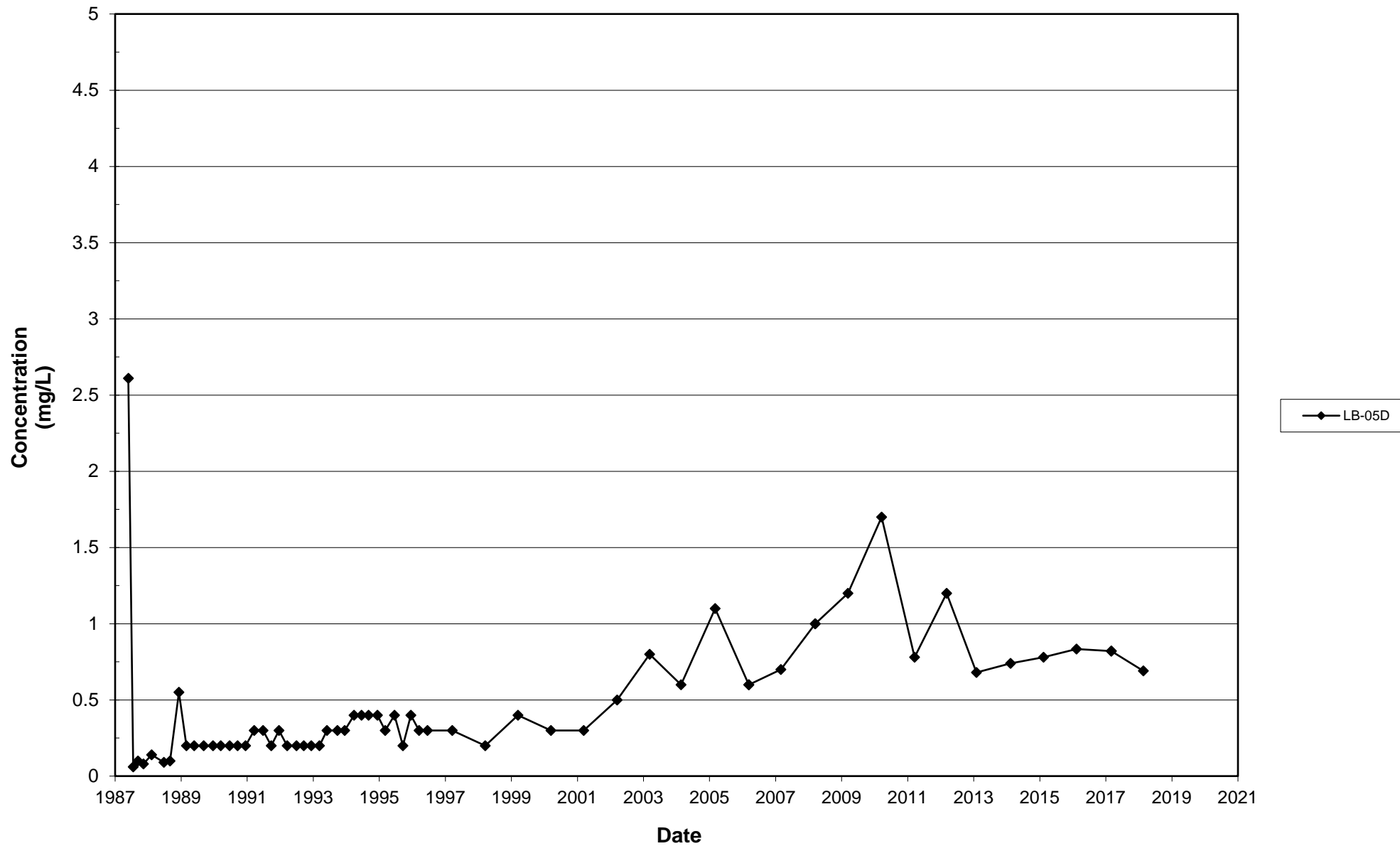
Leichner Landfill
Nitrate, LB-03D
1987 - 2018



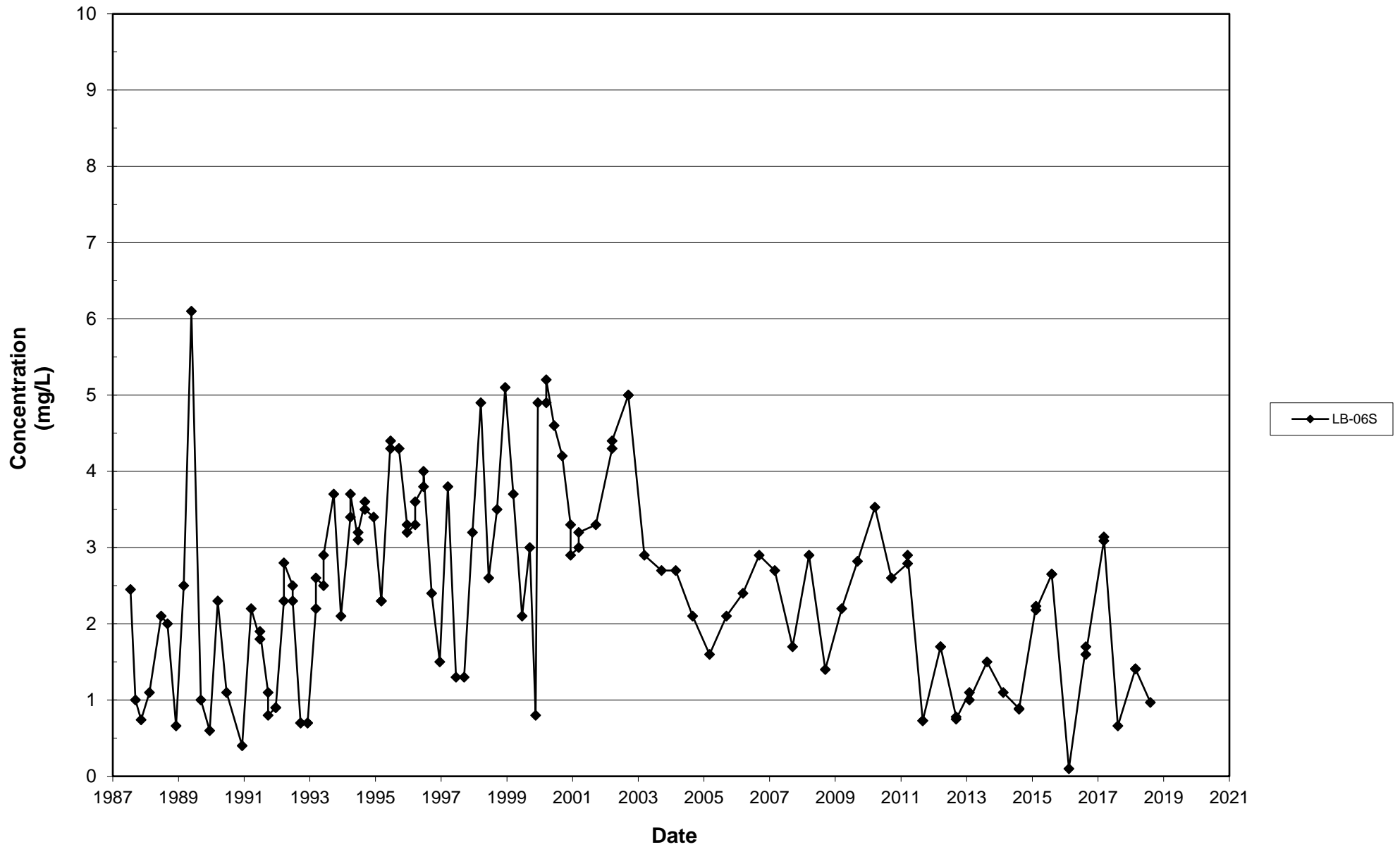
Leichner Landfill
Nitrate, LB-05S
1987 - 2018



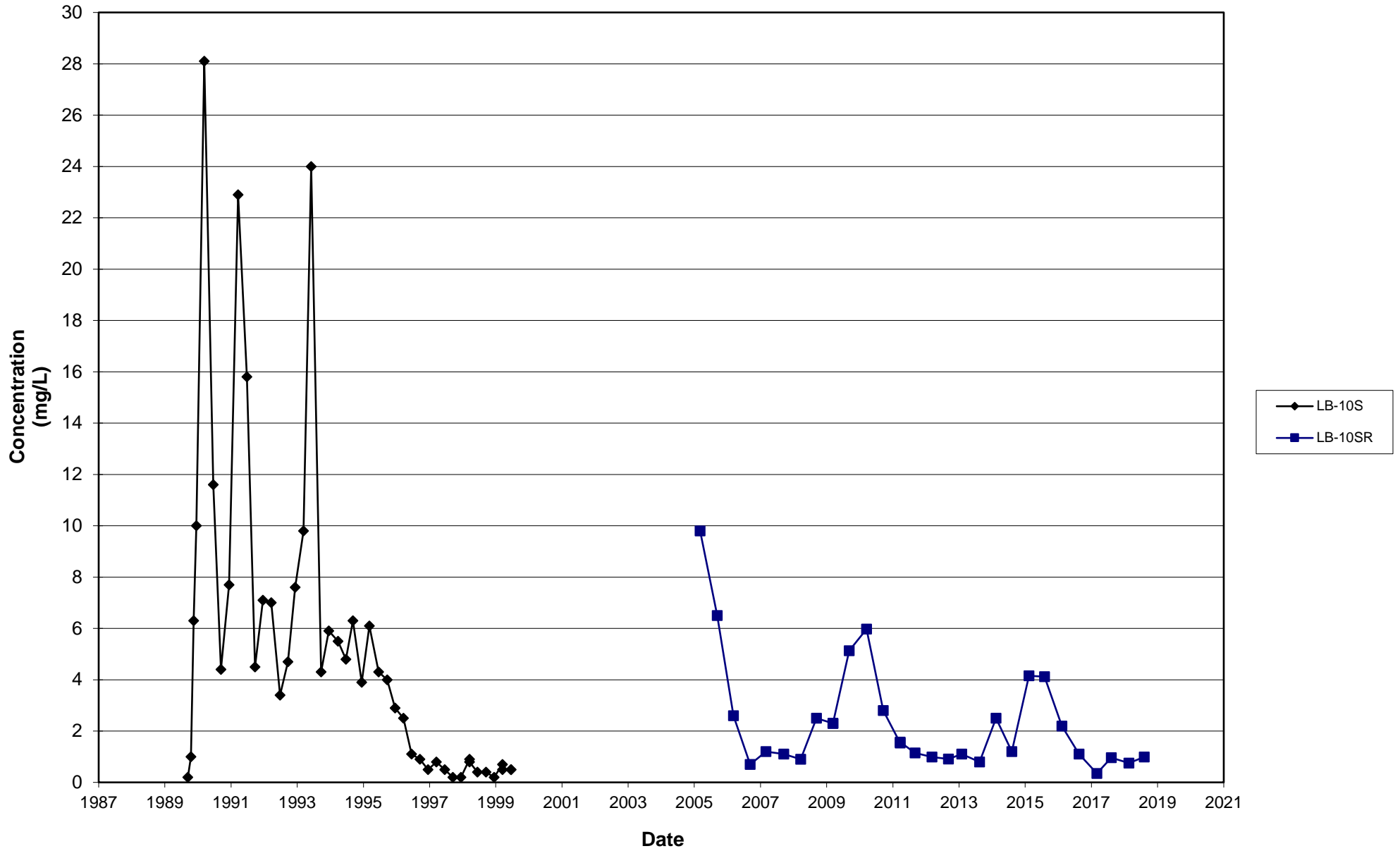
Leichner Landfill
Nitrate, LB-05D
1987 - 2018



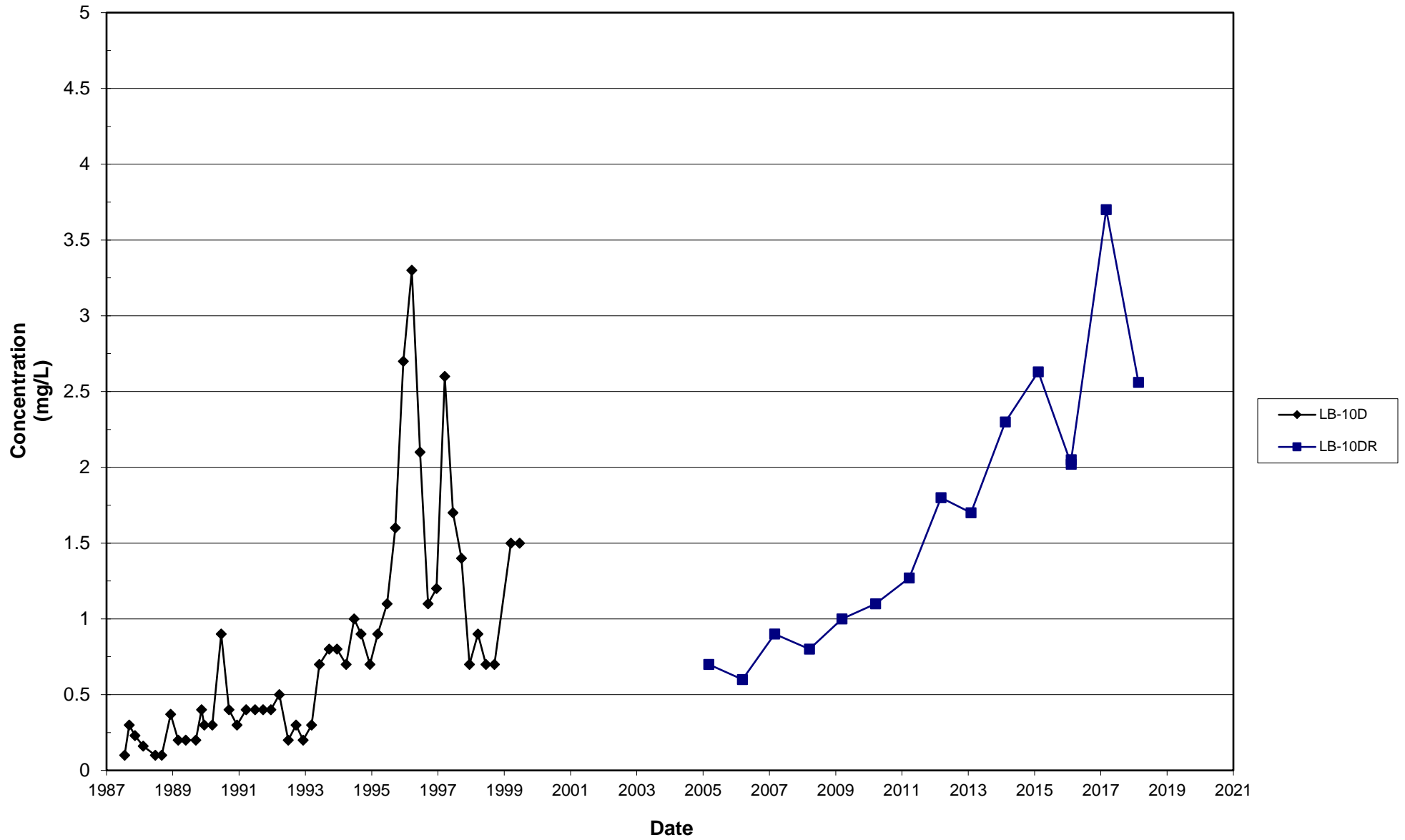
Leichner Landfill
Nitrate, LB-06S
1987 - 2018



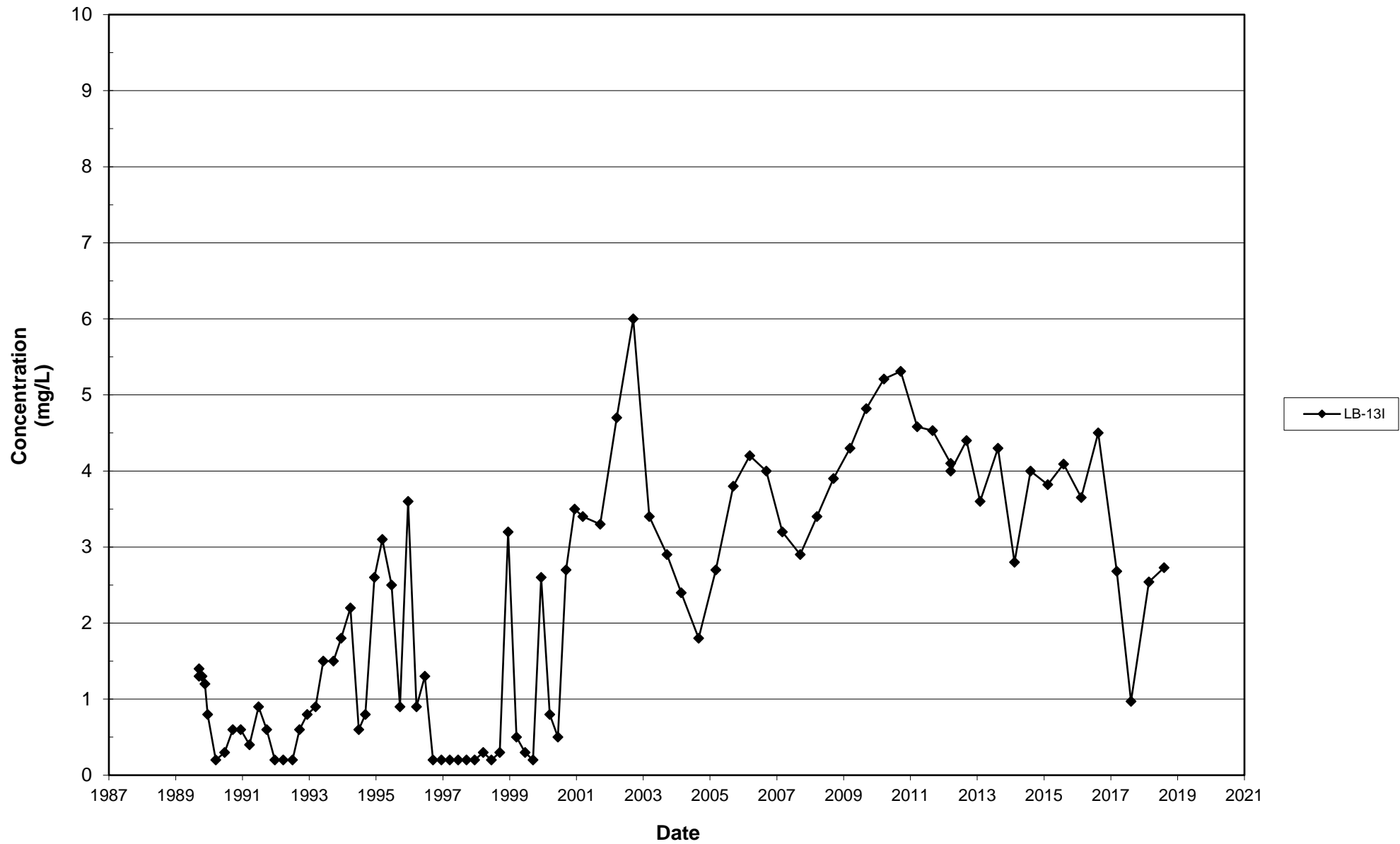
Leichner Landfill
Nitrate, LB-10S and LB-10SR
1987 - 2018



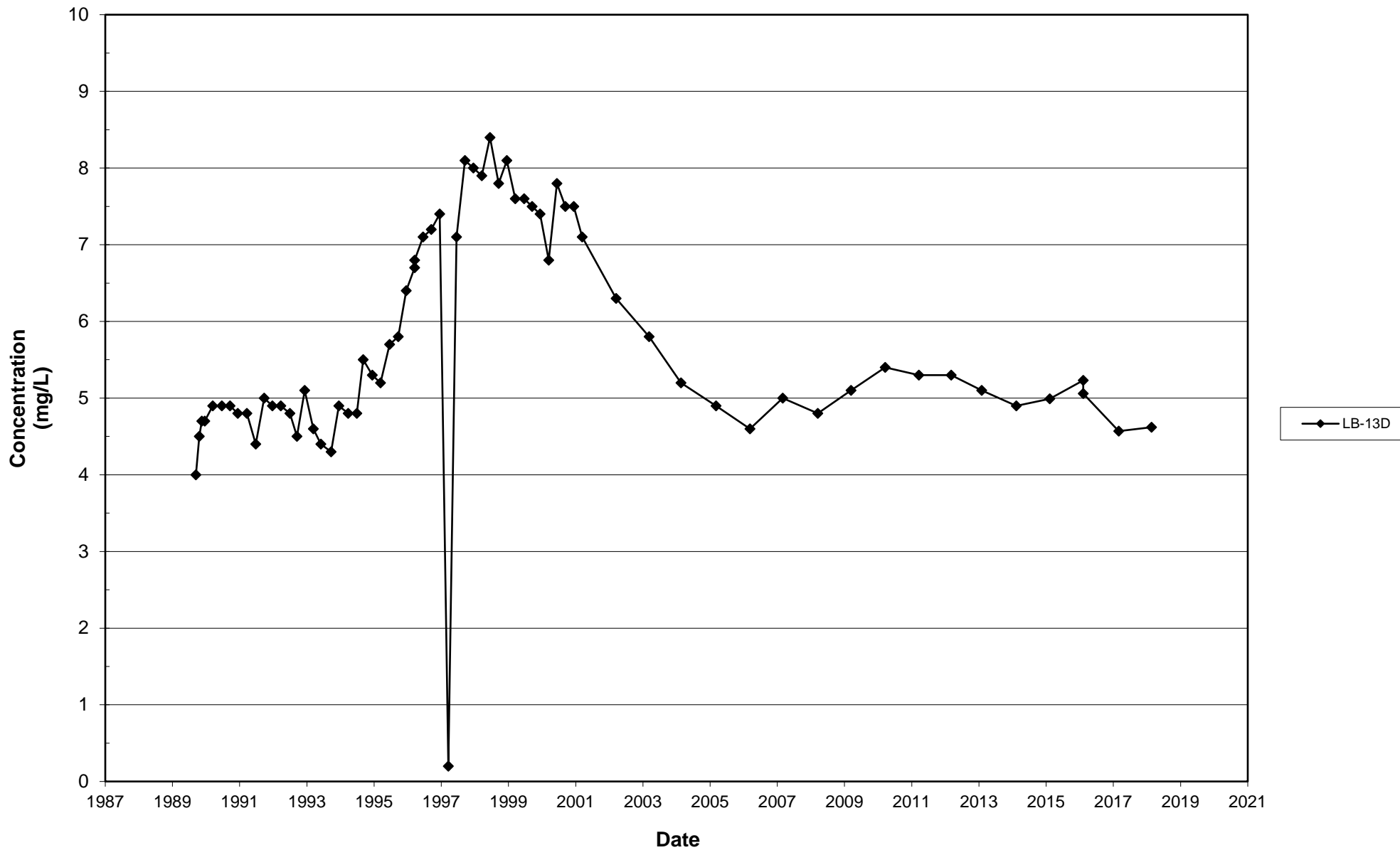
Leichner Landfill
Nitrate, LB-10D and LB-10DR
1987 - 2018



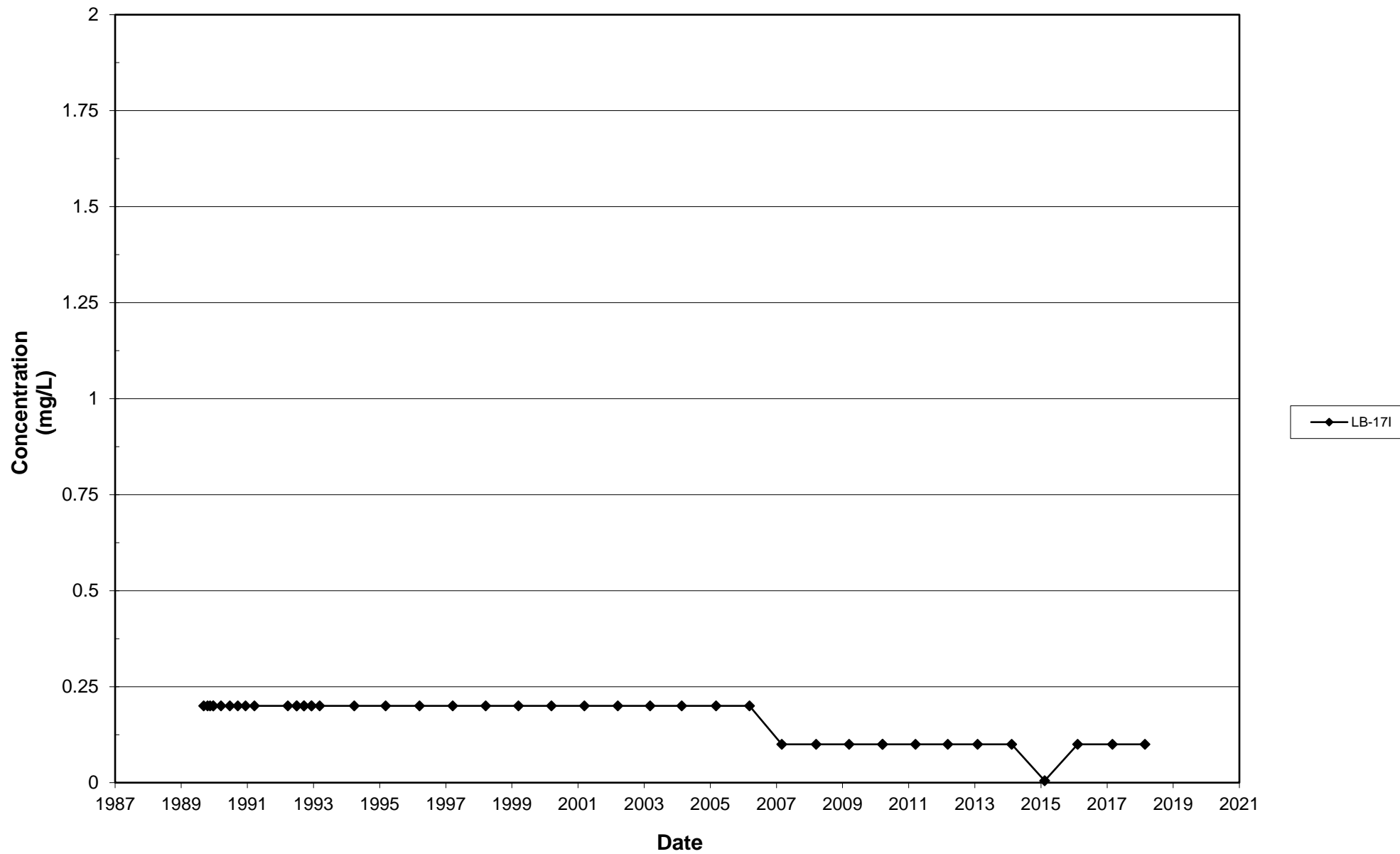
Leichner Landfill
Nitrate, LB-13I
1987 - 2018



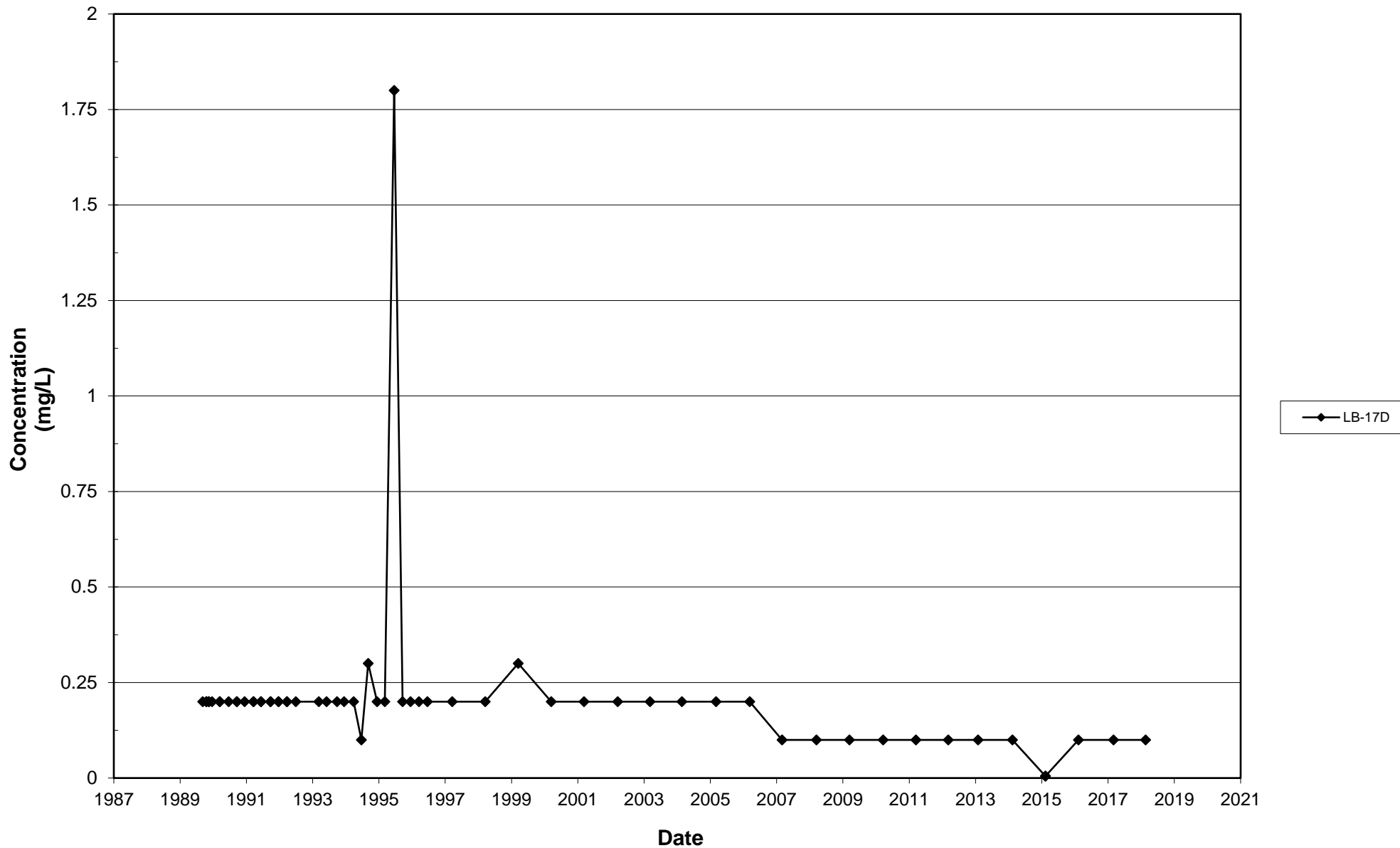
Leichner Landfill
Nitrate, LB-13D
1987 - 2018



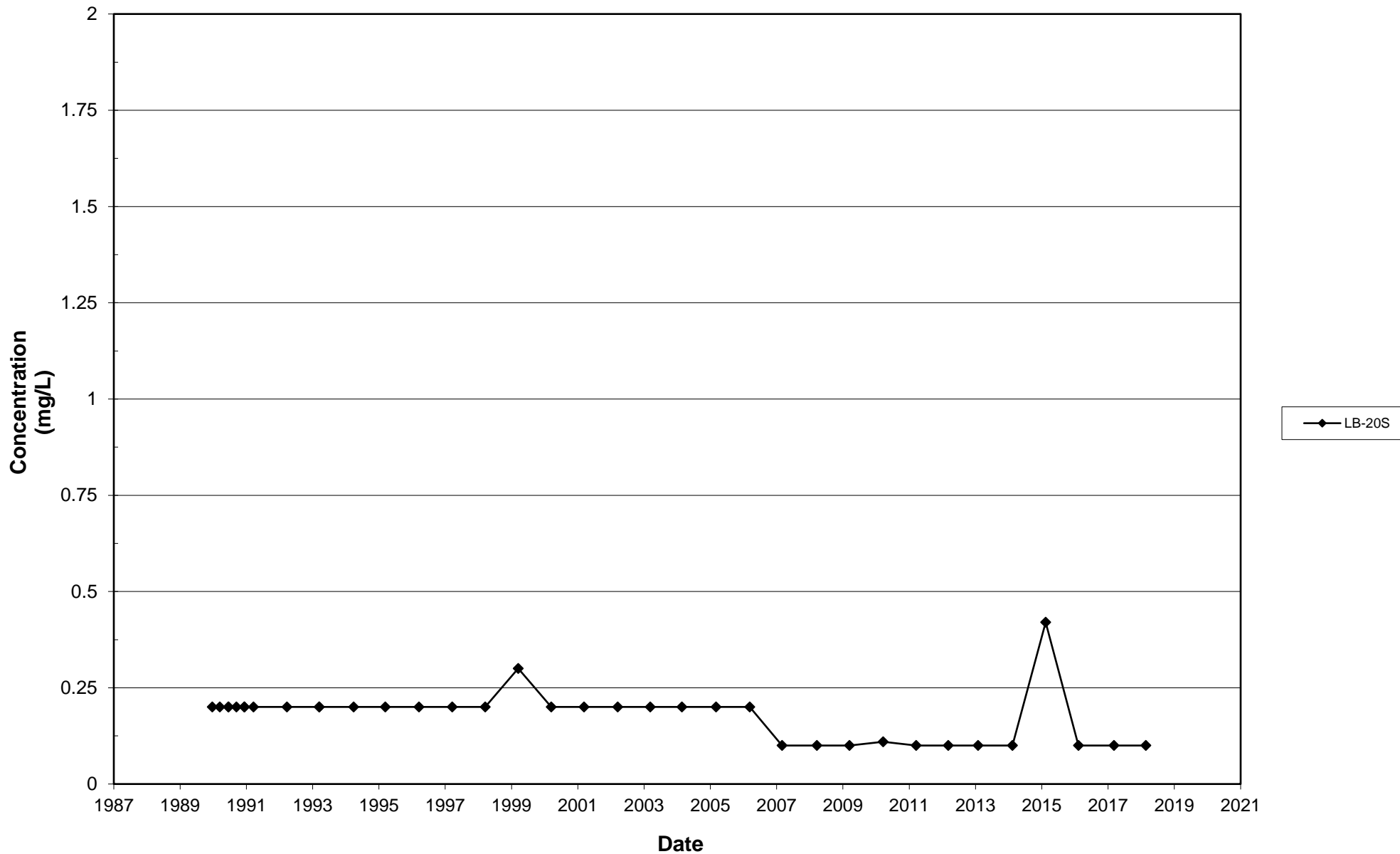
Leichner Landfill
Nitrate, LB-17I
1987 - 2018



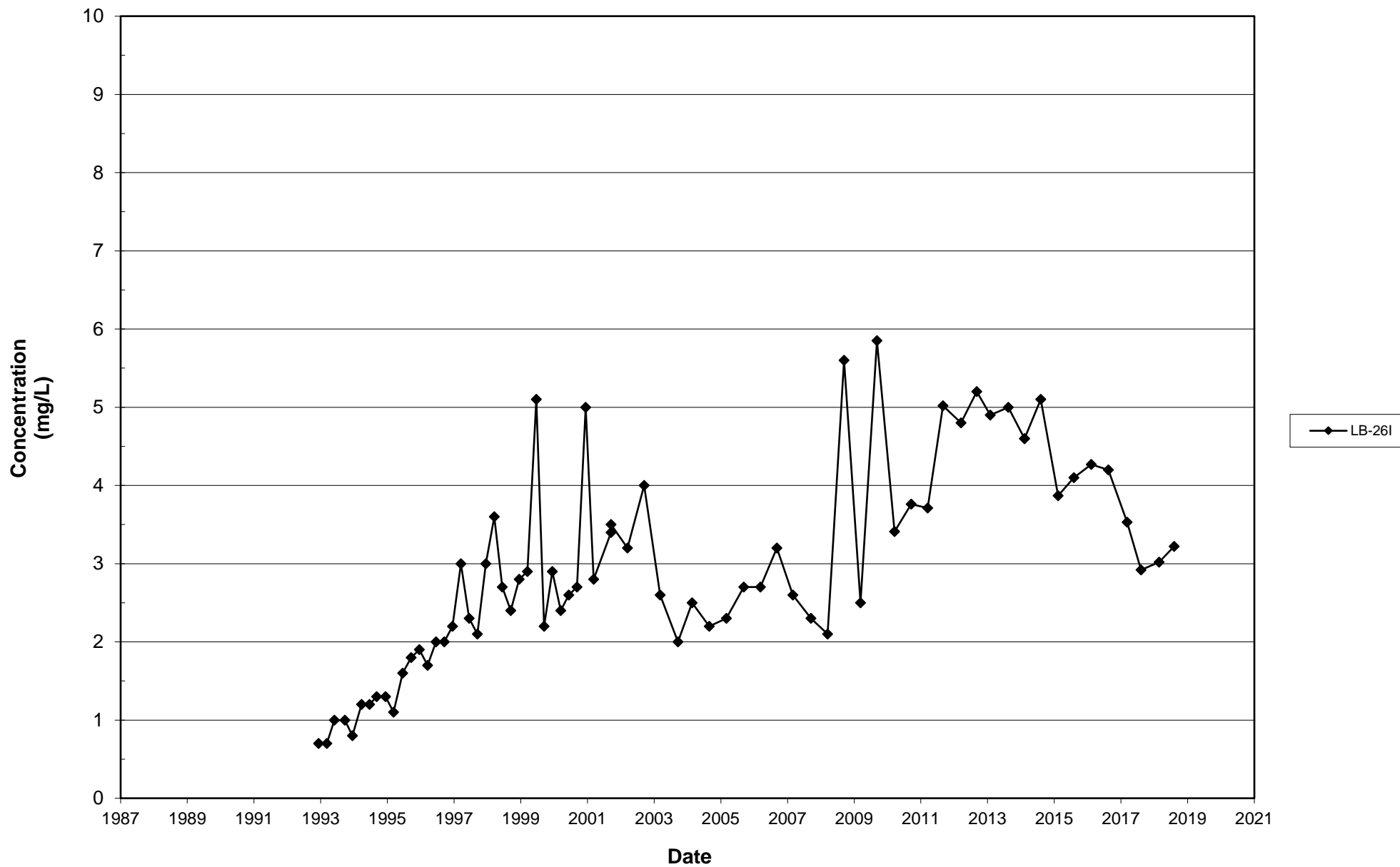
Leichner Landfill
Nitrate, LB-17D
1987 - 2018



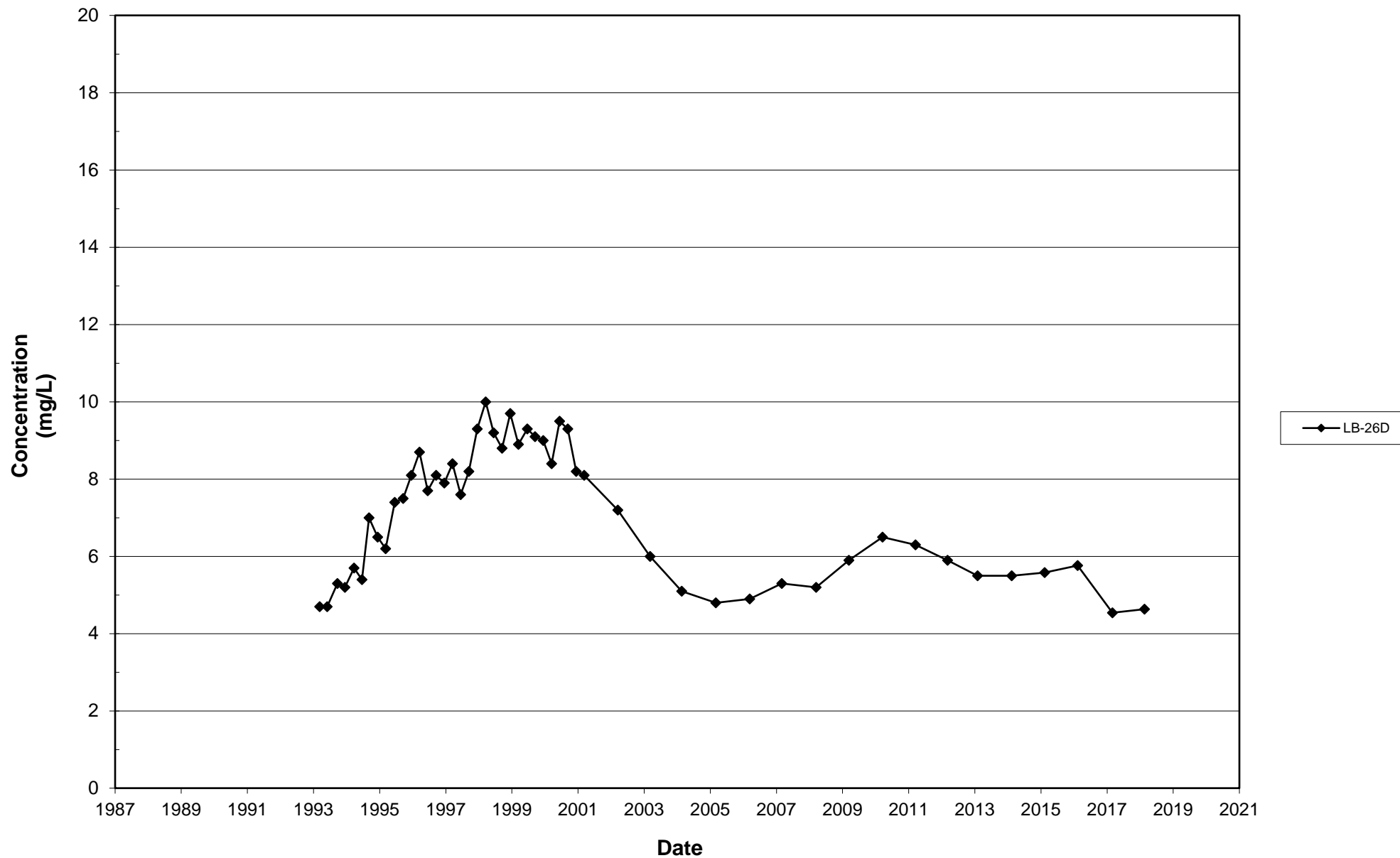
Leichner Landfill
Nitrate, LB-20S
1987 - 2018



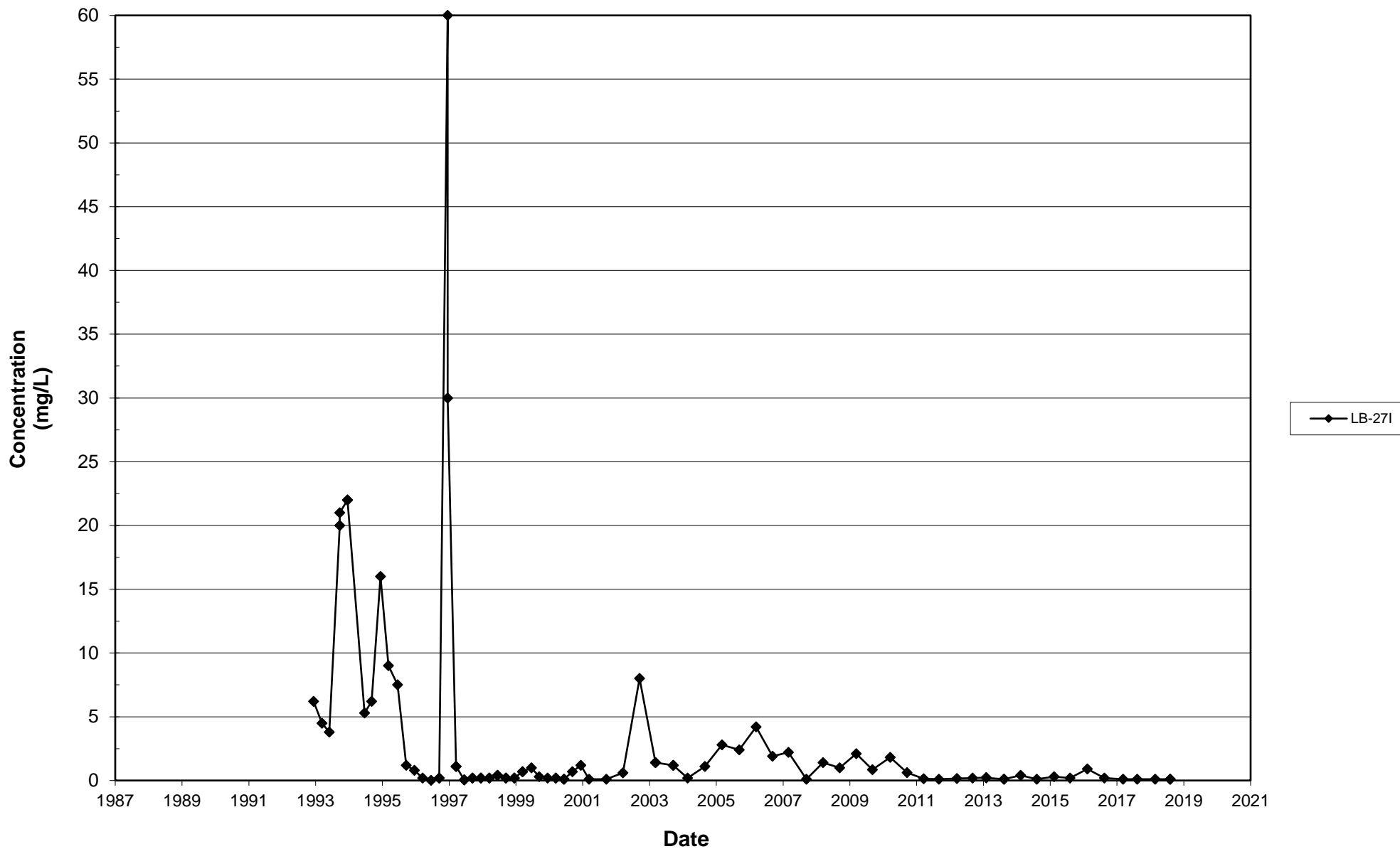
Leichner Landfill
Nitrate, LB-26I
1987 - 2018



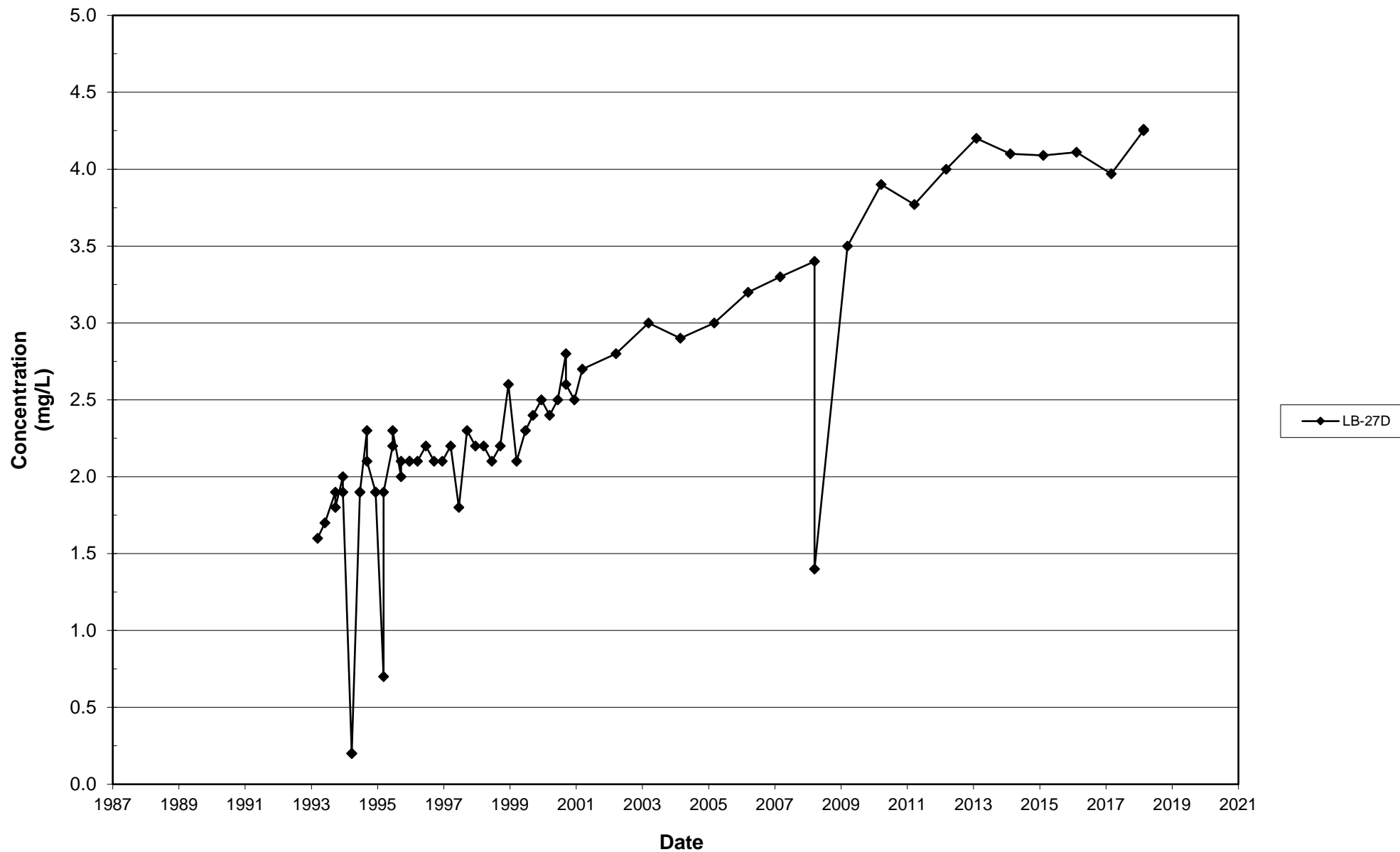
Leichner Landfill
Nitrate, LB-26D
1987 - 2018



Leichner Landfill
Nitrate, LB-27I
1987 - 2018

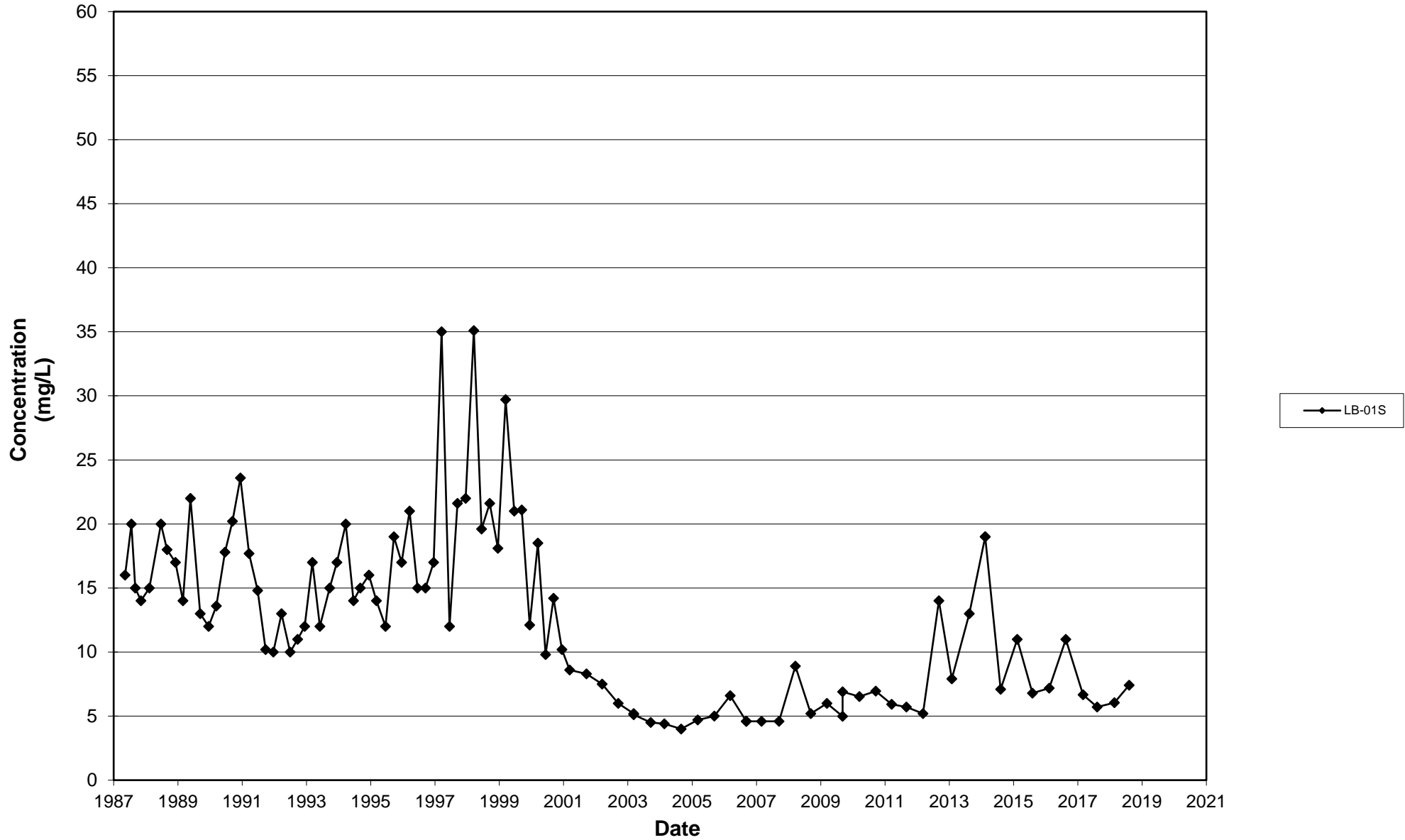


Leichner Landfill
Nitrate, LB-27D
1987 - 2018

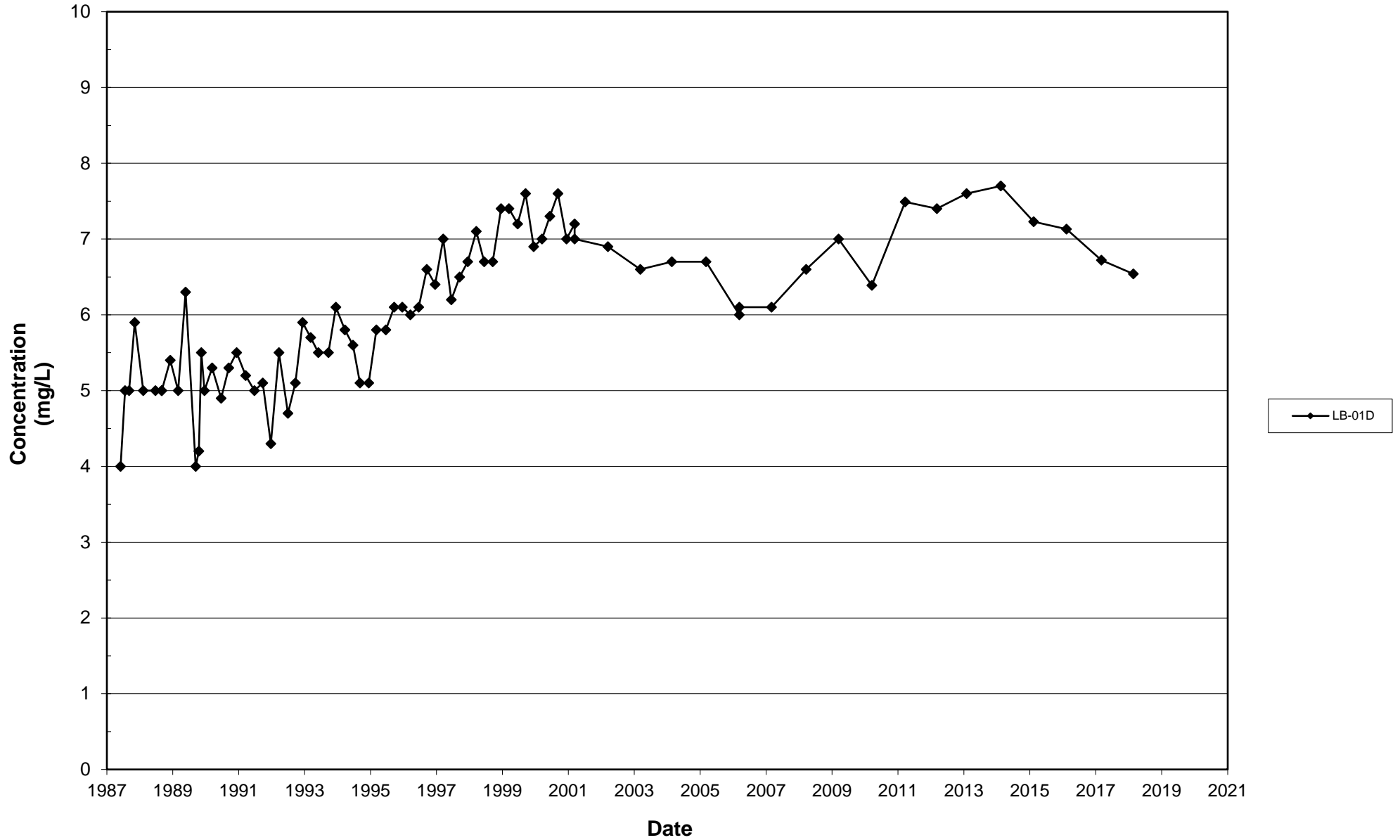


Chloride

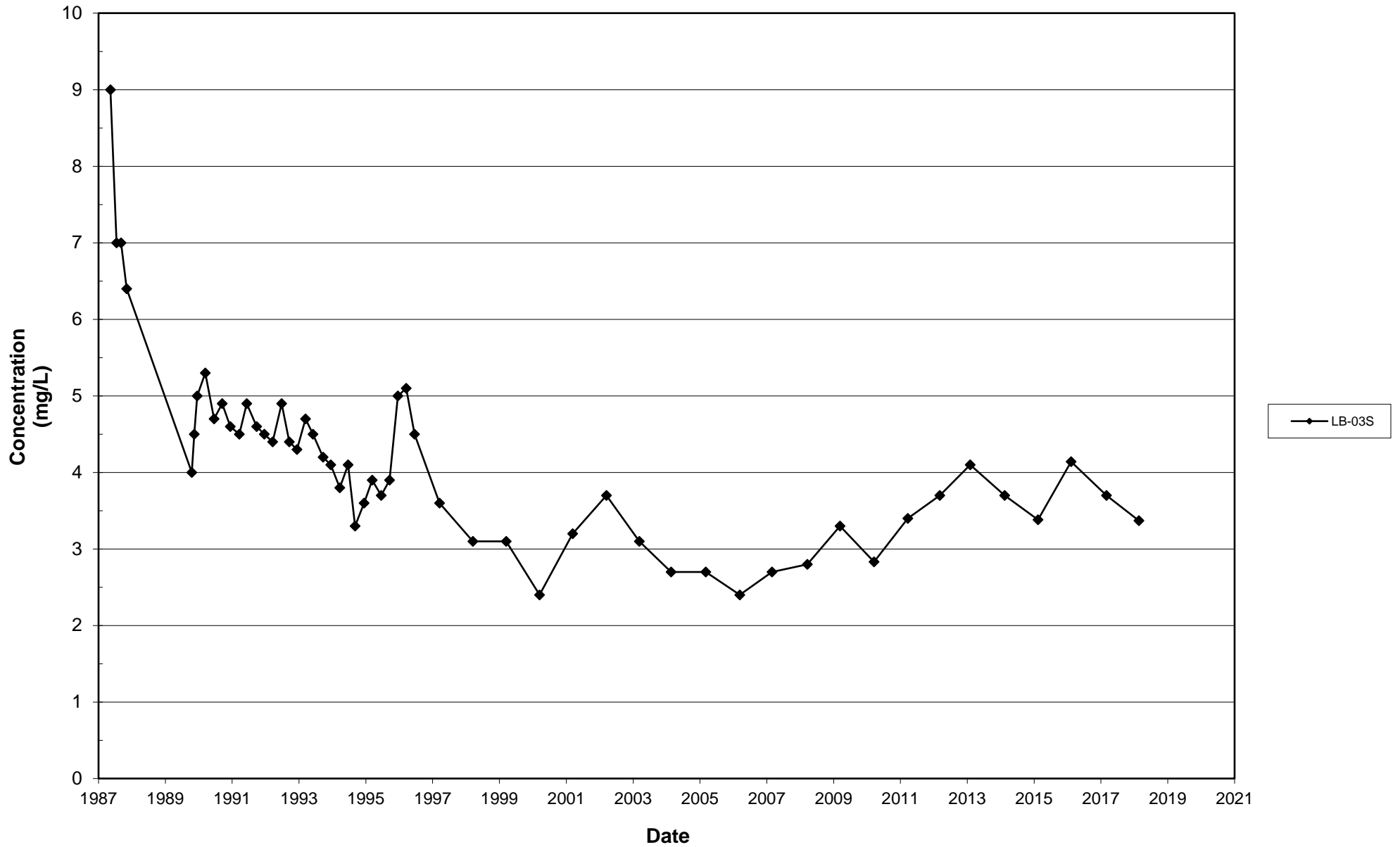
Leichner Landfill
Chloride, LB-01S
1987 - 2018



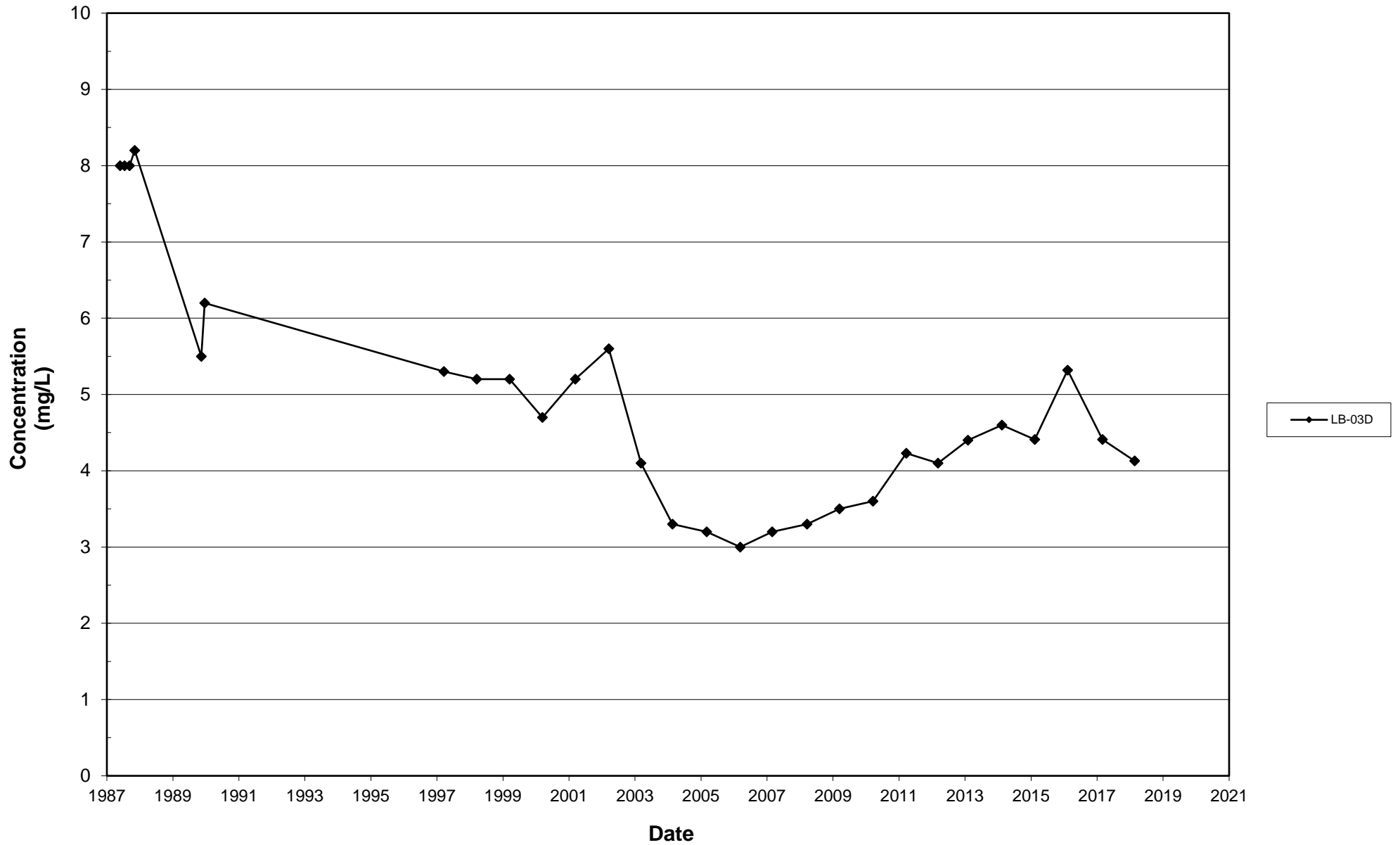
Leichner Landfill
Chloride, LB-01D
1987 - 2018



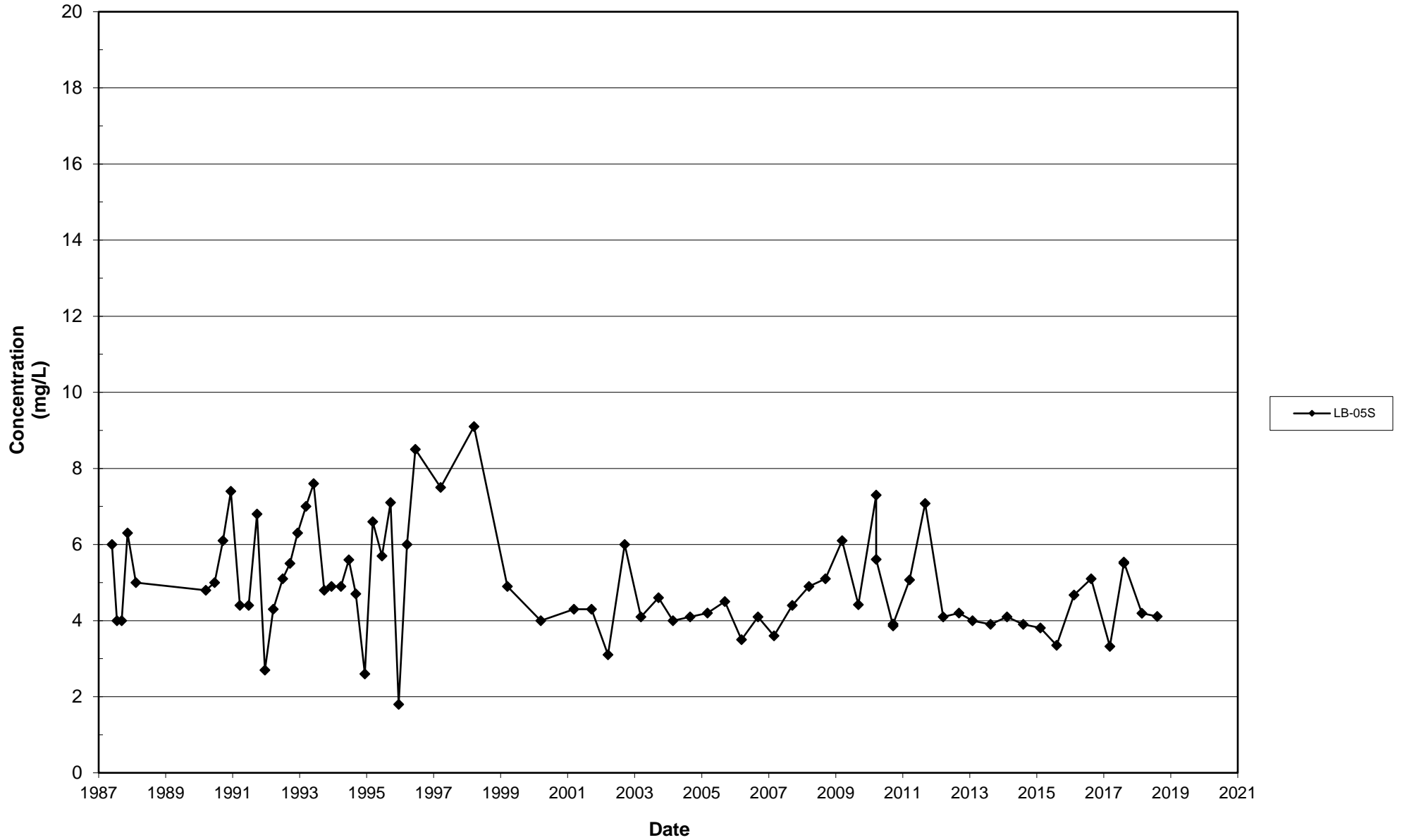
Leichner Landfill
Chloride, LB-03S
1987 - 2018



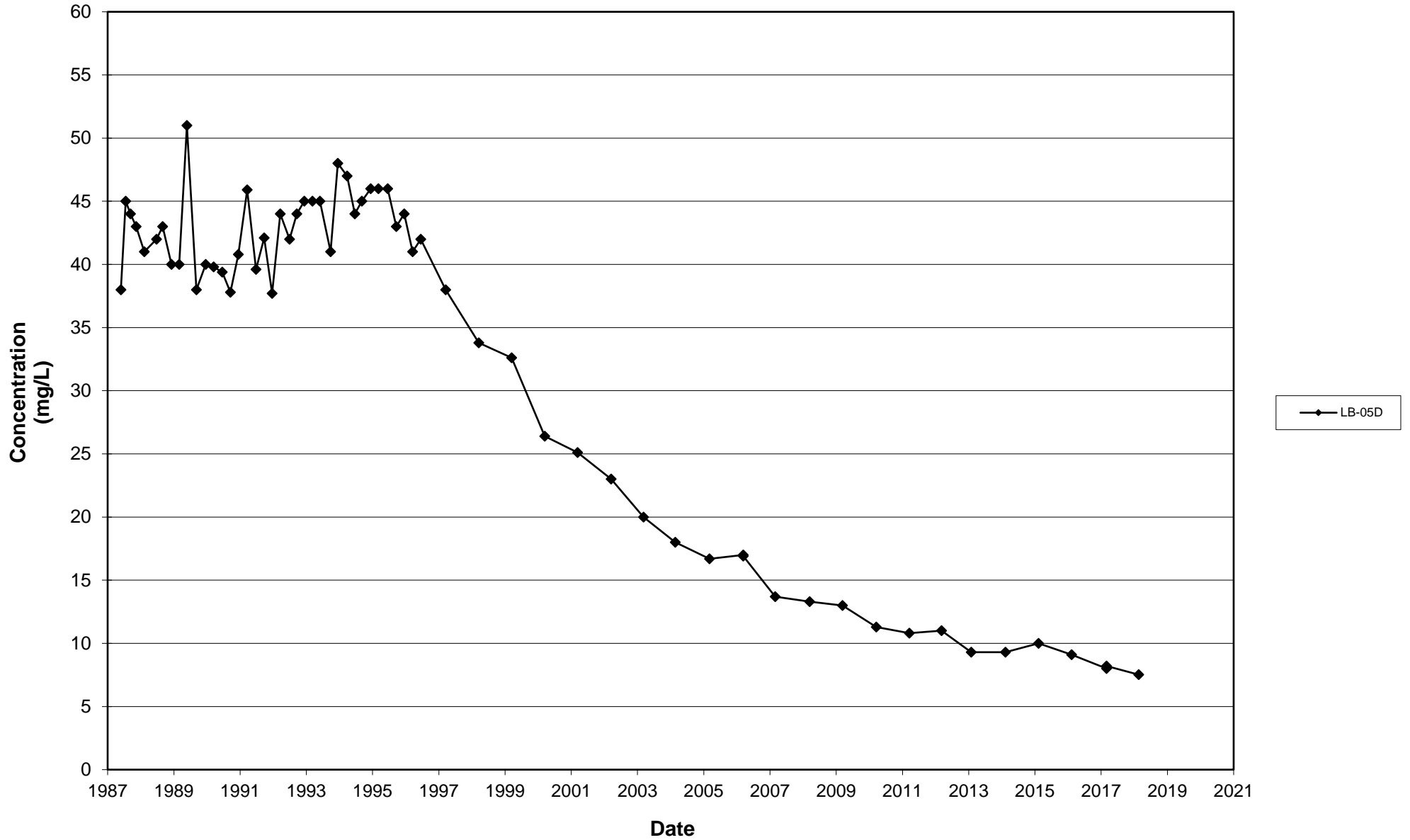
Leichner Landfill
Chloride, LB-03D
1987 - 2018



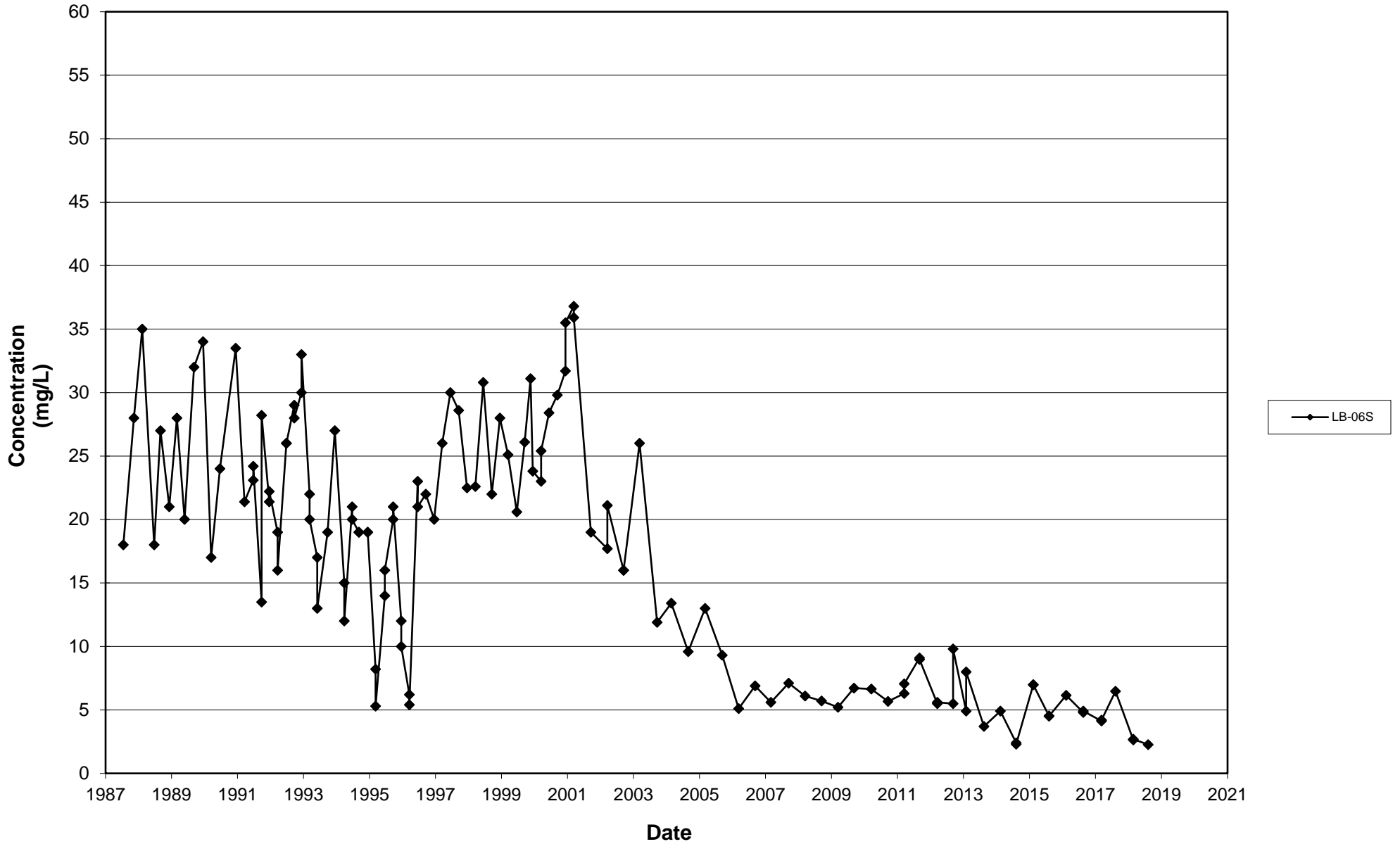
Leichner Landfill
Chloride, LB-05S
1987 - 2018



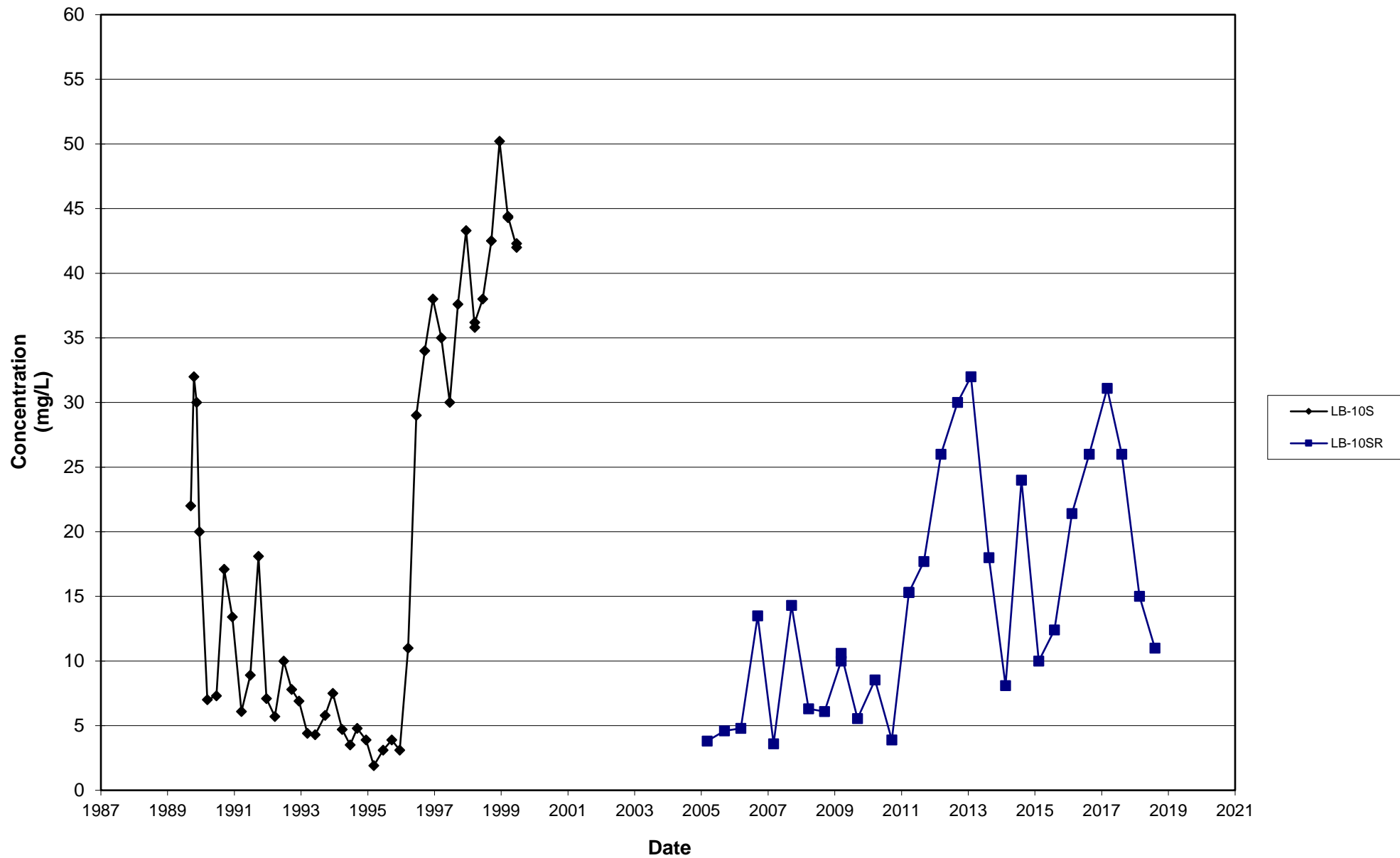
Leichner Landfill
Chloride, LB-05D
1987 - 2018



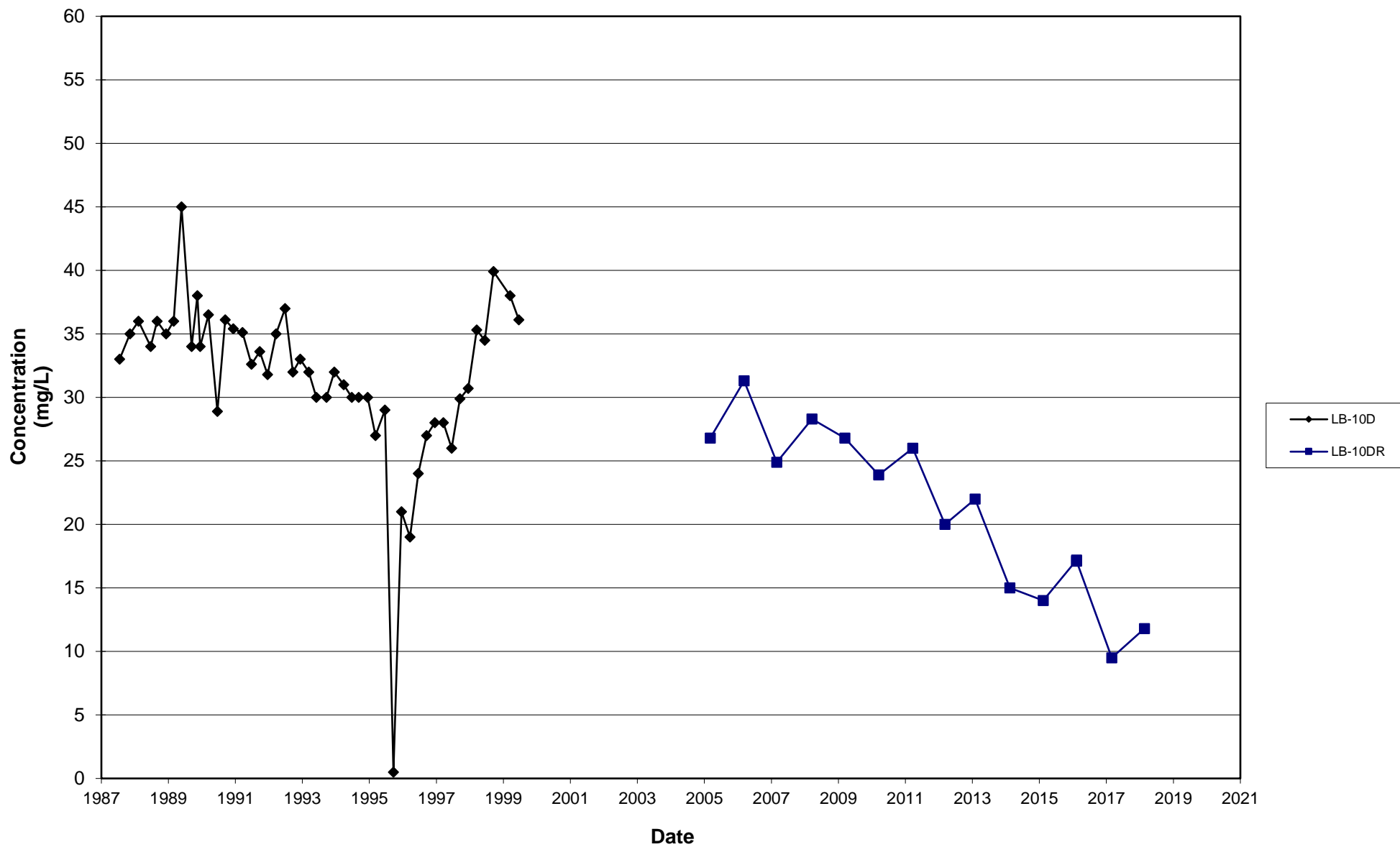
Leichner Landfill
Chloride, LB-06S
1987 - 2018



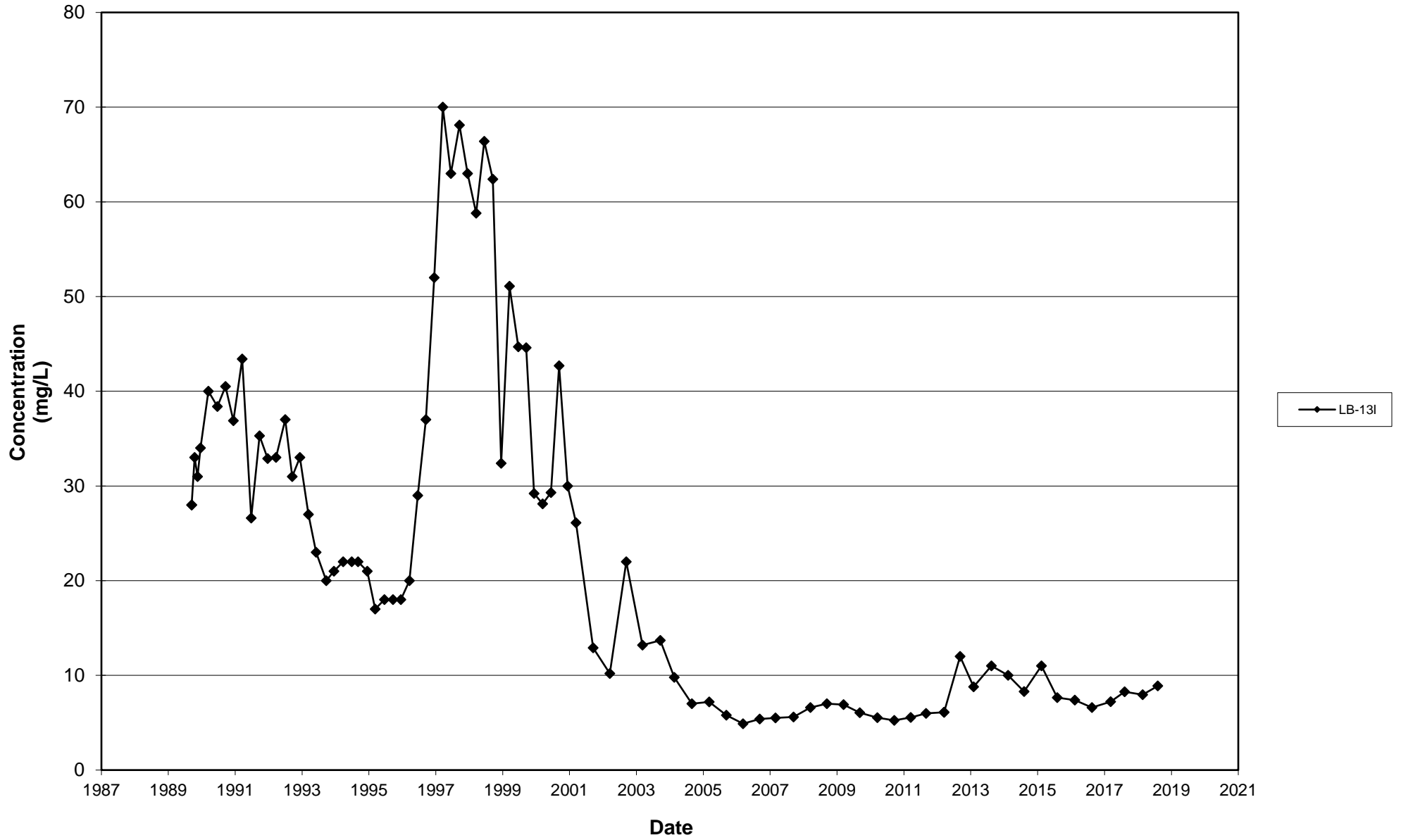
Leichner Landfill
Chloride, LB-10S and LB-10SR
1987 - 2018



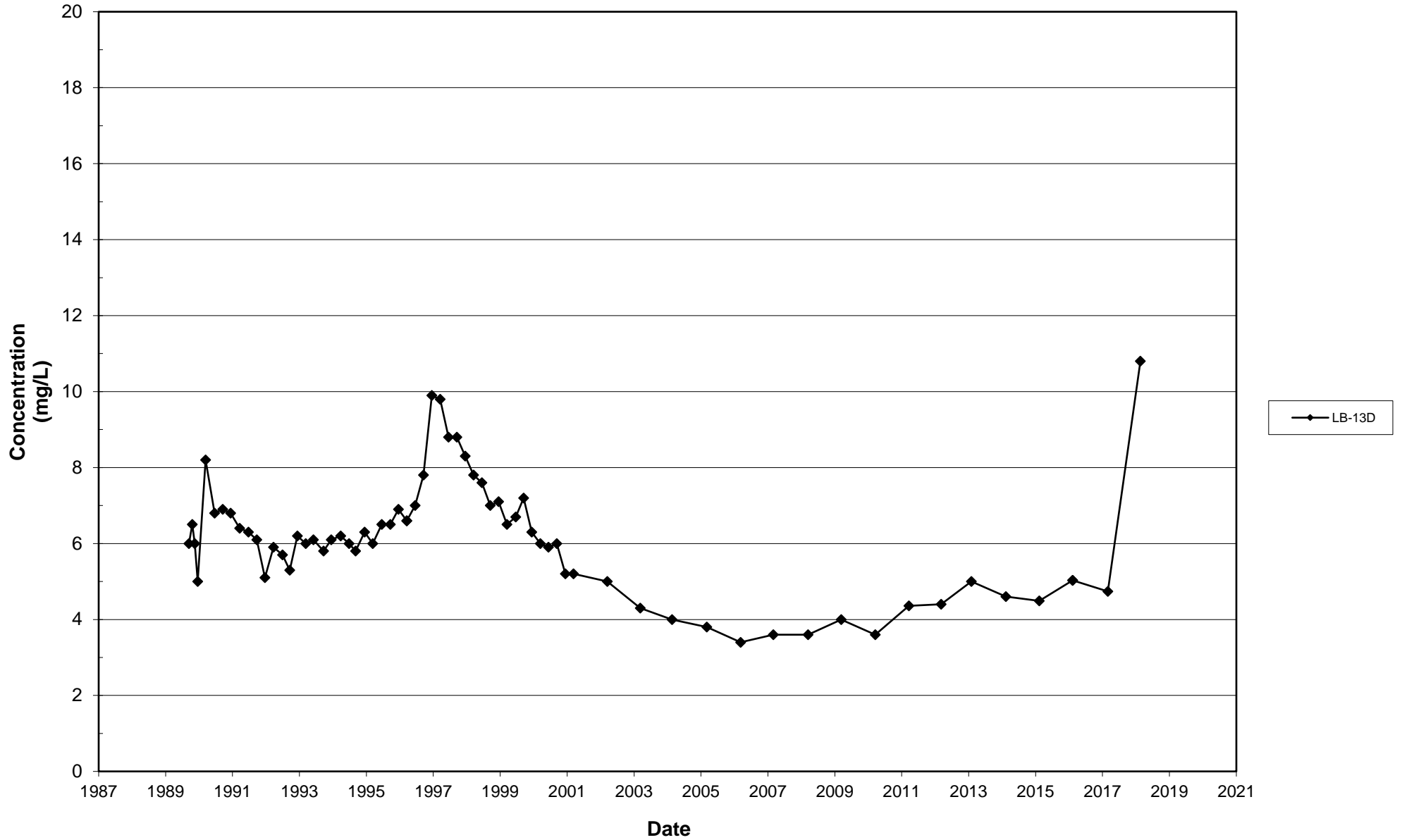
Leichner Landfill
Chloride, LB-10D and LB-10DR
1987 - 2018



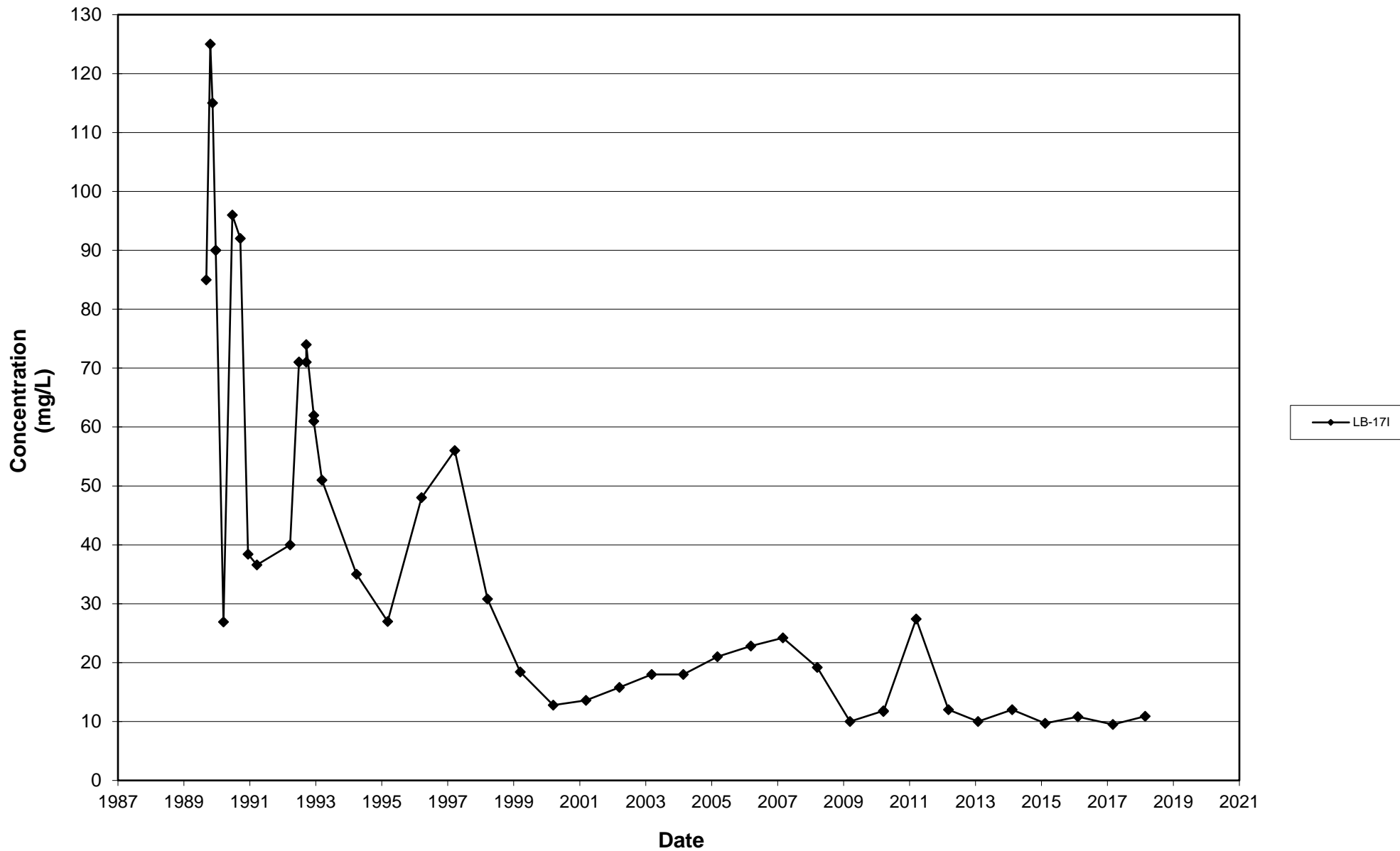
Leichner Landfill
Chloride, LB-13I
1987 - 2018



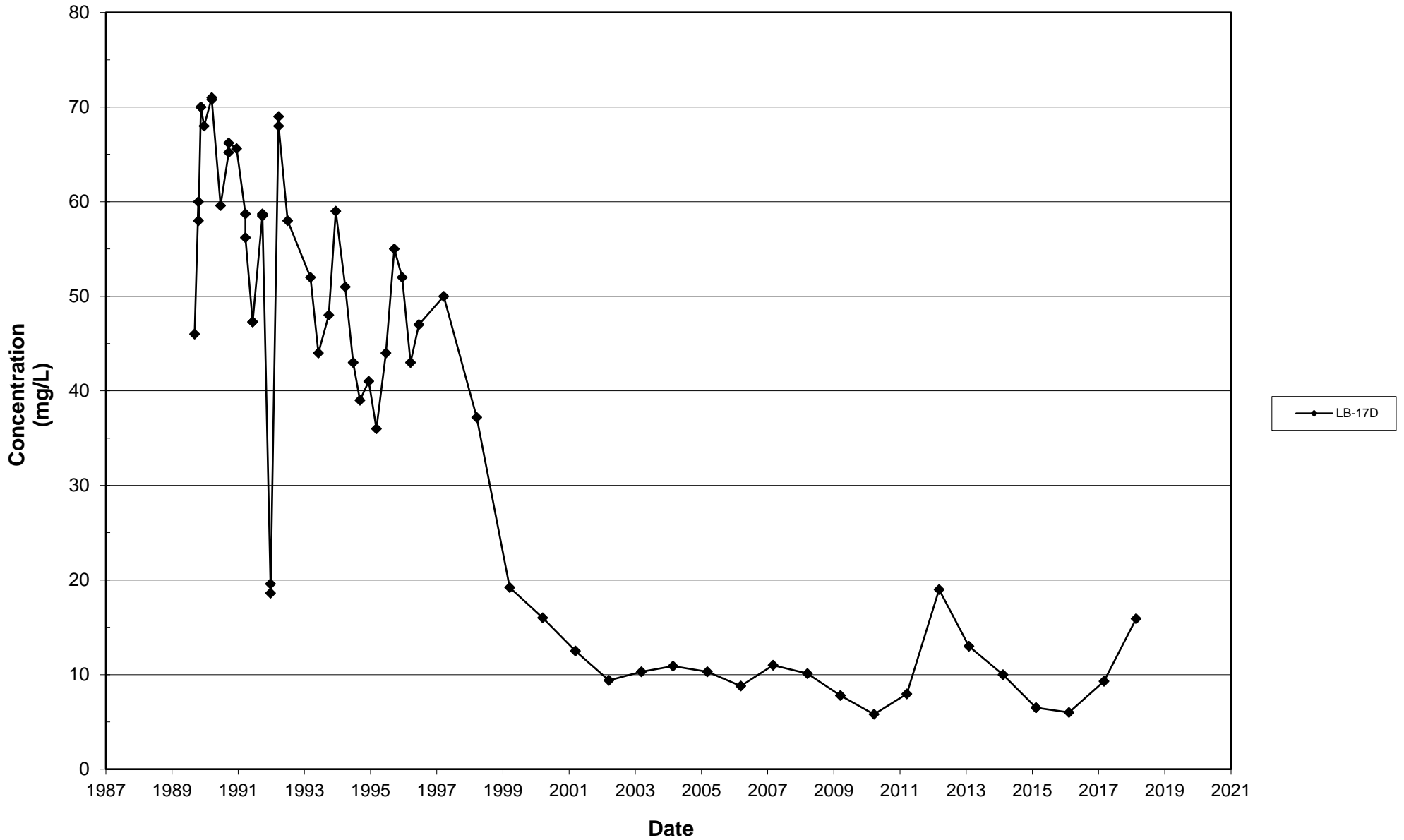
Leichner Landfill
Chloride, LB-13D
1987 - 2018



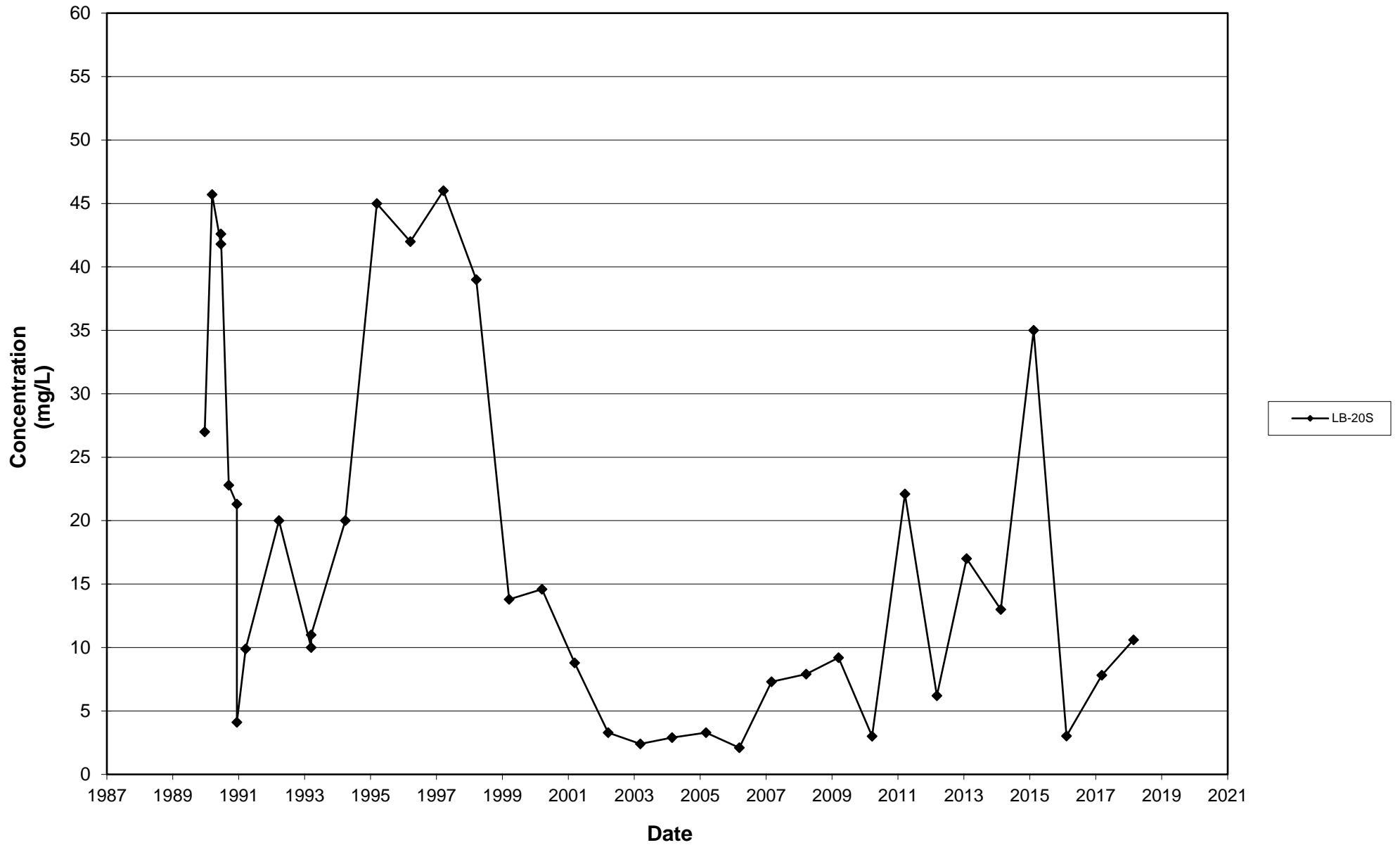
Leichner Landfill
Chloride, LB-17I
1987 - 2018



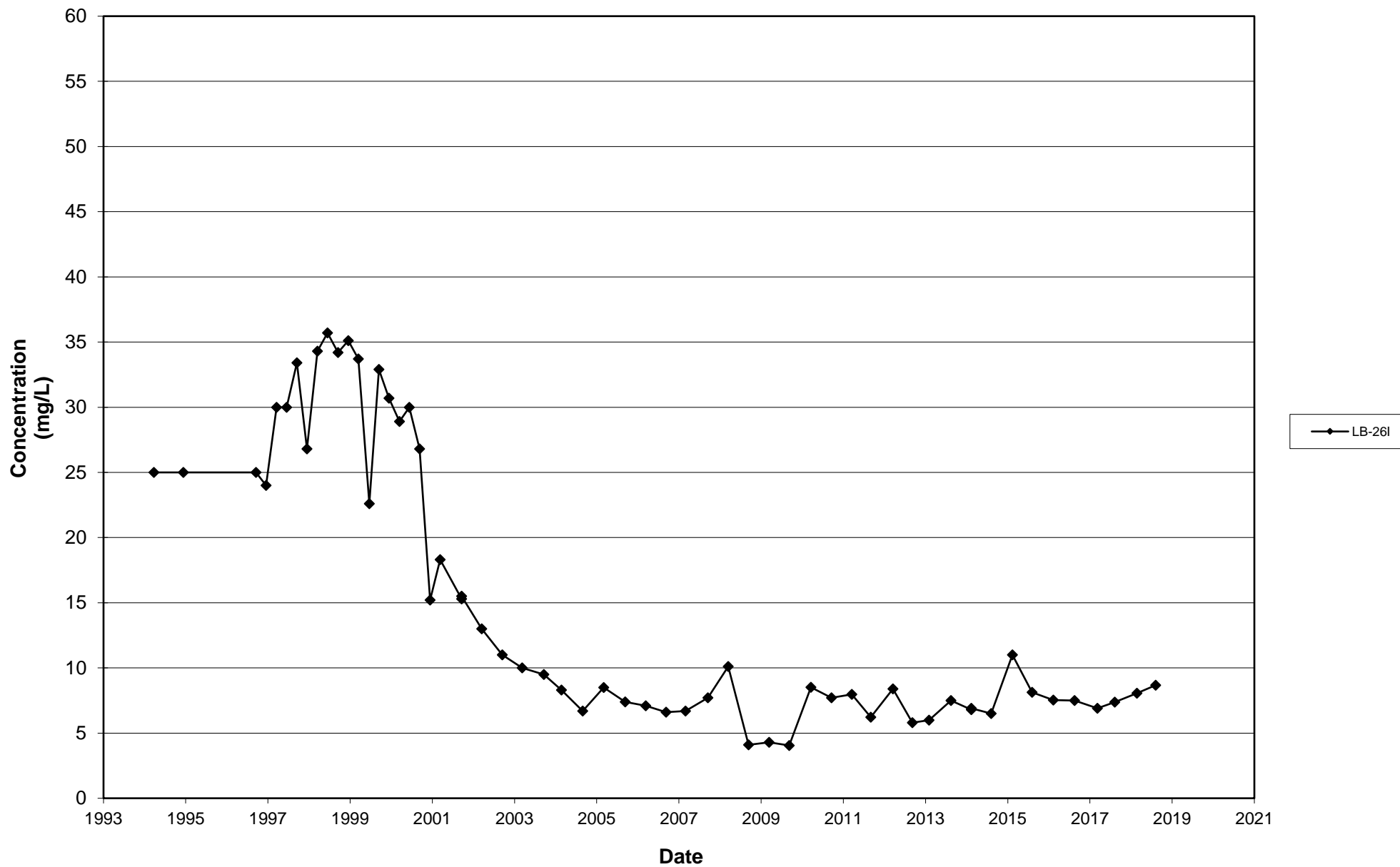
Leichner Landfill
Chloride, LB-17D
1987 - 2018



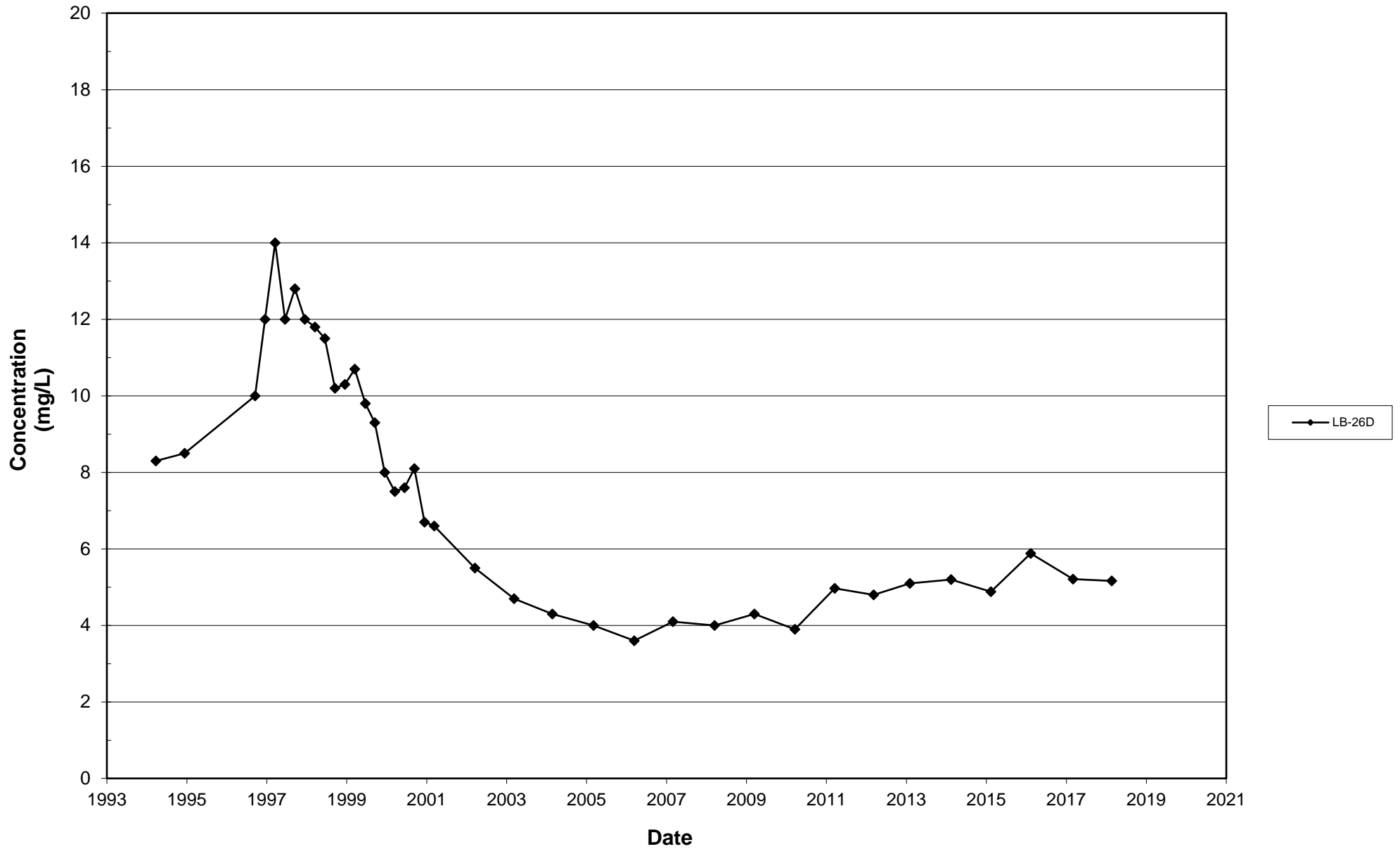
Leichner Landfill
Chloride, LB-20S
1987 - 2018



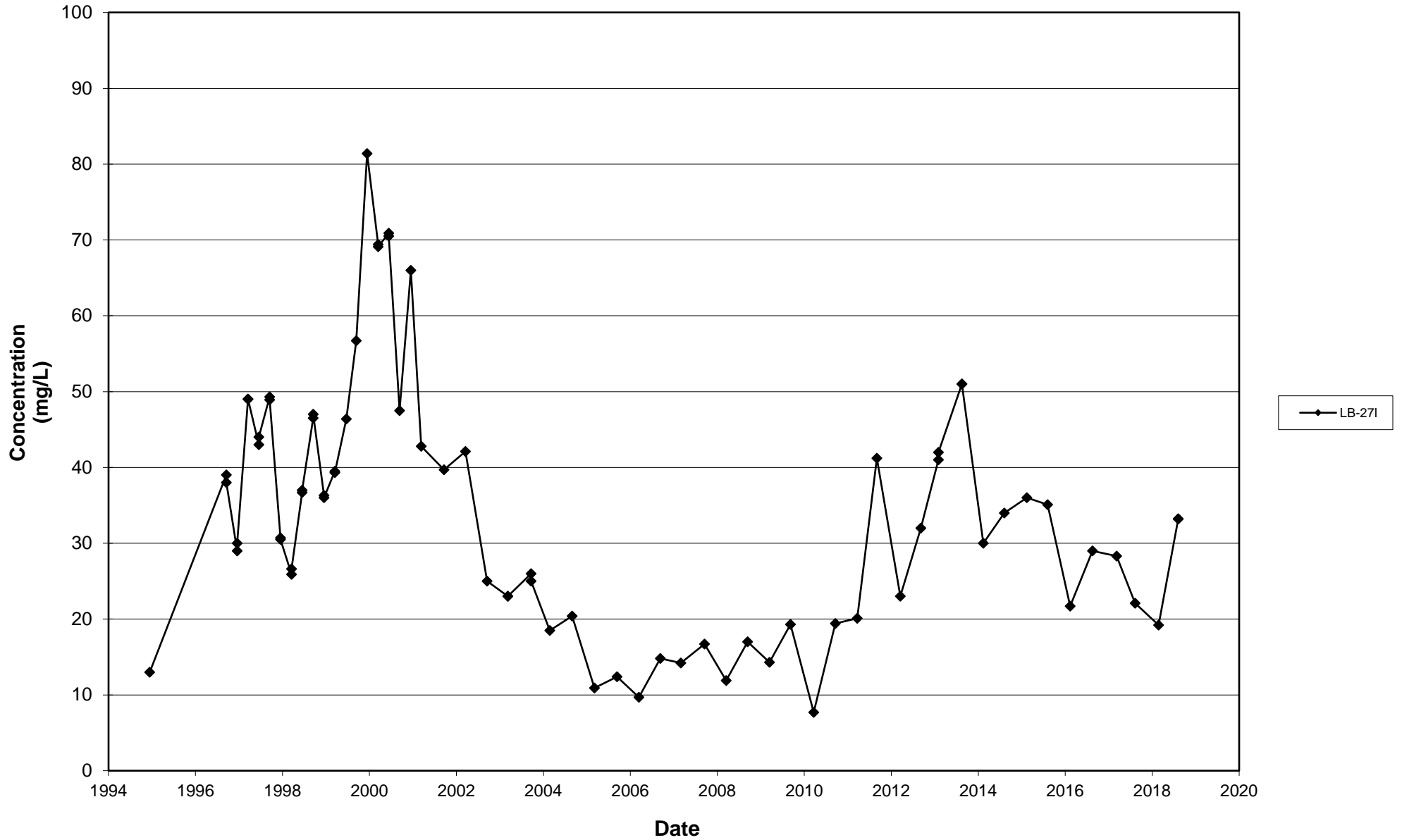
Leichner Landfill
Chloride, LB-26I
1987 - 2018



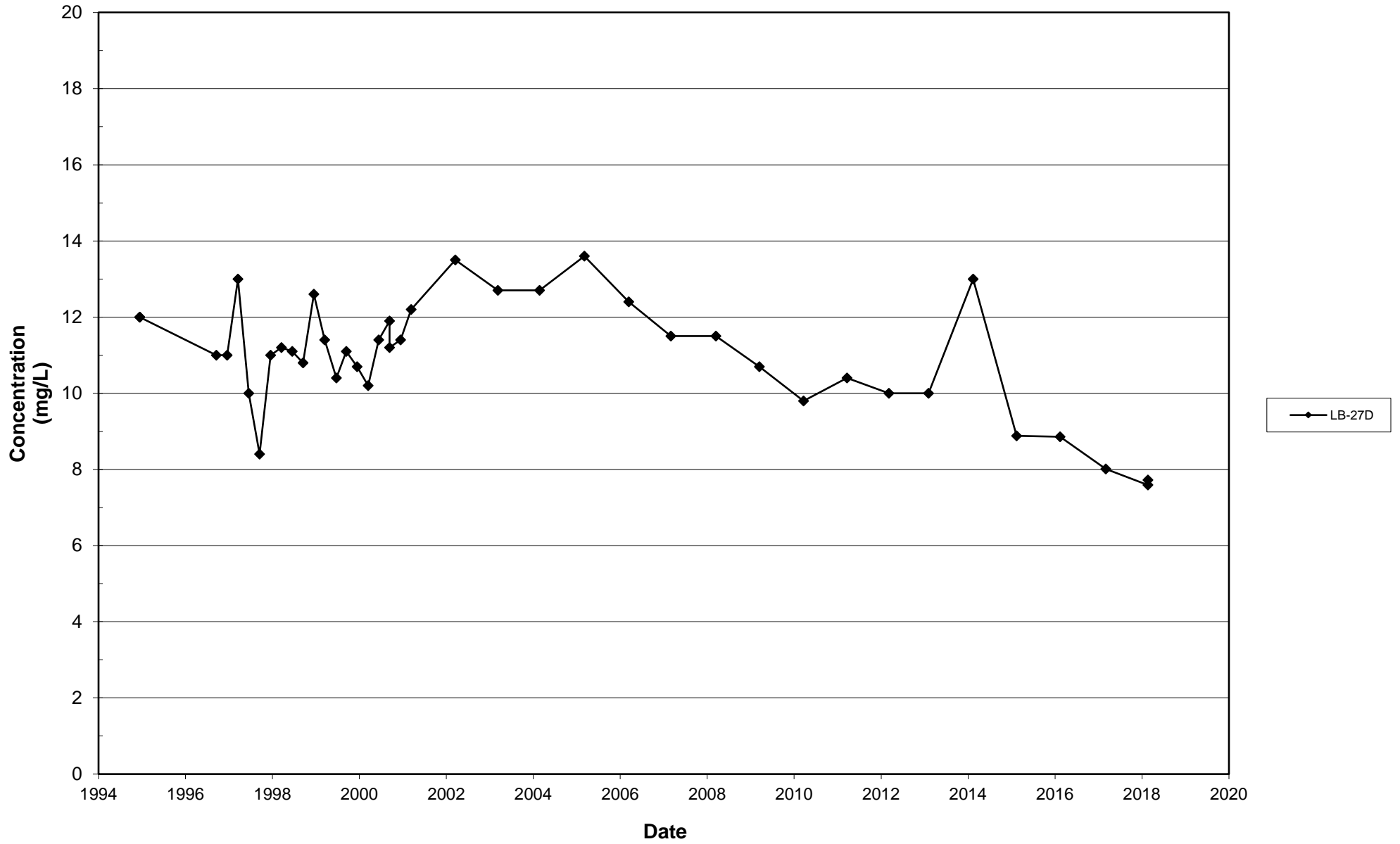
Leichner Landfill
Chloride, LB-26D
1987 - 2018



Leichner Landfill
Chloride, LB-27I
1994 - 2018

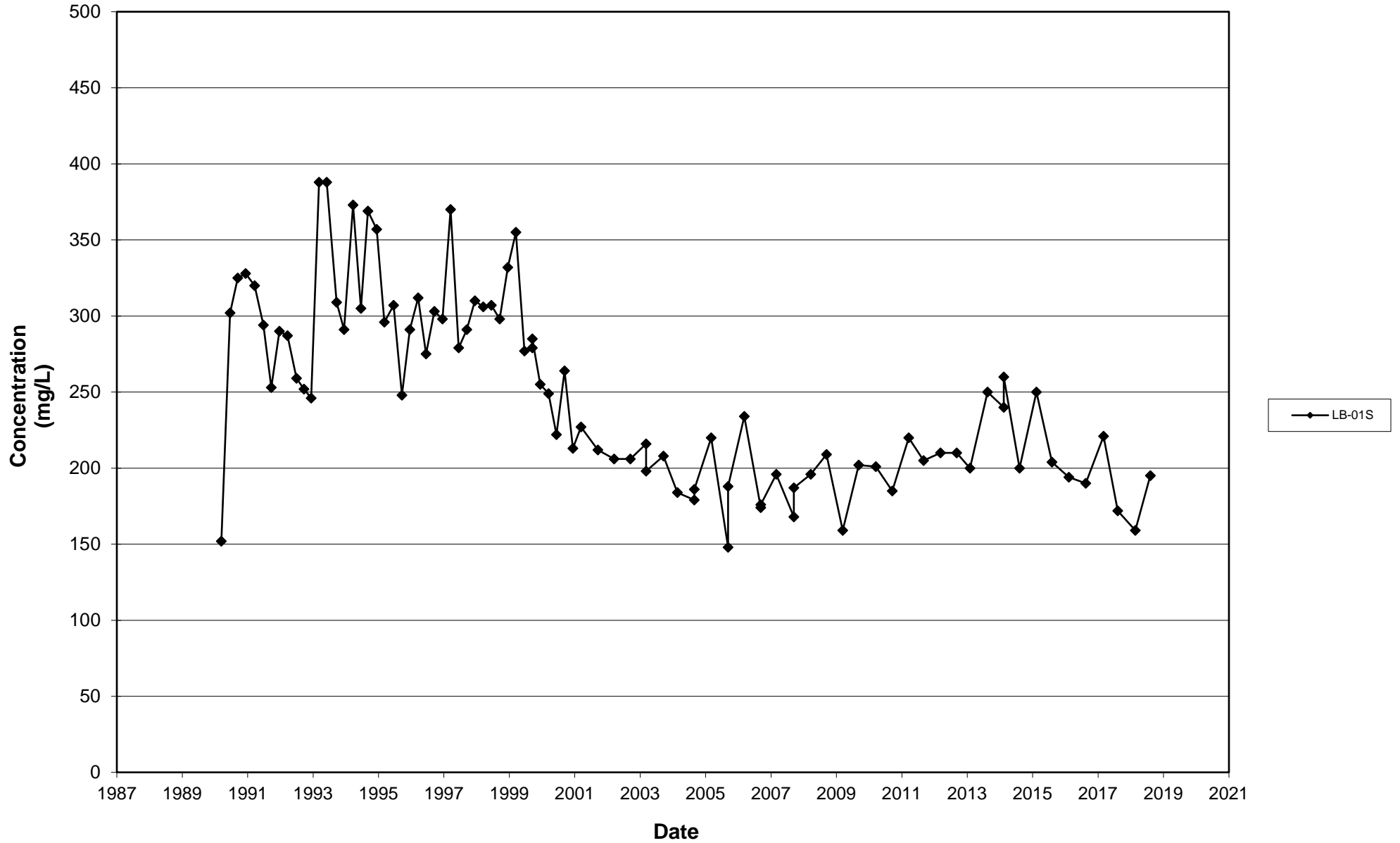


Leichner Landfill
Chloride, LB-27D
1994 - 2018

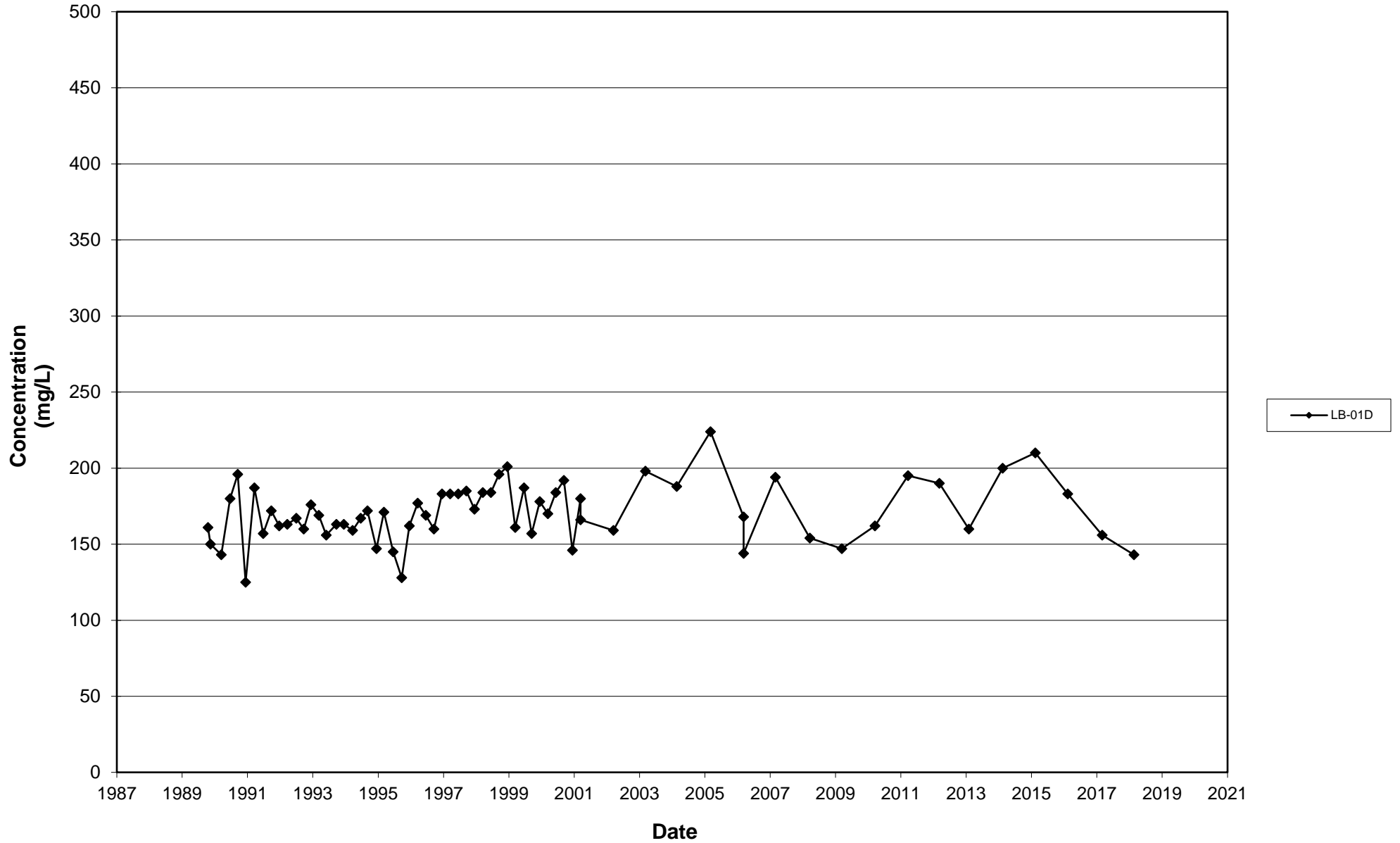


Total Dissolved Solids

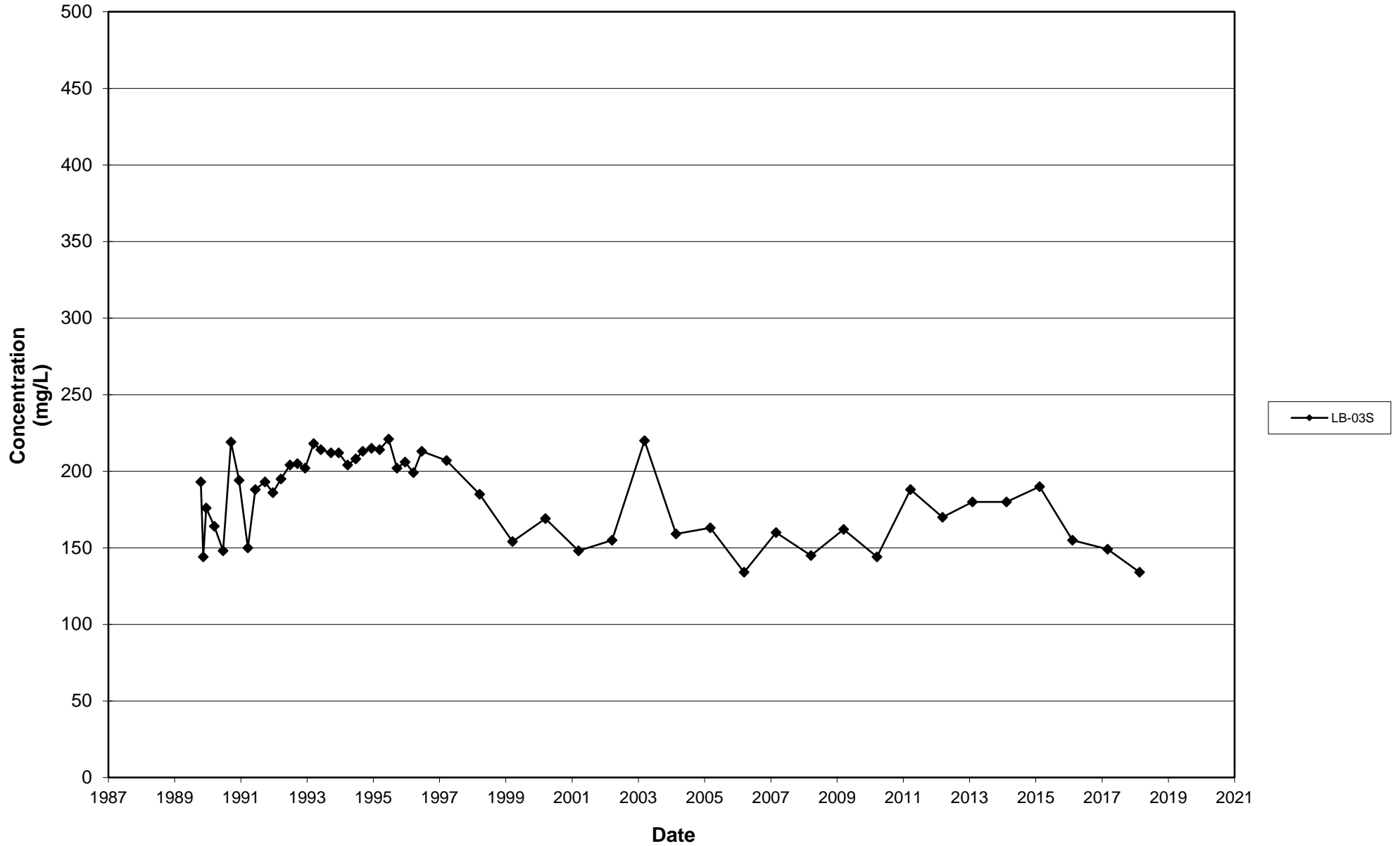
Leichner Landfill
Total Dissolved Solids, LB-01S
1987 - 2018



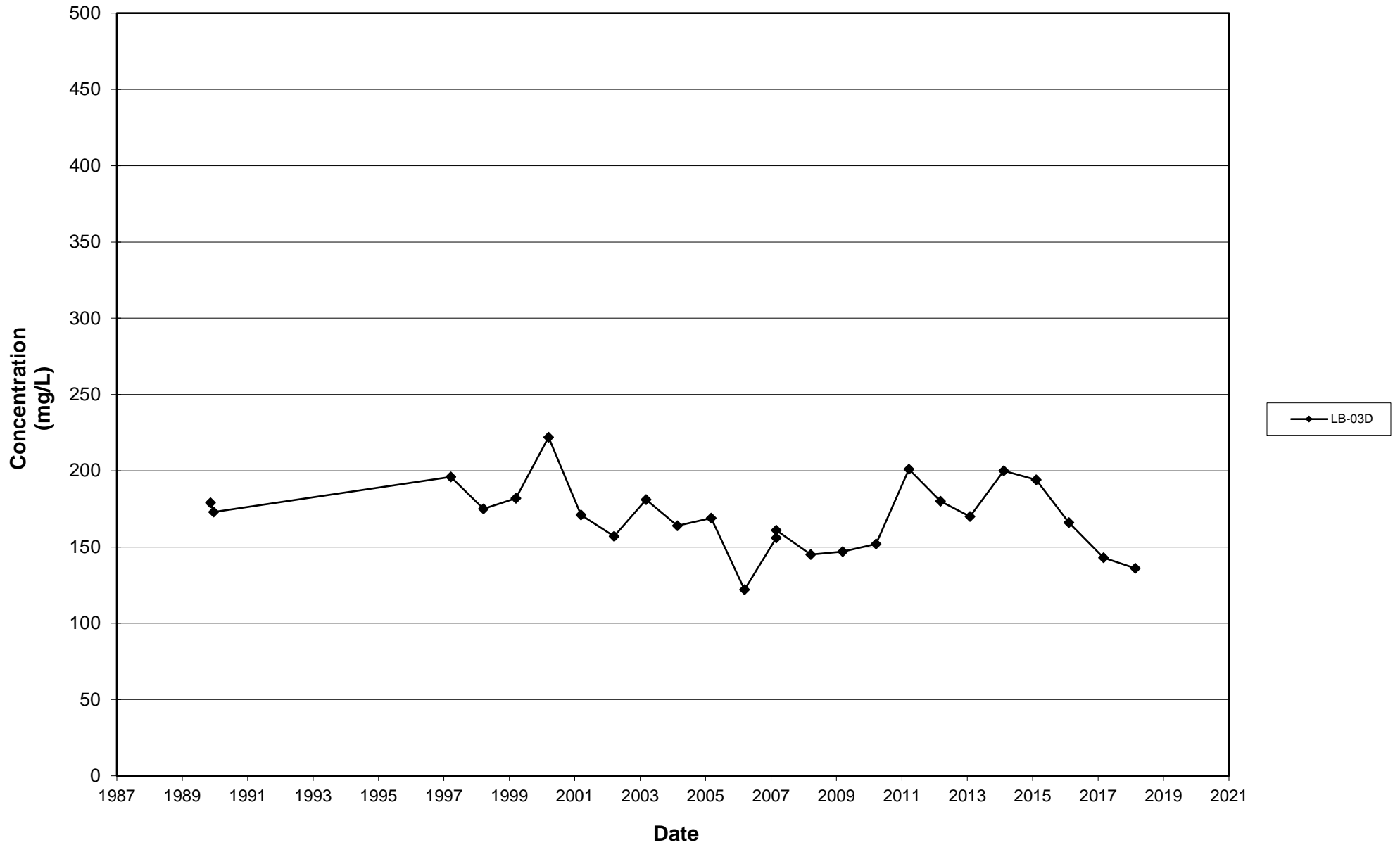
Leichner Landfill
Total Dissolved Solids, LB-01D
1987 - 2018



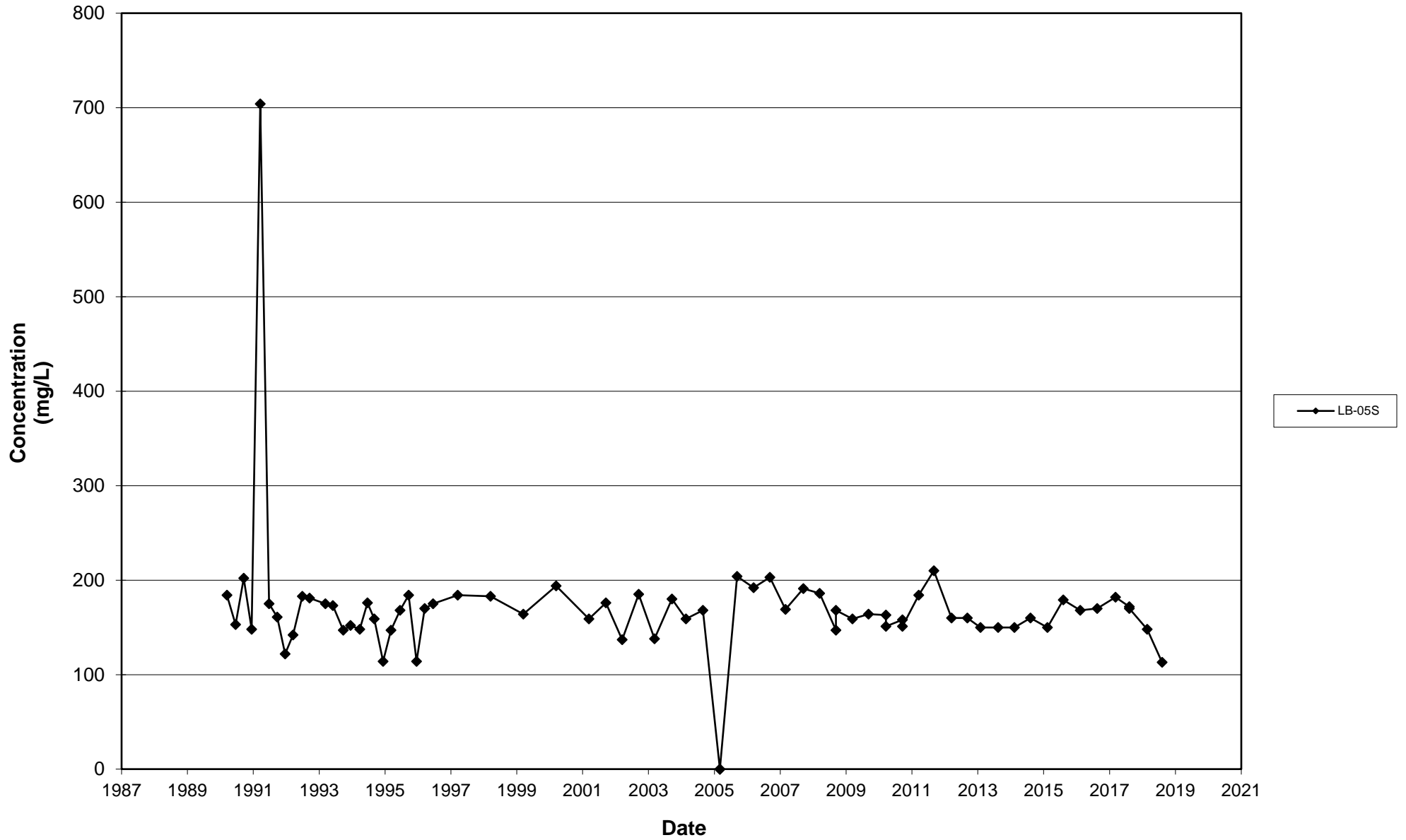
Leichner Landfill
Total Dissolved Solids, LB-03S
1987 - 2018



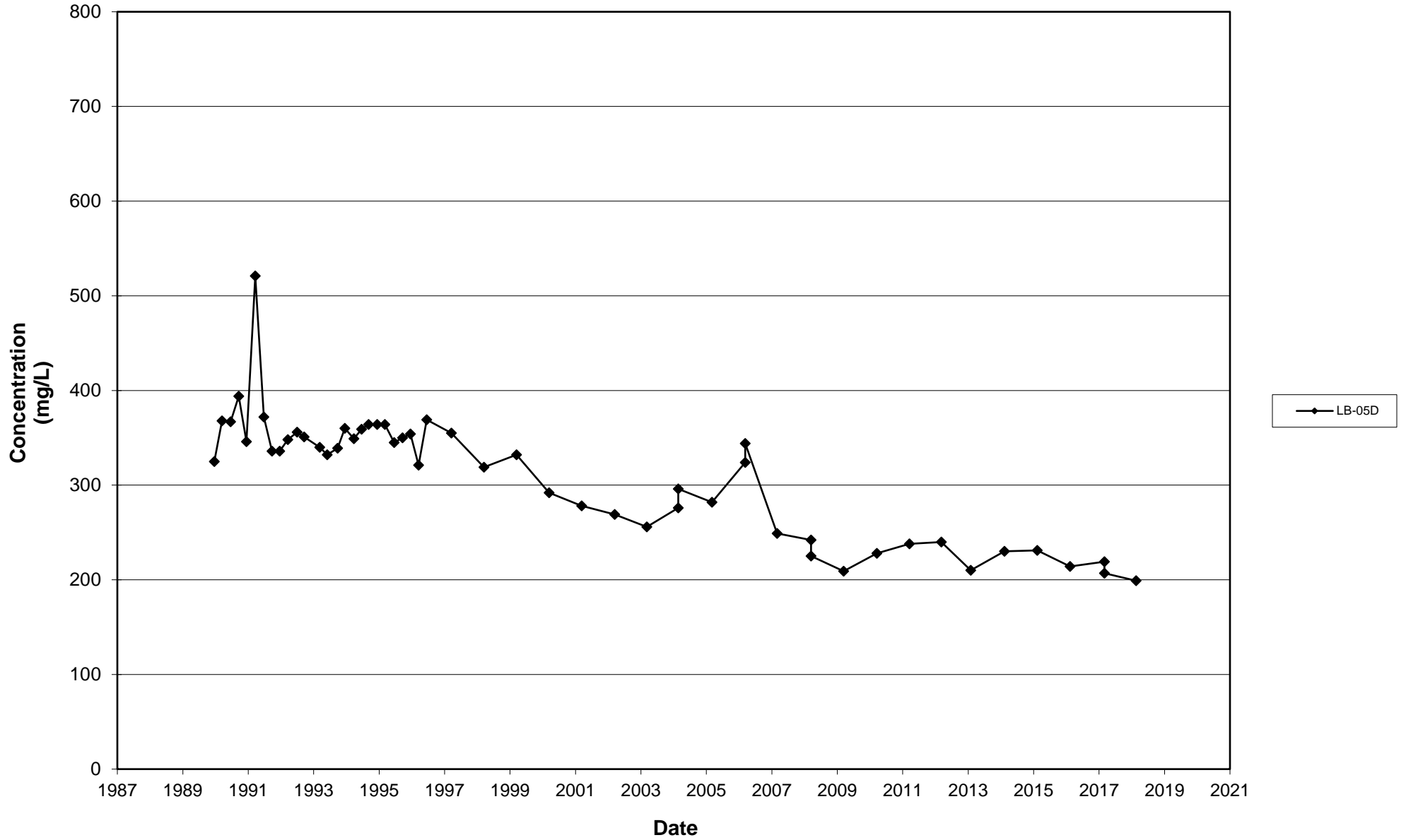
Leichner Landfill
Total Dissolved Solids, LB-03D
1987 - 2018



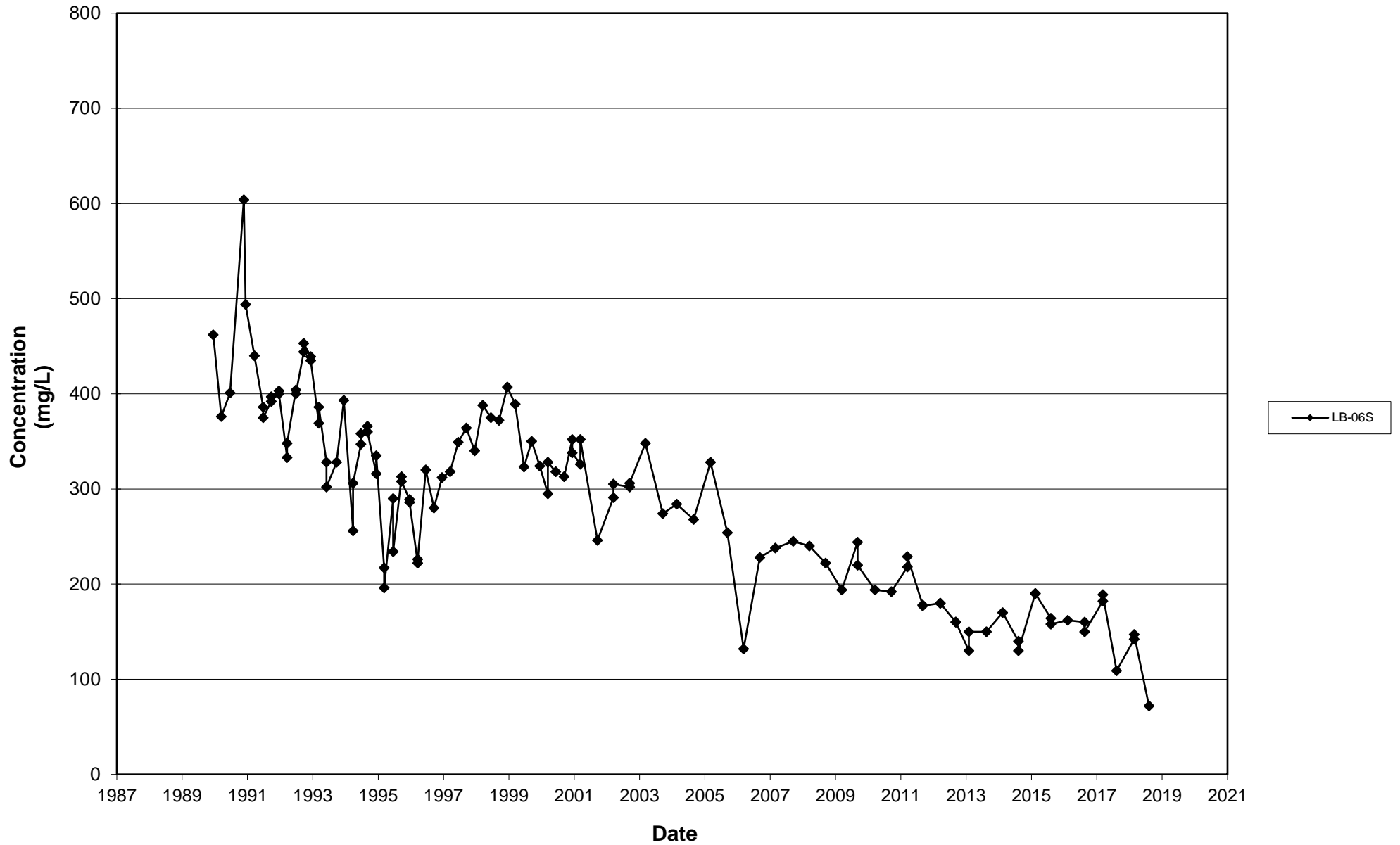
Leichner Landfill
Total Dissolved Solids, LB-05S
1987 - 2018



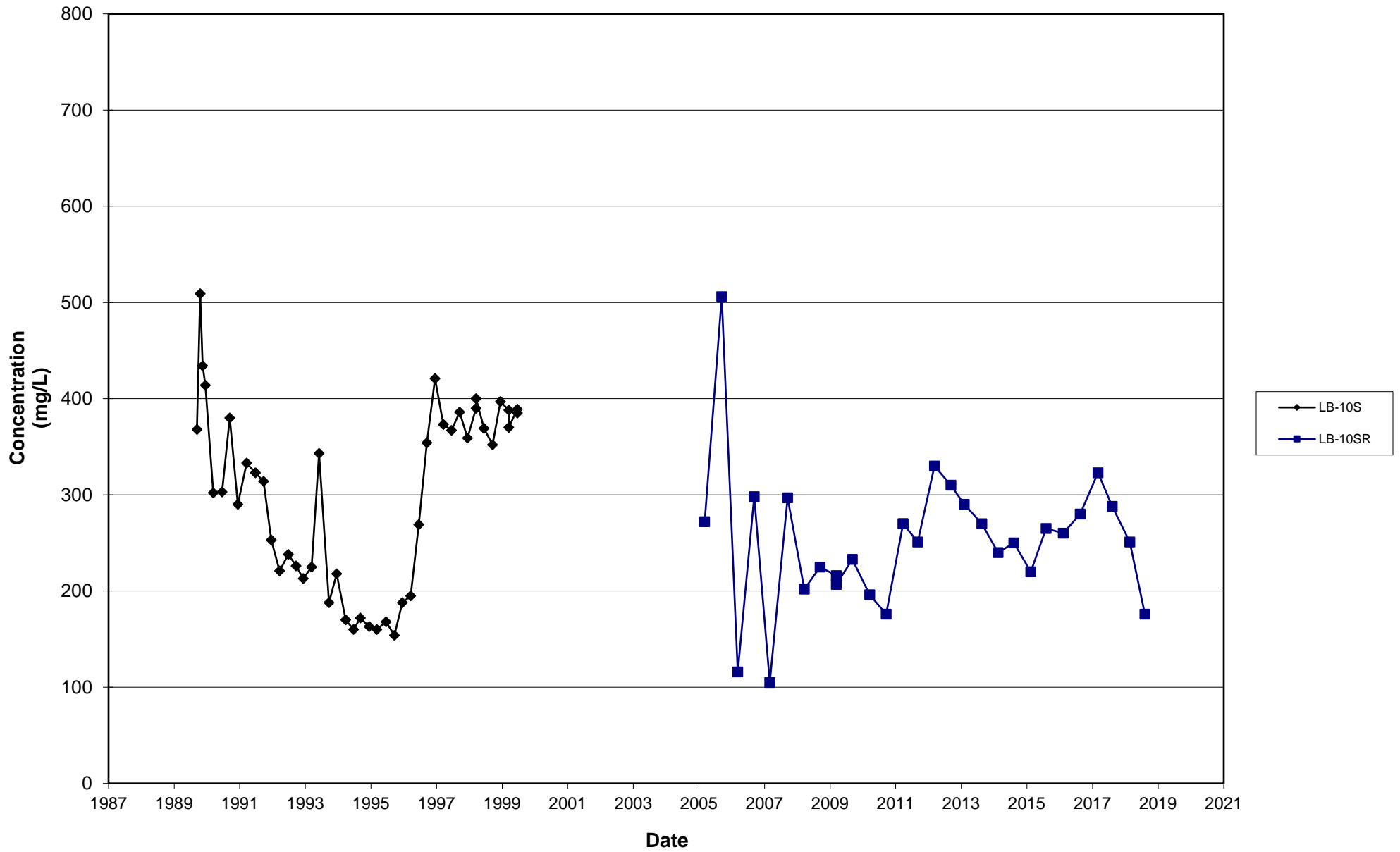
**Leichner Landfill
Total Dissolved Solids, LB-05D
1987 - 2018**



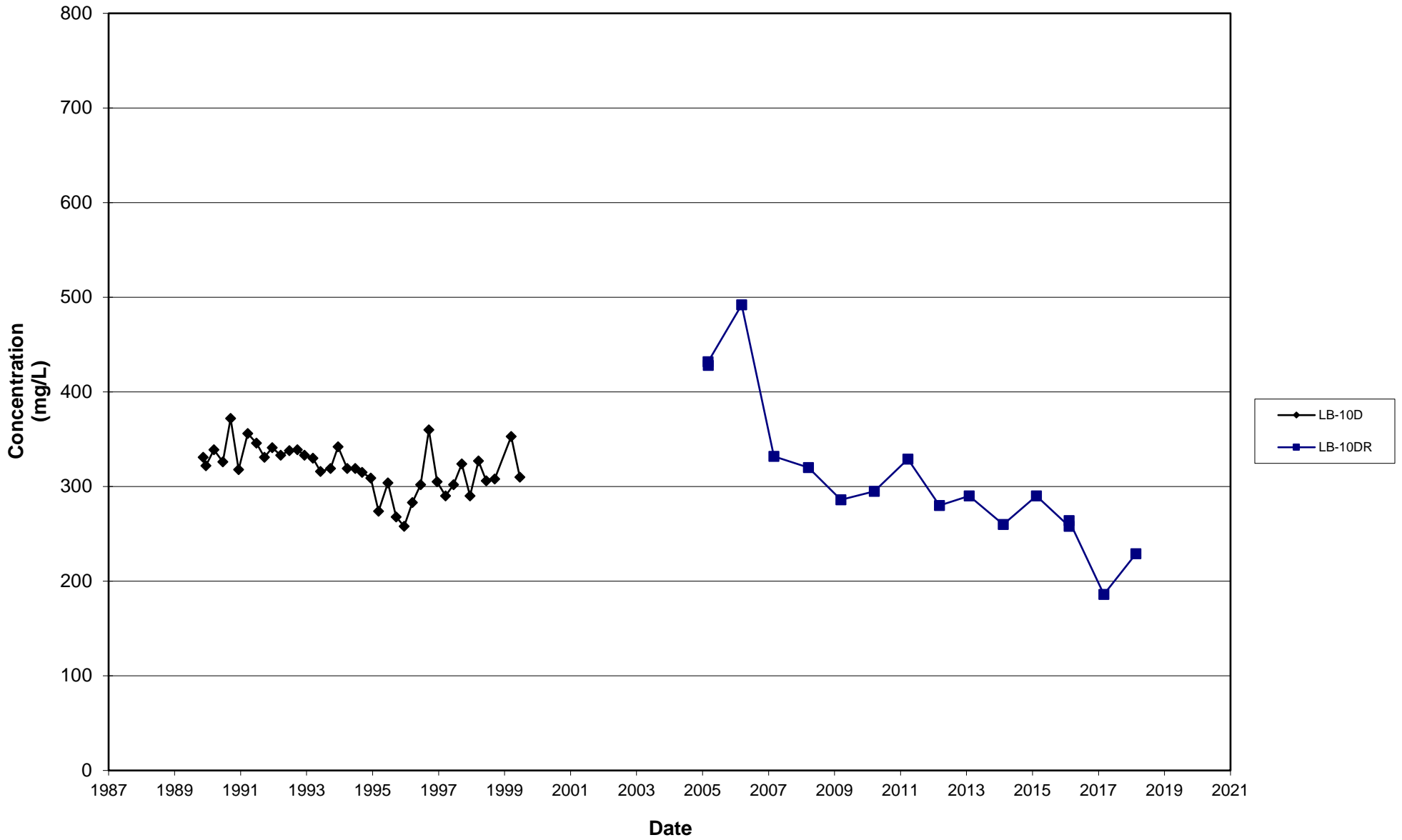
Leichner Landfill
Total Dissolved Solids, LB-06S
1987 - 2018



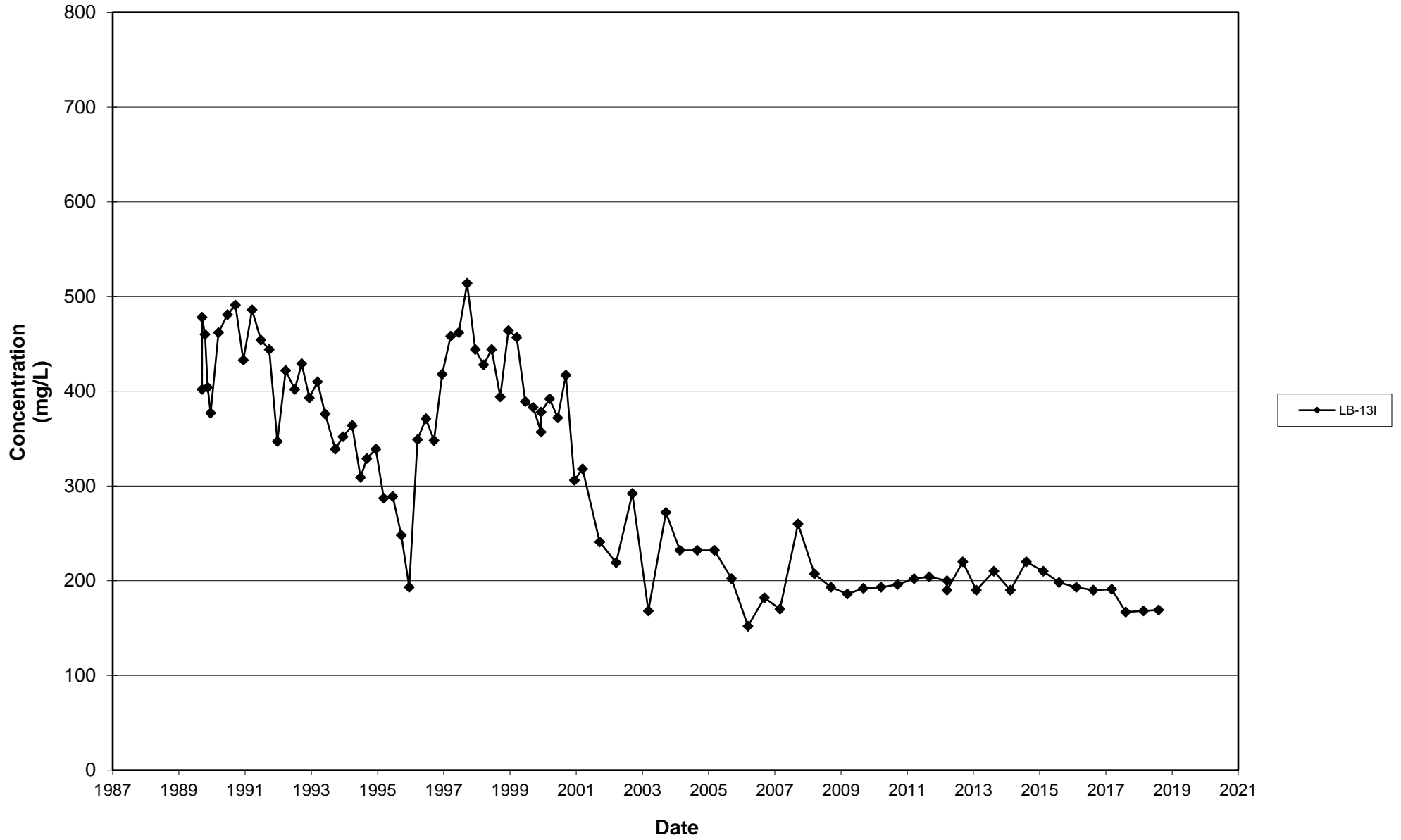
Leichner Landfill
Total Dissolved Solids, LB-10S and LB-10SR
1987 - 2018



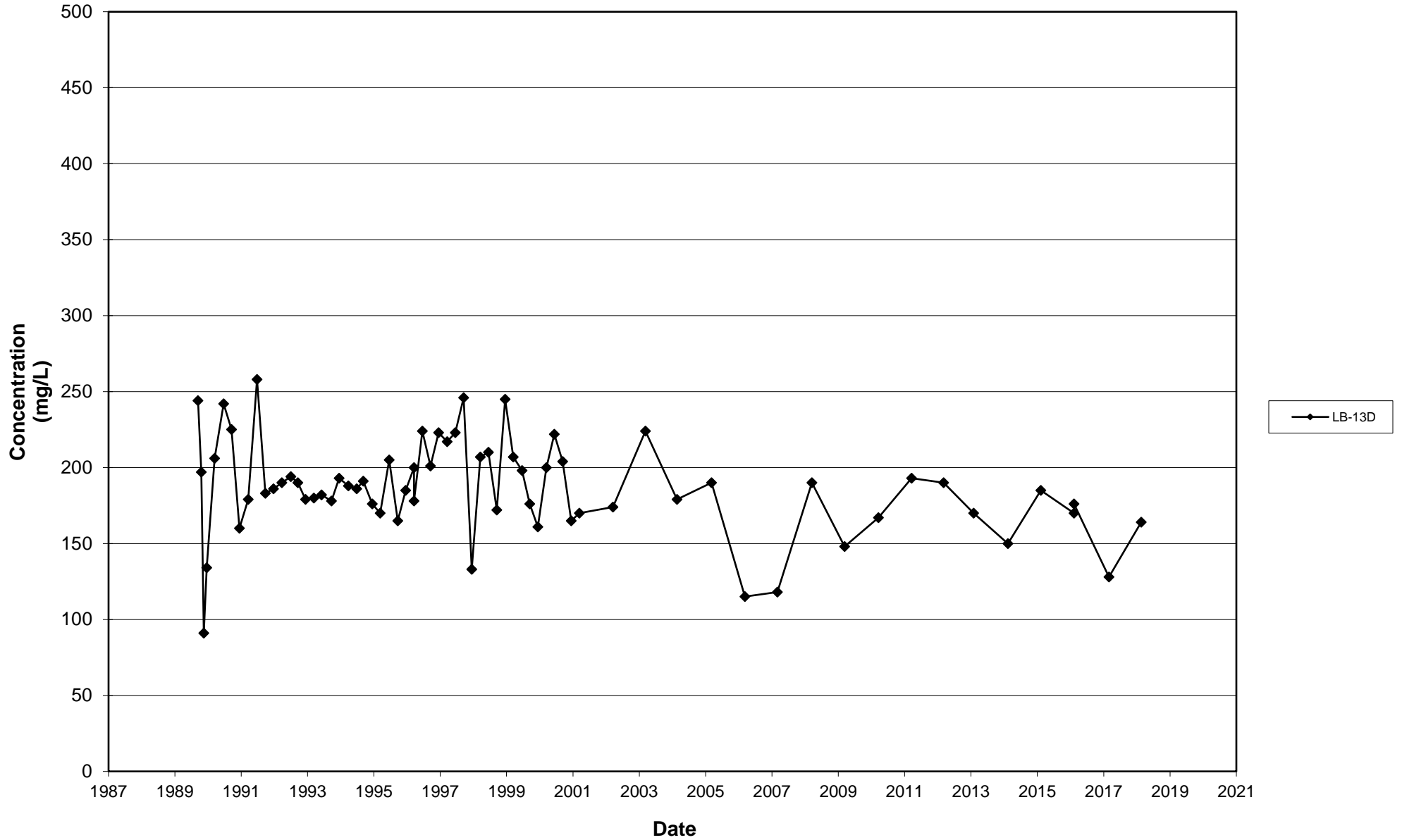
Leichner Landfill
Total Dissolved Solids, LB-10D and LB-10DR
1987 - 2018



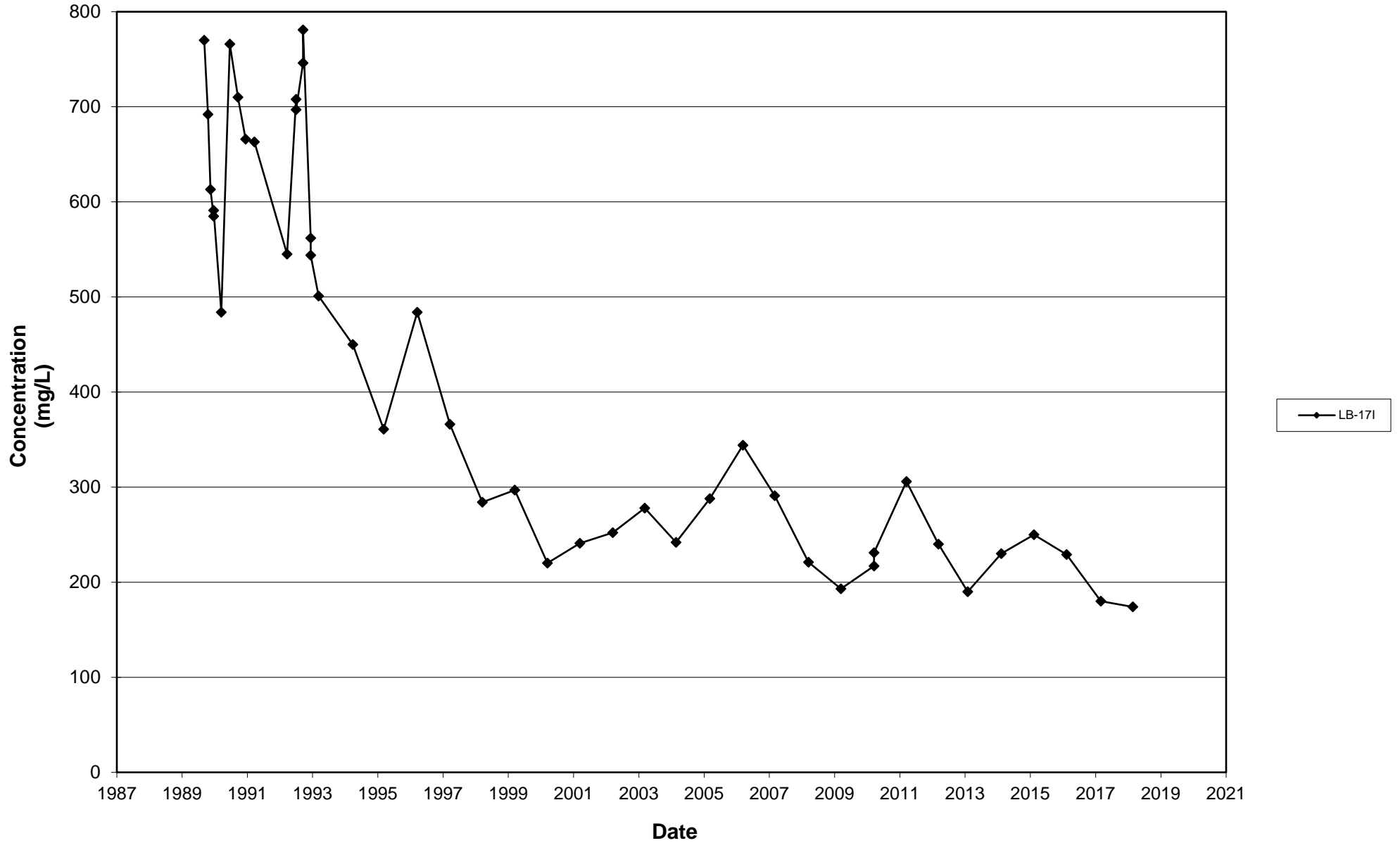
**Leichner Landfill
Total Dissolved Solids, LB-13I
1987 - 2018**



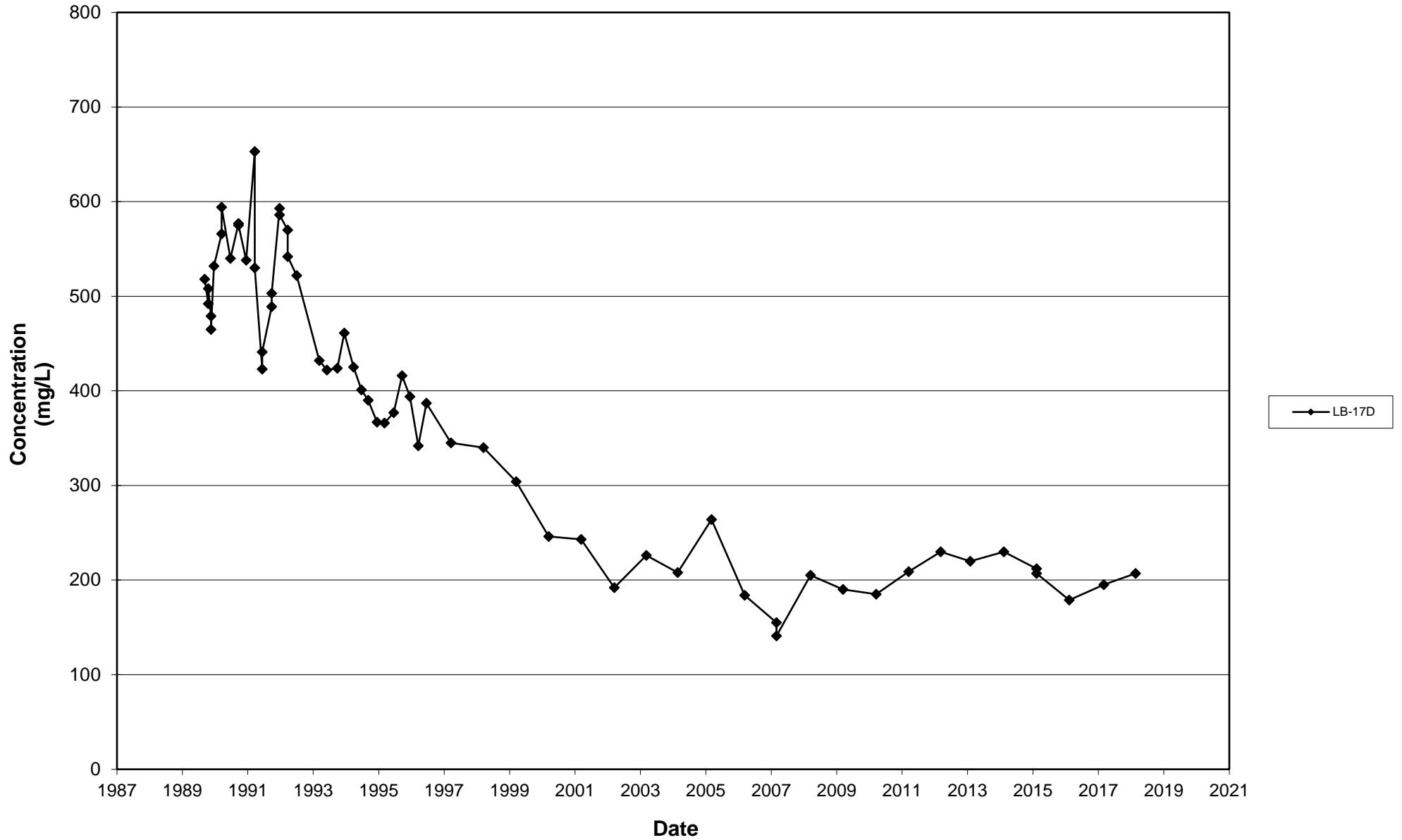
Leichner Landfill
Total Dissolved Solids, LB-13D
1987 - 2018



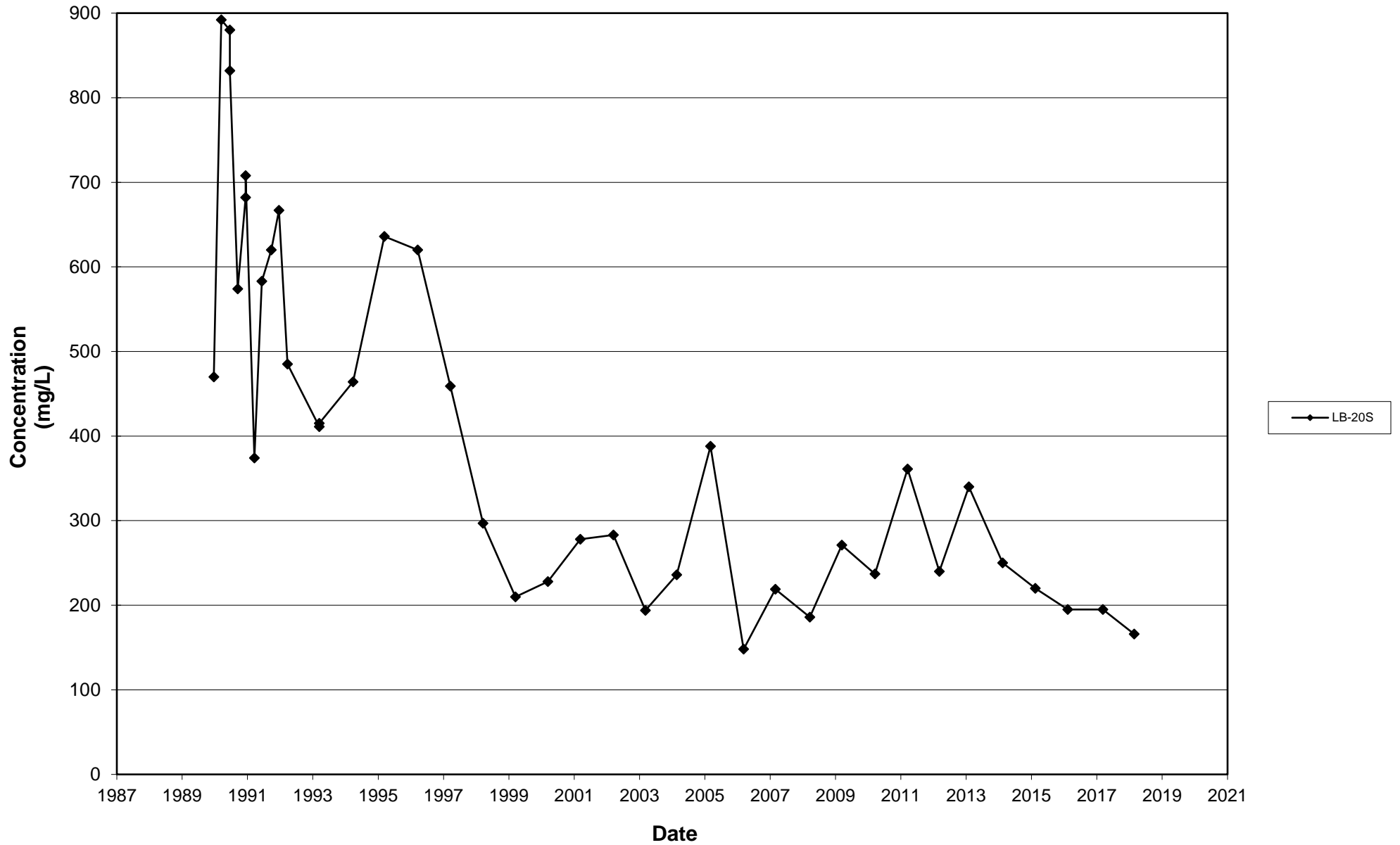
Leichner Landfill
Total Dissolved Solids, LB-17I
1987 - 2018



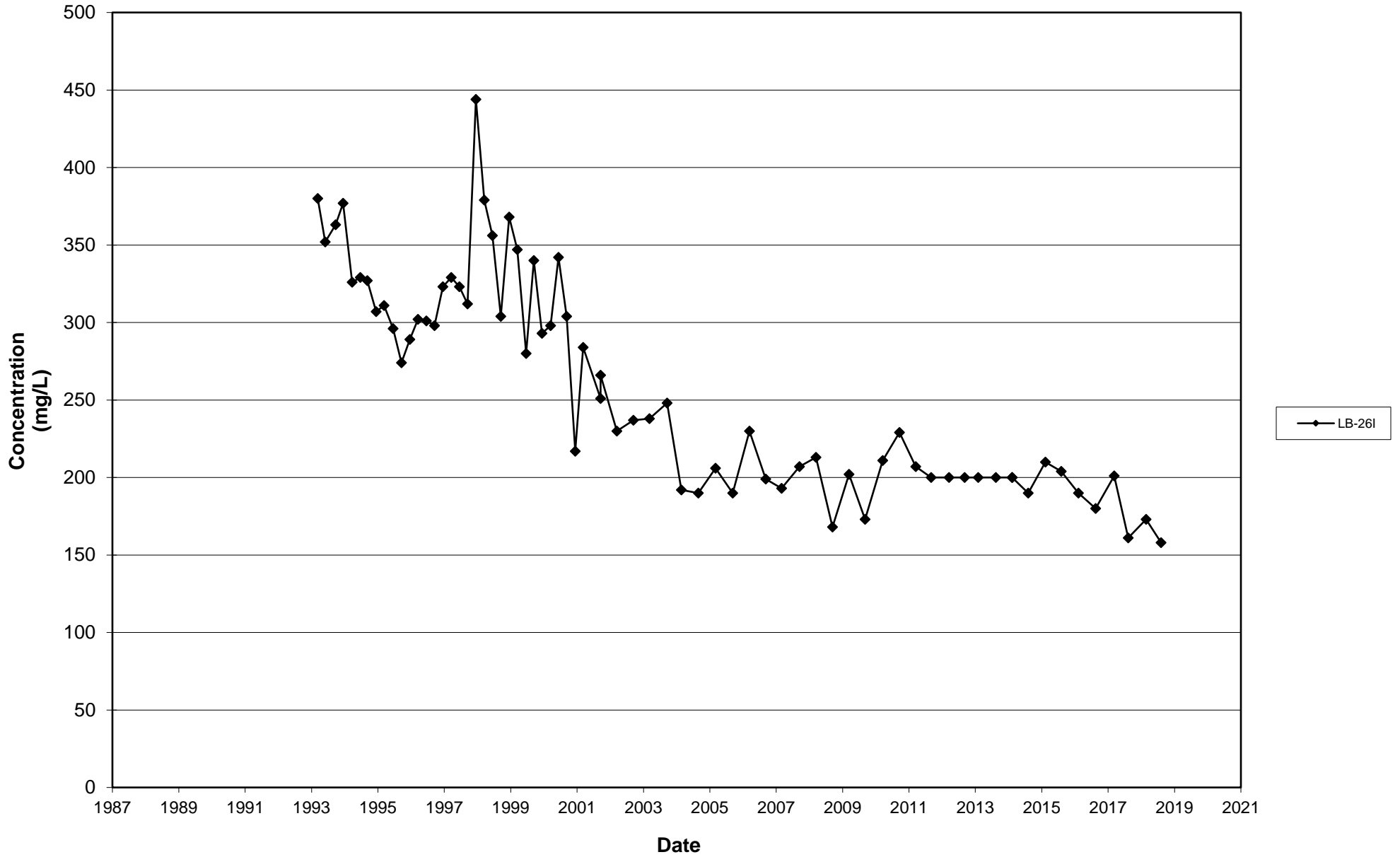
Leichner Landfill
Total Dissolved Solids, LB-17D
1987 - 2018



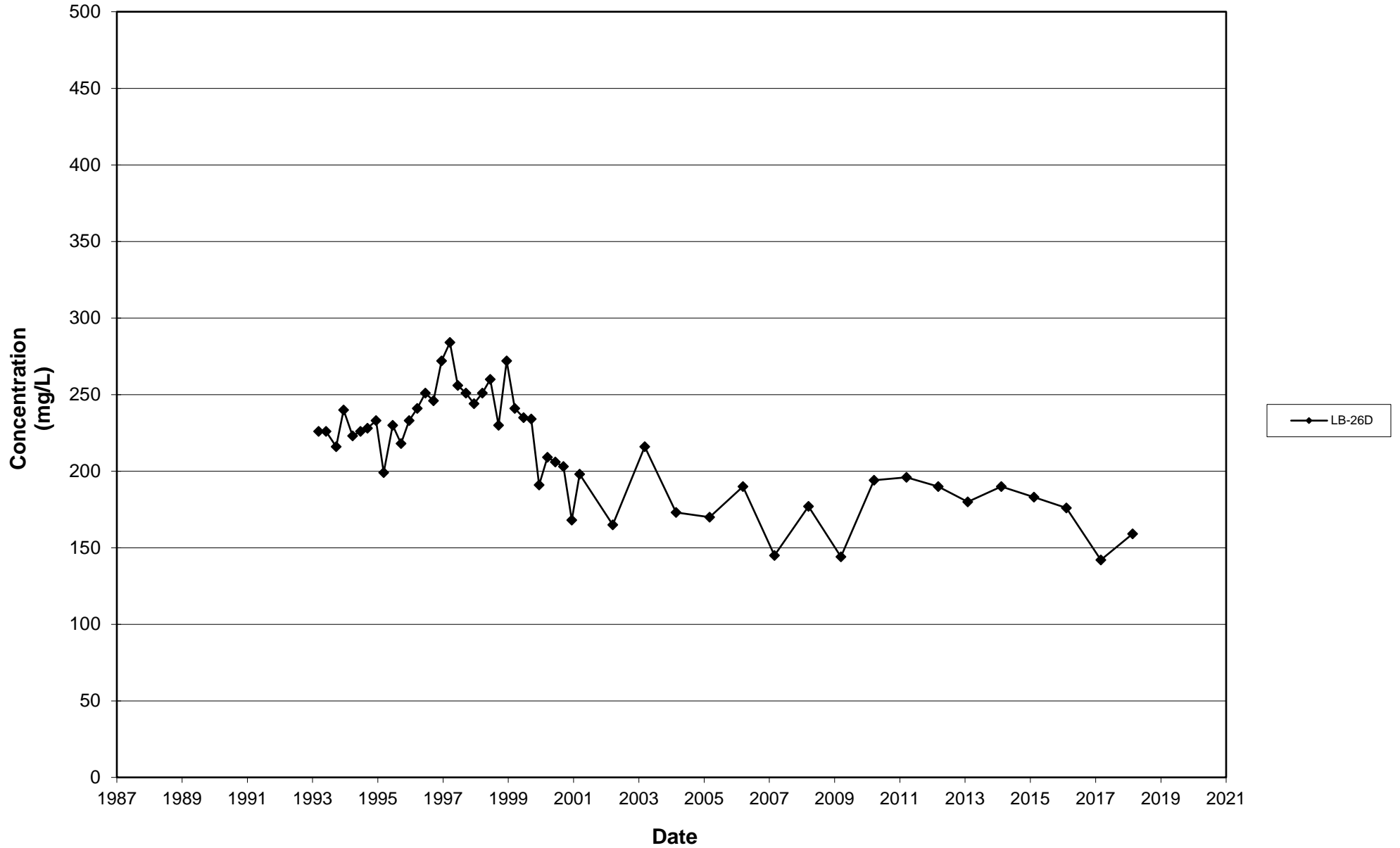
Leichner Landfill
Total Dissolved Solids, LB-20S
1987 - 2018



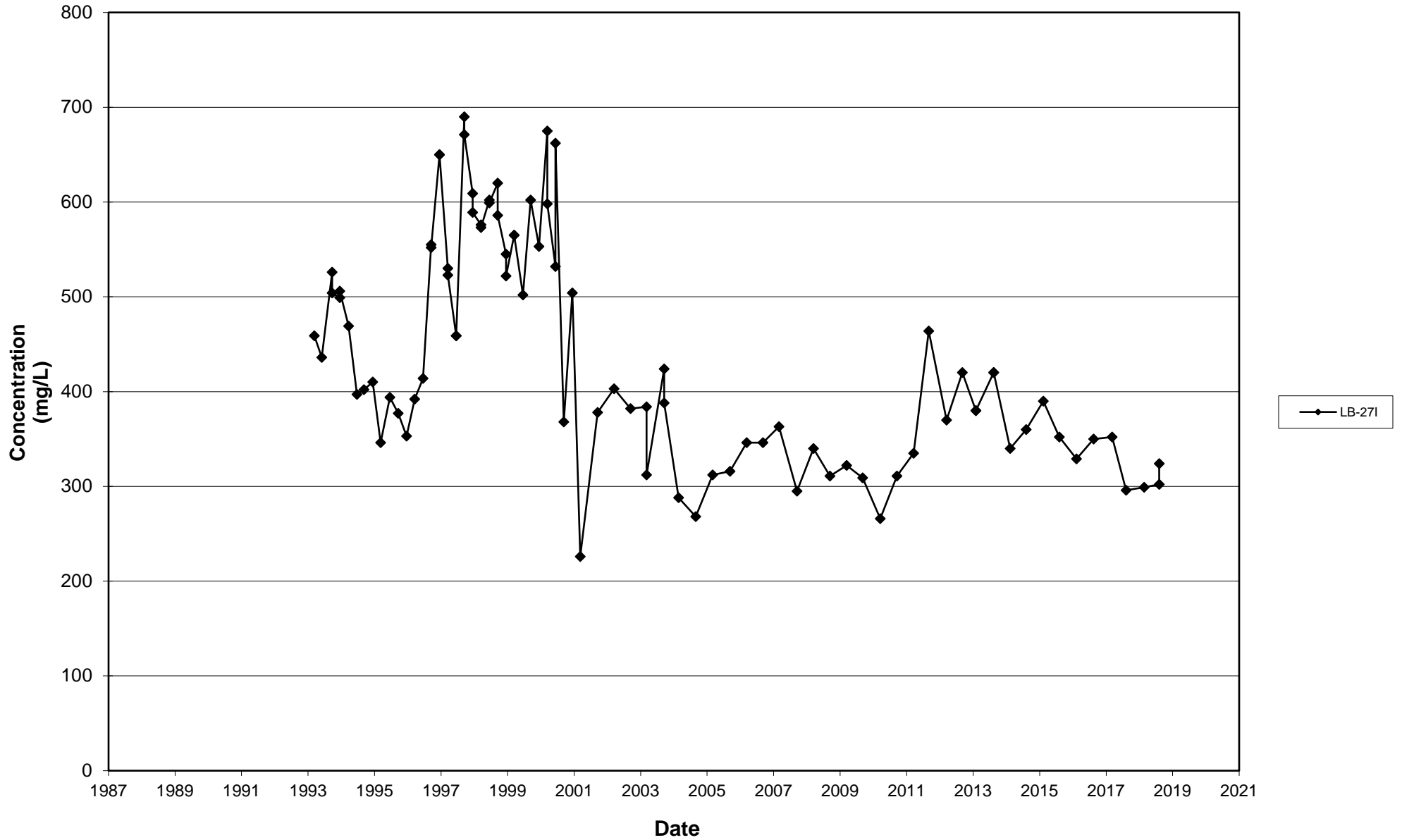
Leichner Landfill
Total Dissolved Solids, LB-26I
1987 - 2018



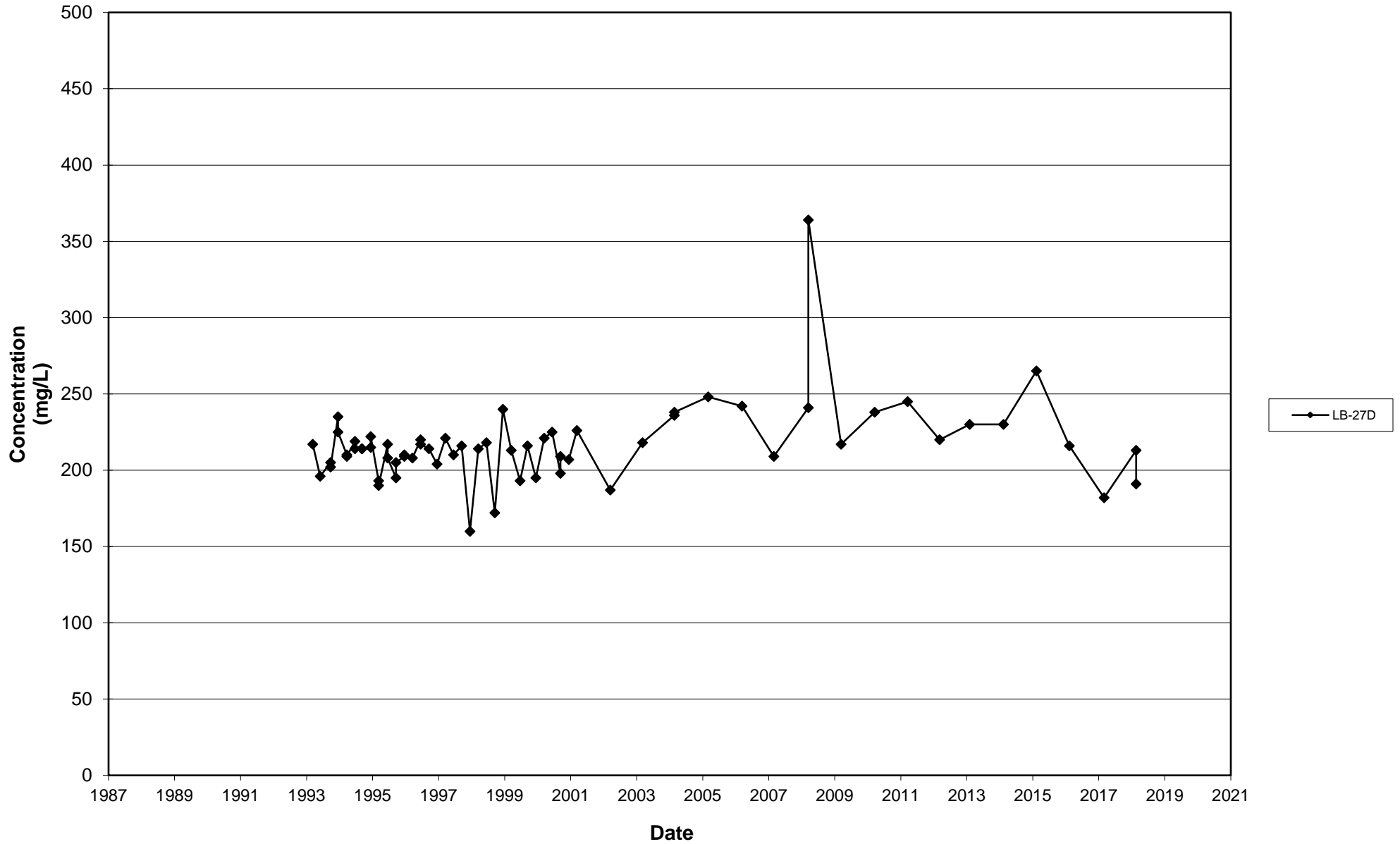
Leichner Landfill
Total Dissolved Solids, LB-26D
1987 - 2018



Leichner Landfill
Total Dissolved Solids, LB-27I
1987 - 2018

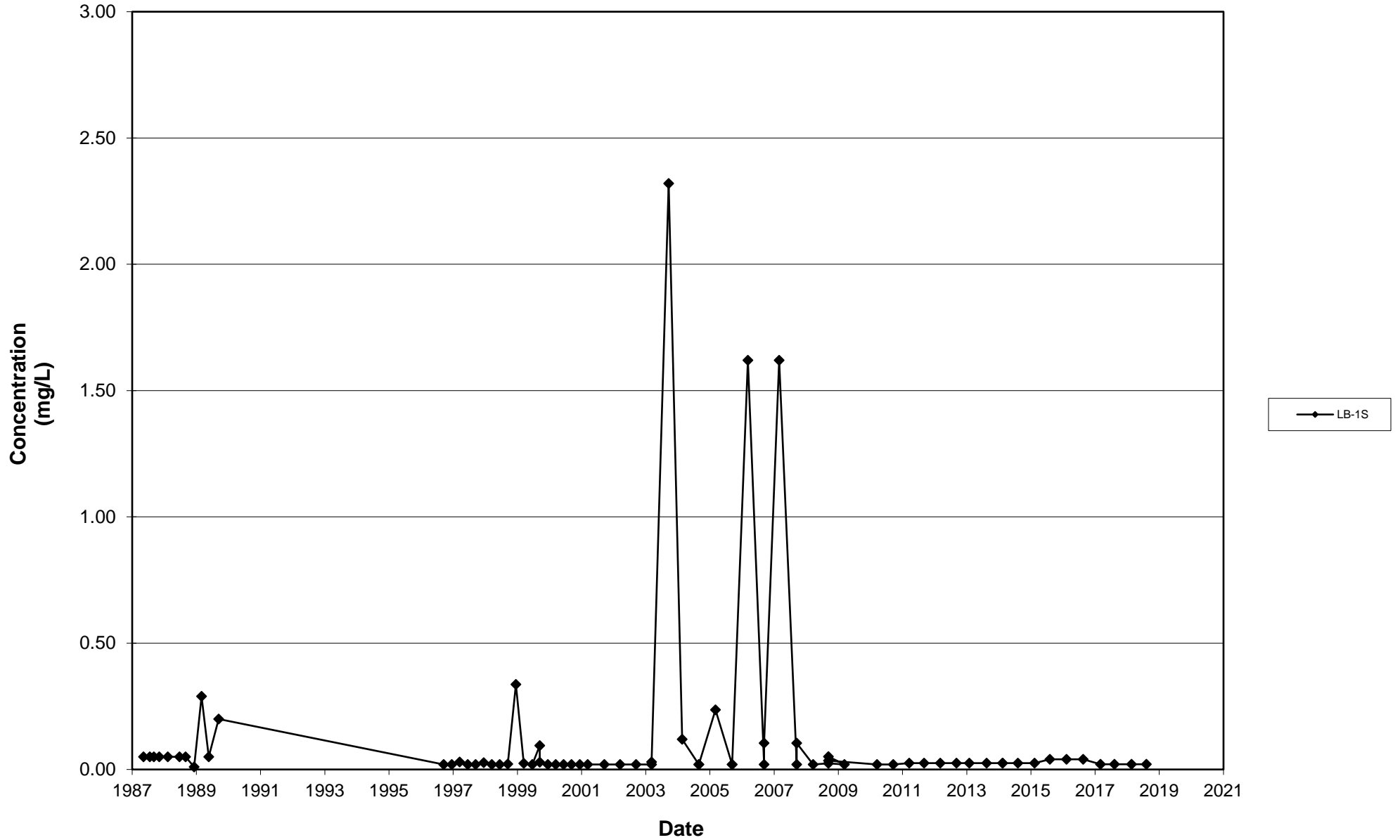


Leichner Landfill
Total Dissolved Solids, LB-27D
1987 - 2018

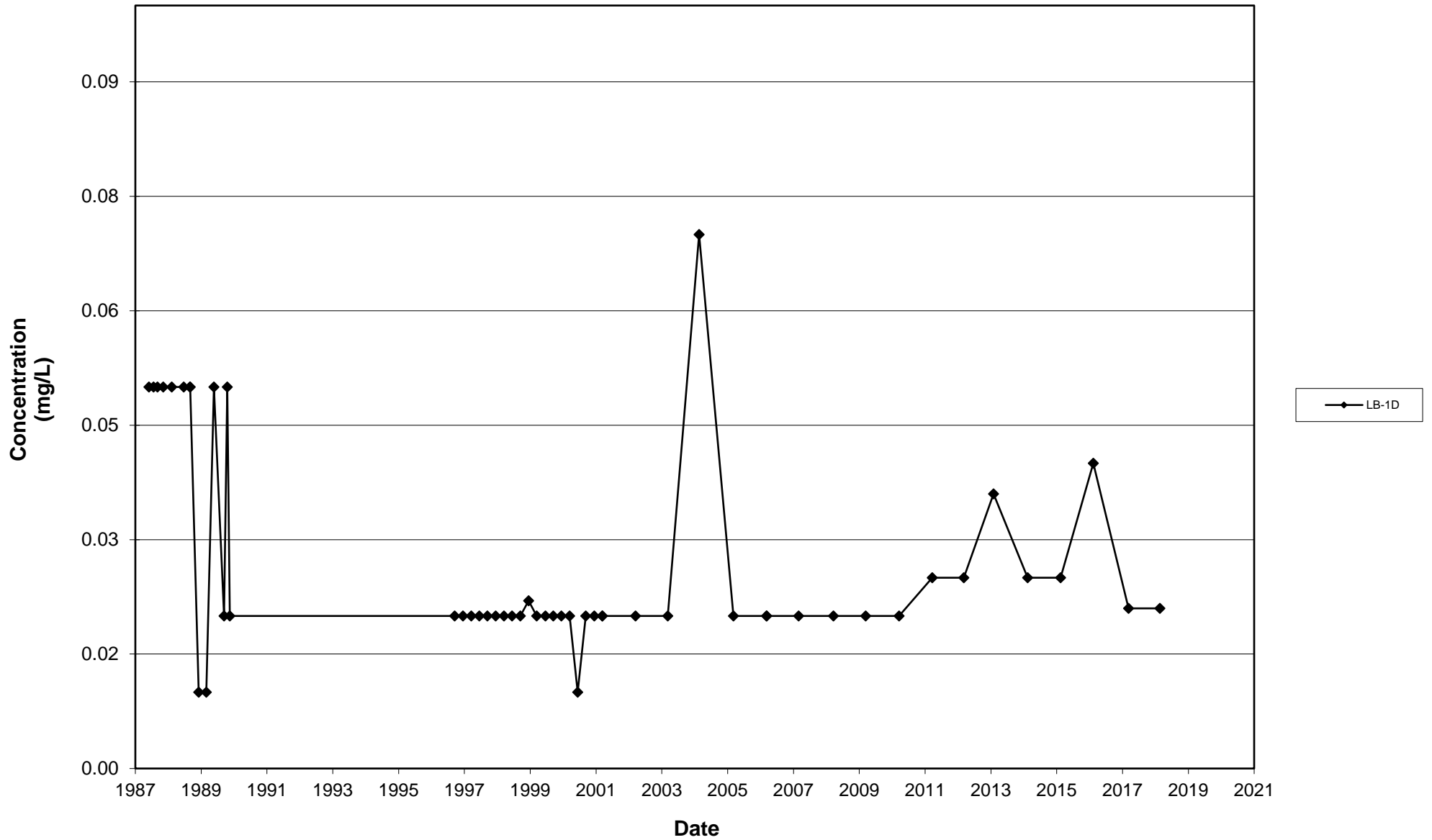


Dissolved Iron

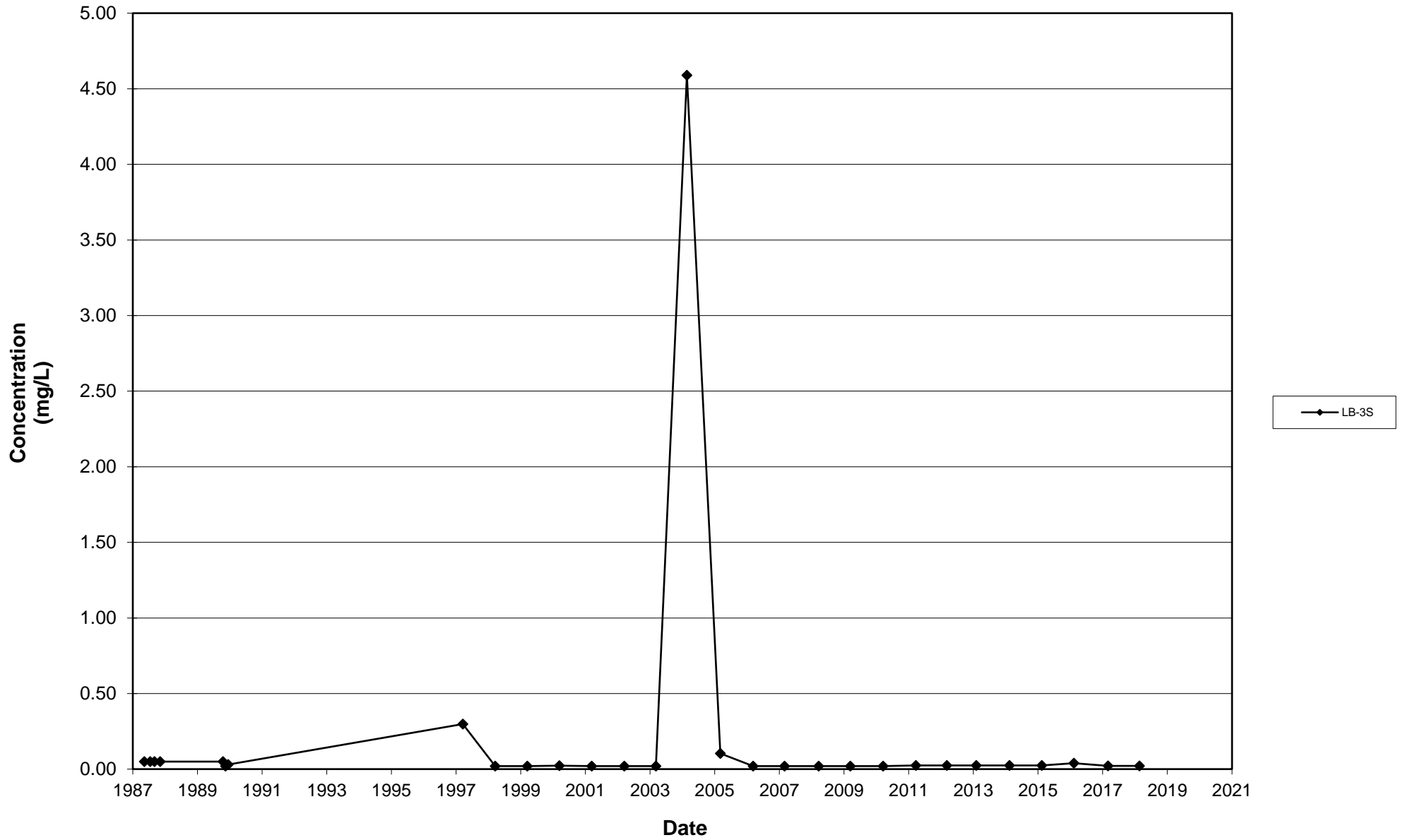
Leichner Landfill
Dissolved Iron, LB-01S
1987 - 2018



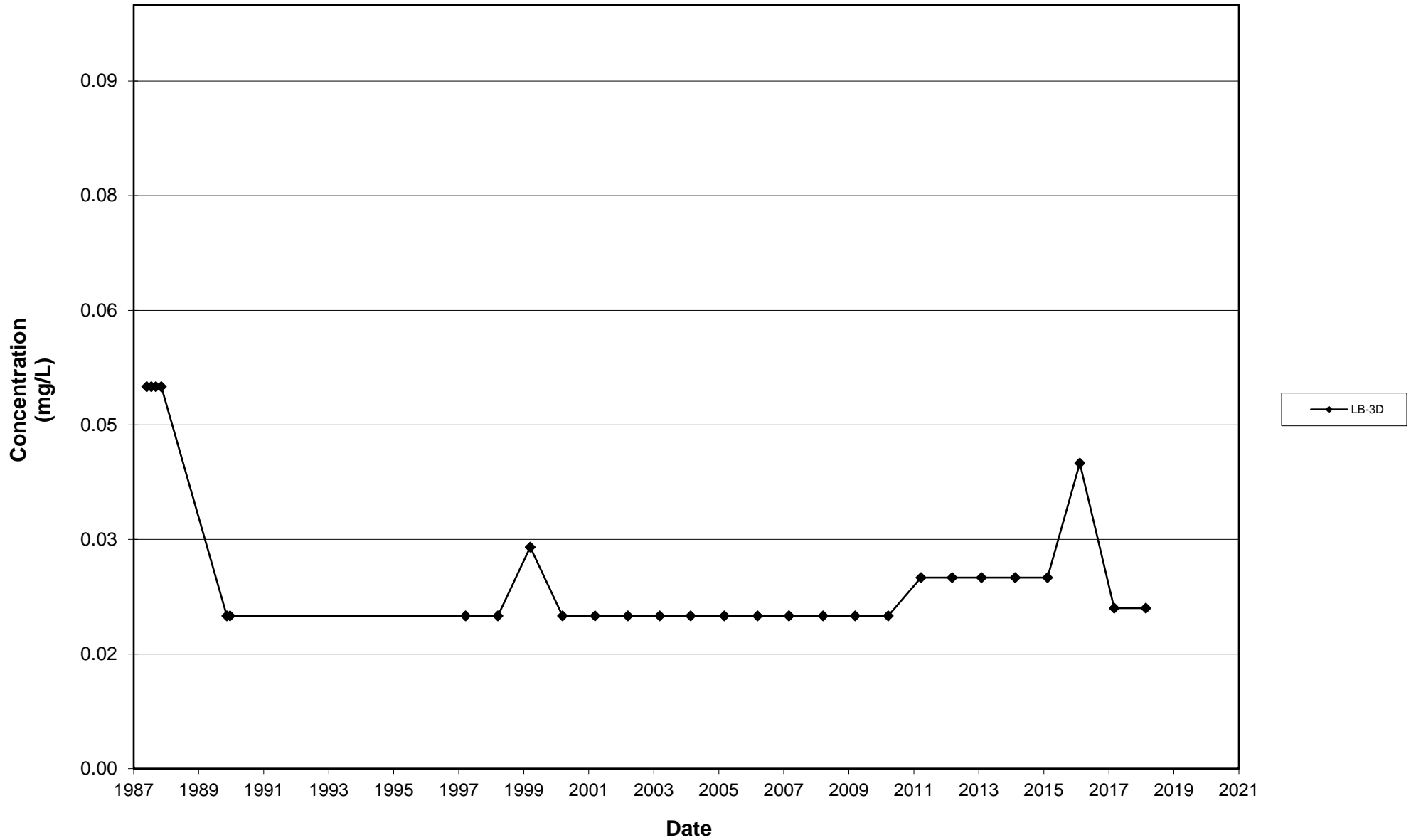
Leichner Landfill
Dissolved Iron, LB-01D
1987 - 2018



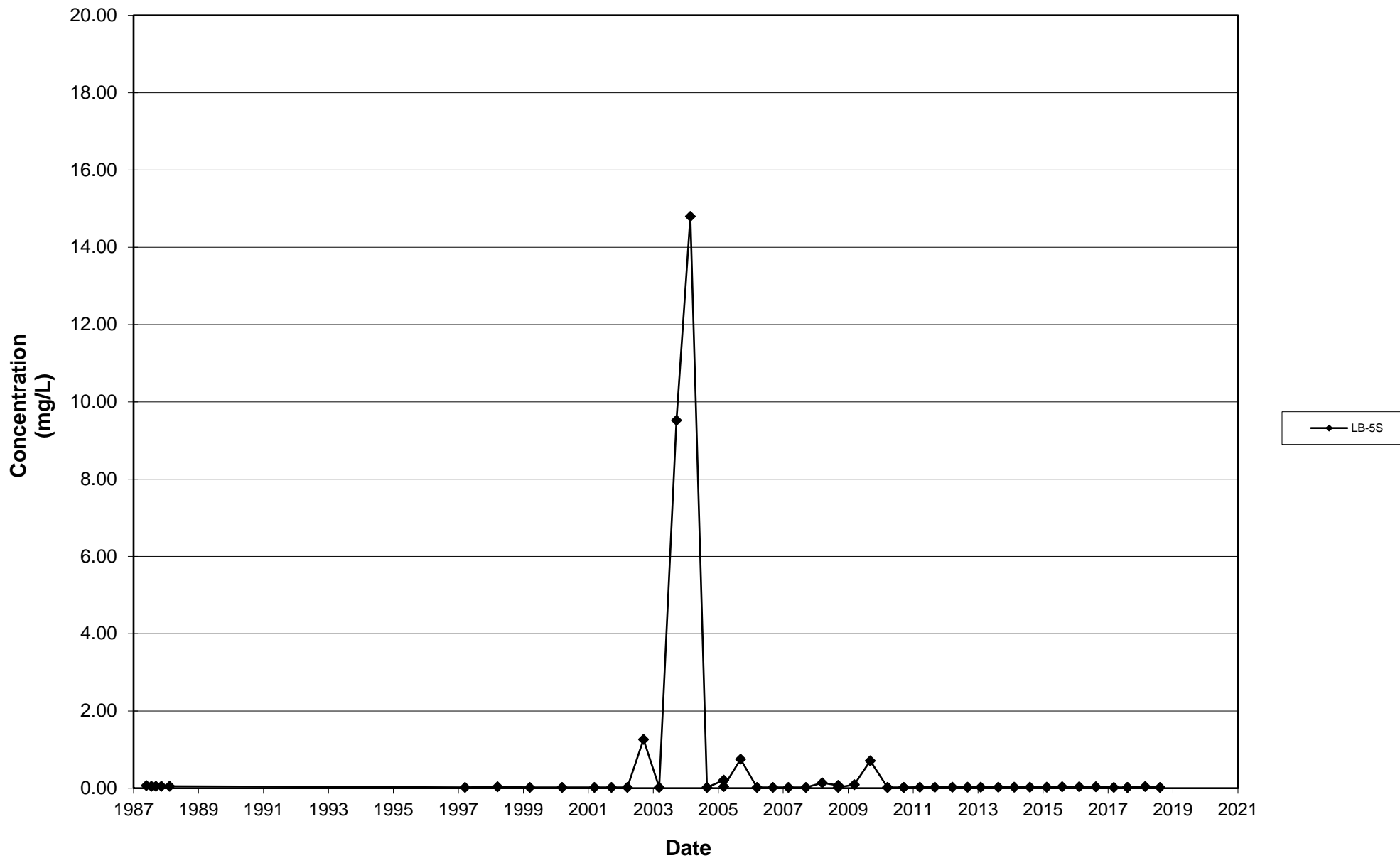
Leichner Landfill
Dissolved Iron, LB-03S
1987 - 2018



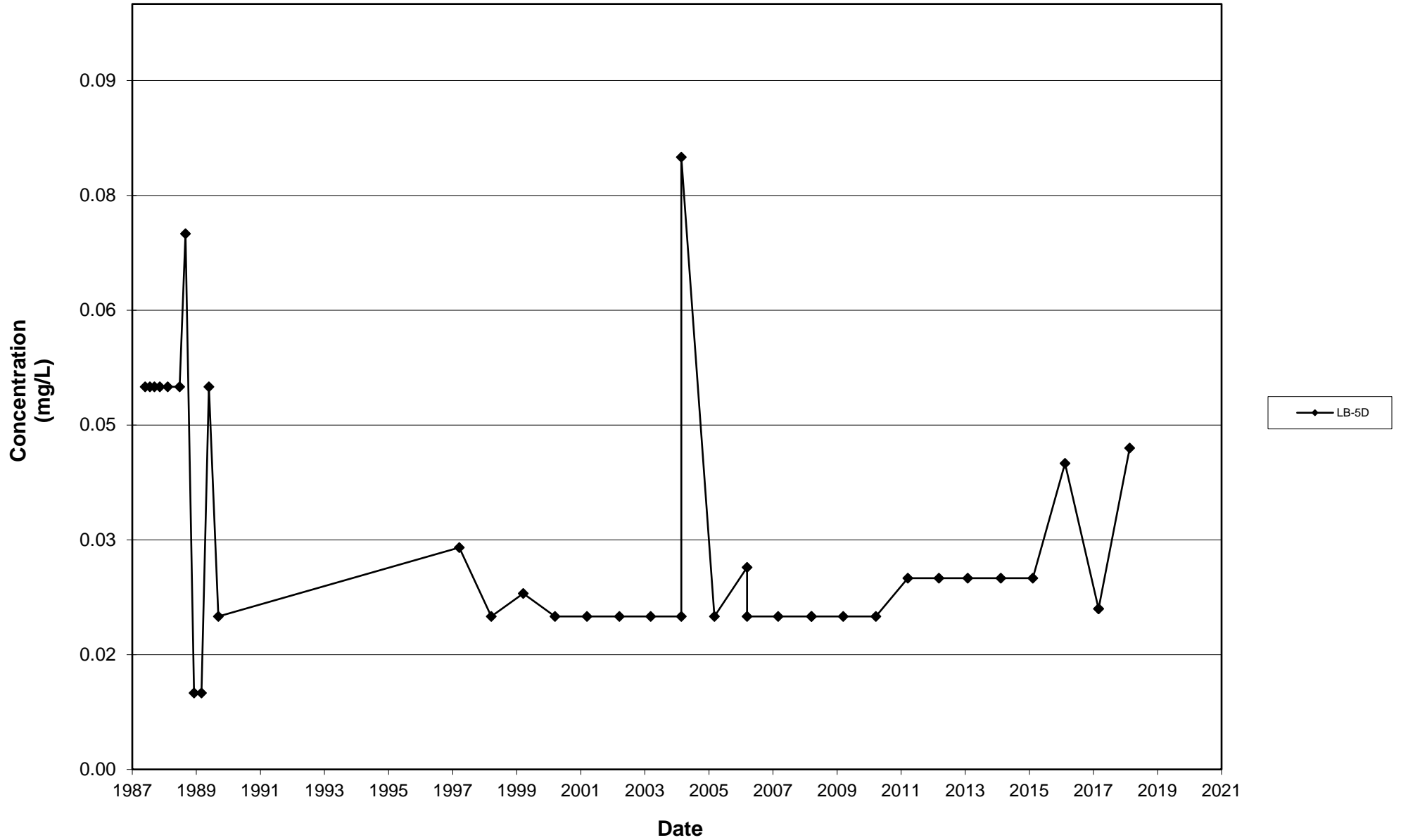
Leichner Landfill
Dissolved Iron, LB-03D
1987 - 2018



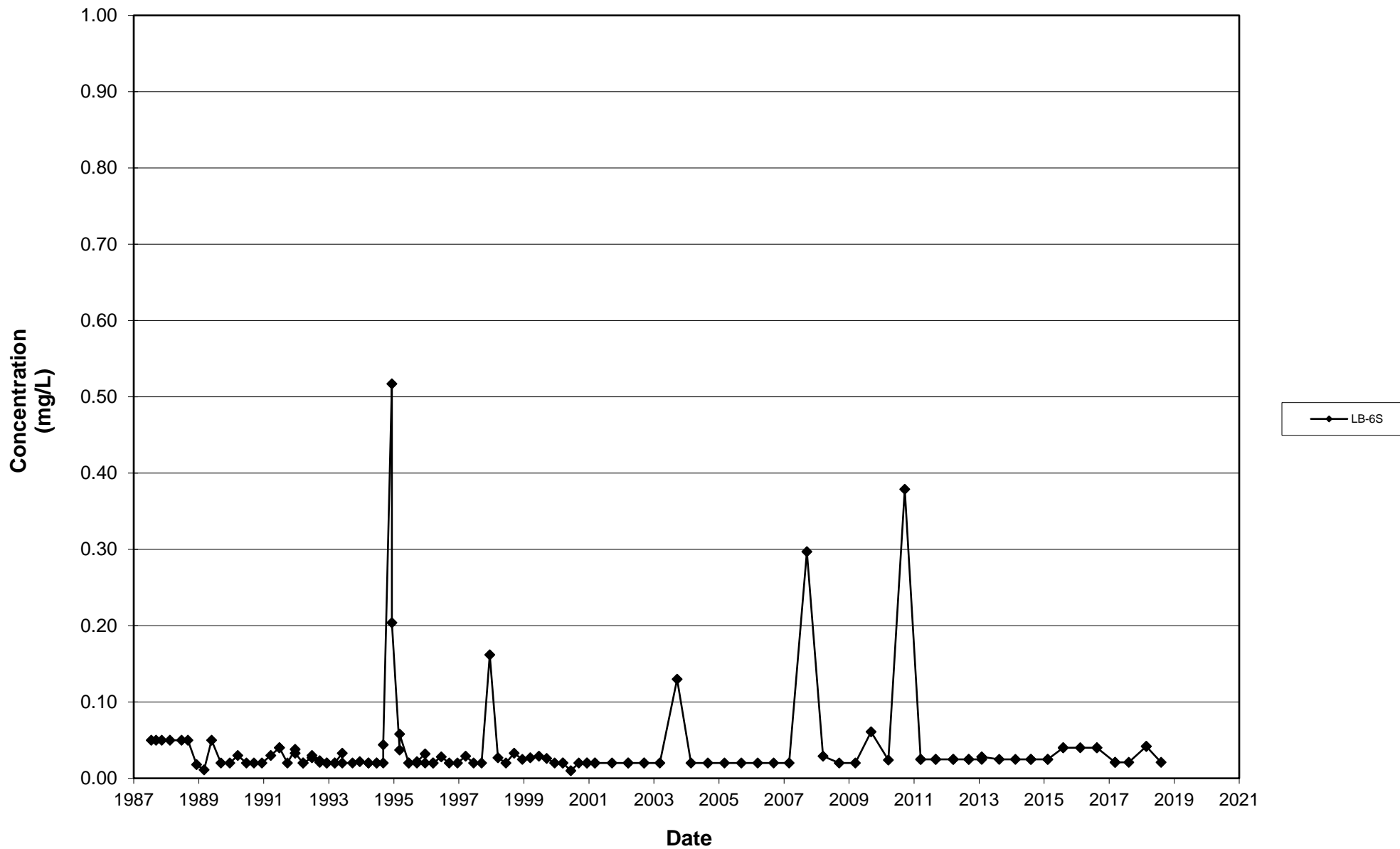
Leichner Landfill
Dissolved Iron, LB-05S
1987 - 2018



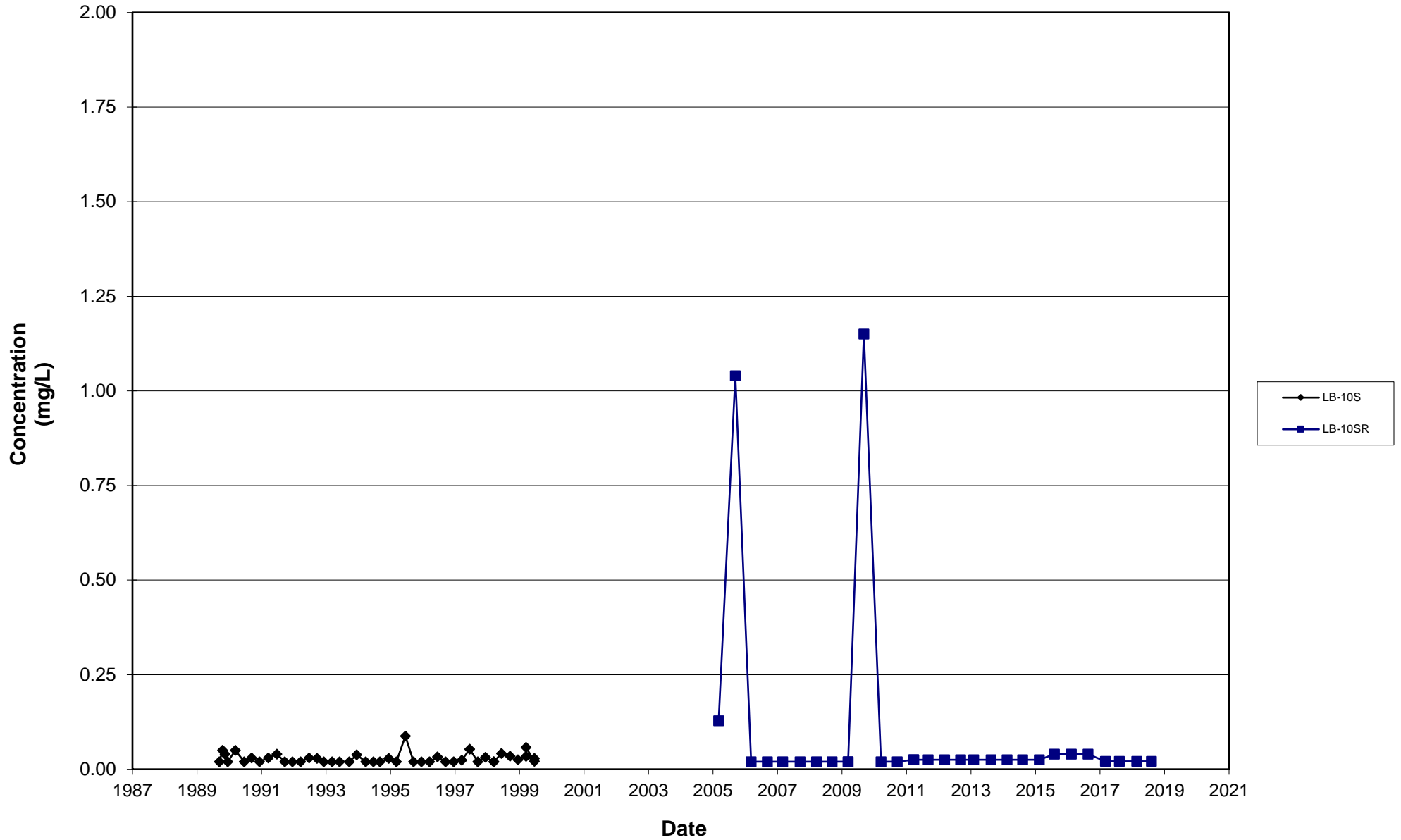
Leichner Landfill
Dissolved Iron, LB-05D
1987 - 2018



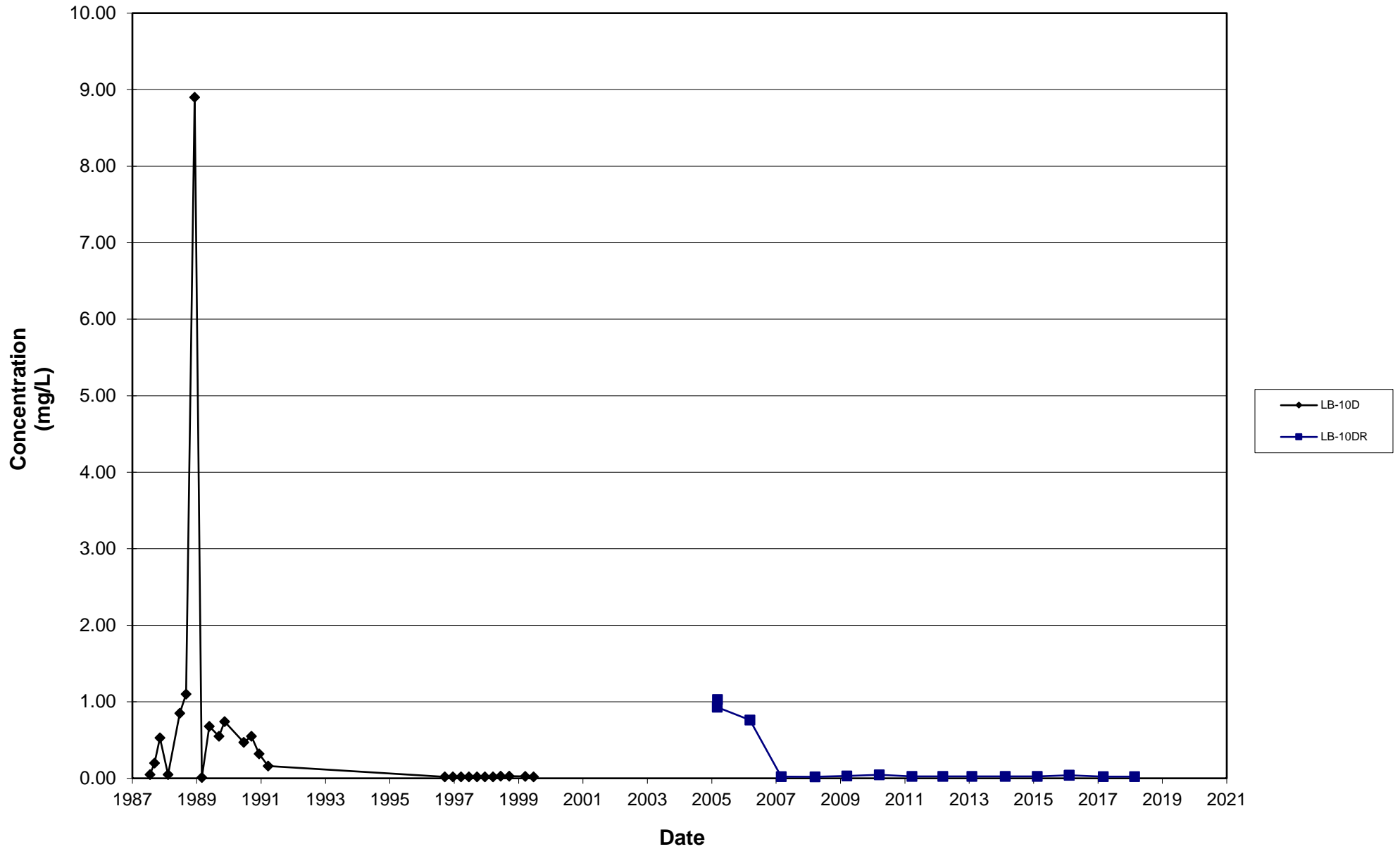
Leichner Landfill
Dissolved Iron, LB-06S
1987 - 2018



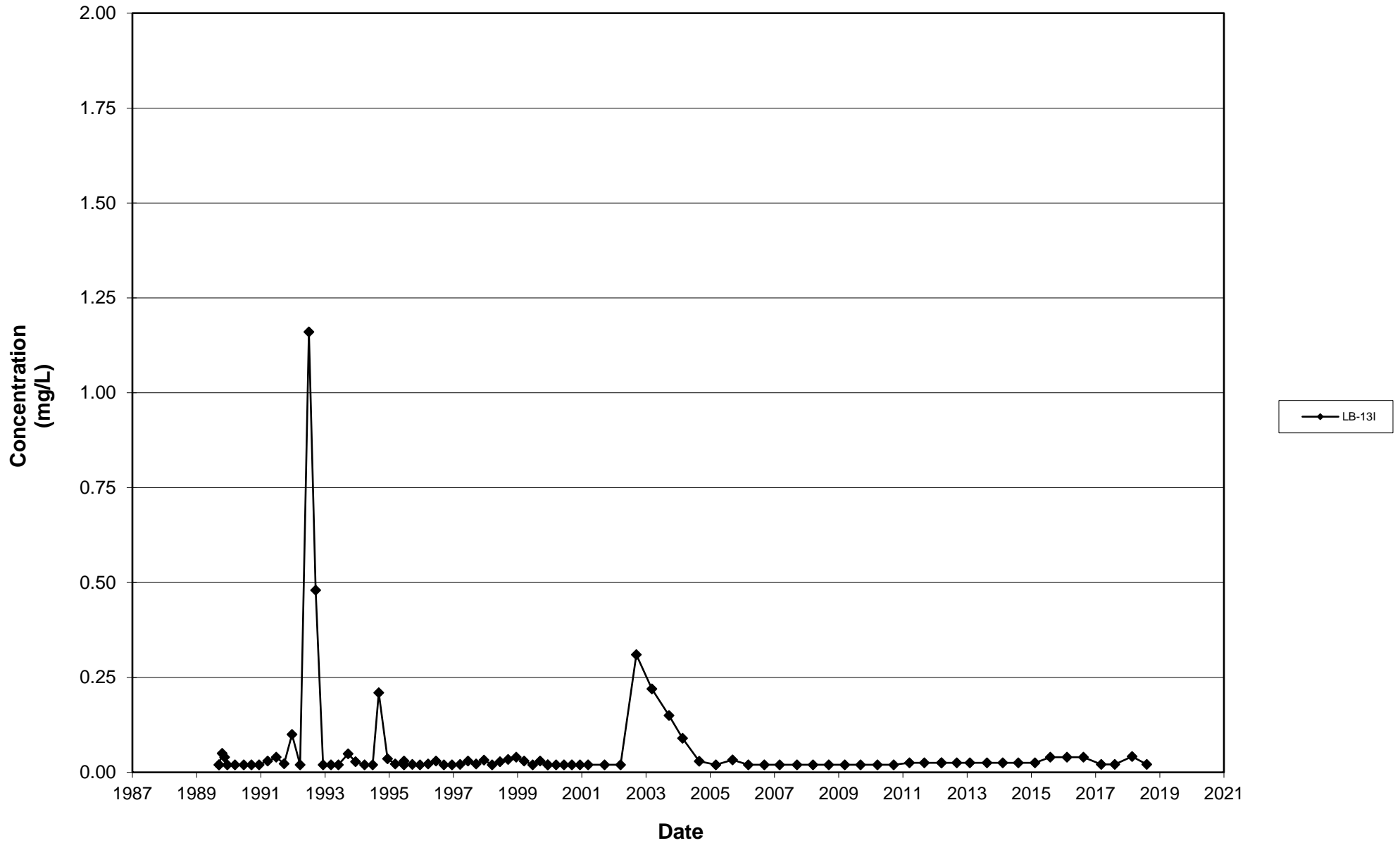
Leichner Landfill
Dissolved Iron, LB-10S and LB-10SR
1987 - 2018



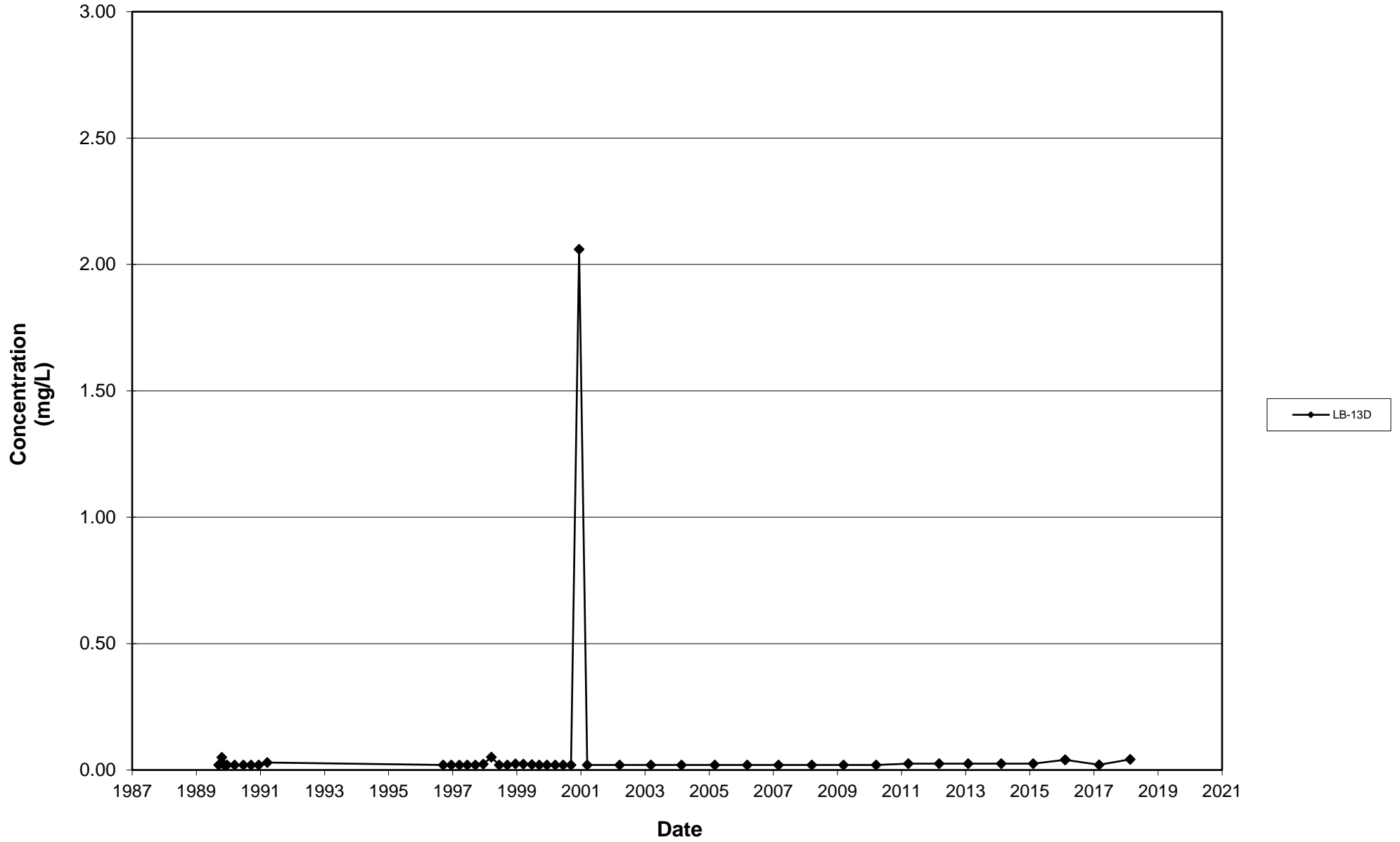
Leichner Landfill
Dissolved Iron, LB-10D and LB-10DR
1987 - 2018



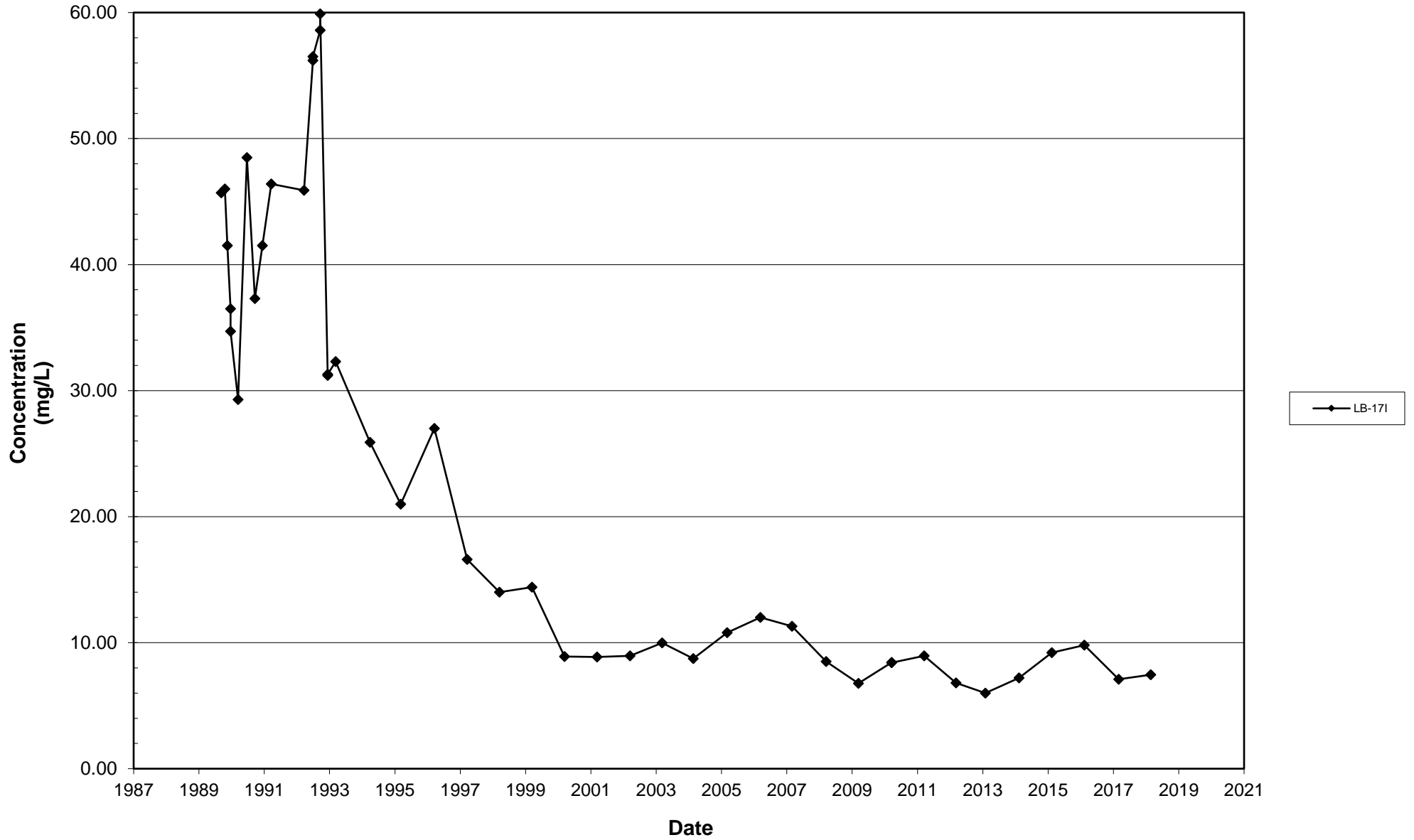
Leichner Landfill
Dissolved Iron, LB-13I
1987 - 2018



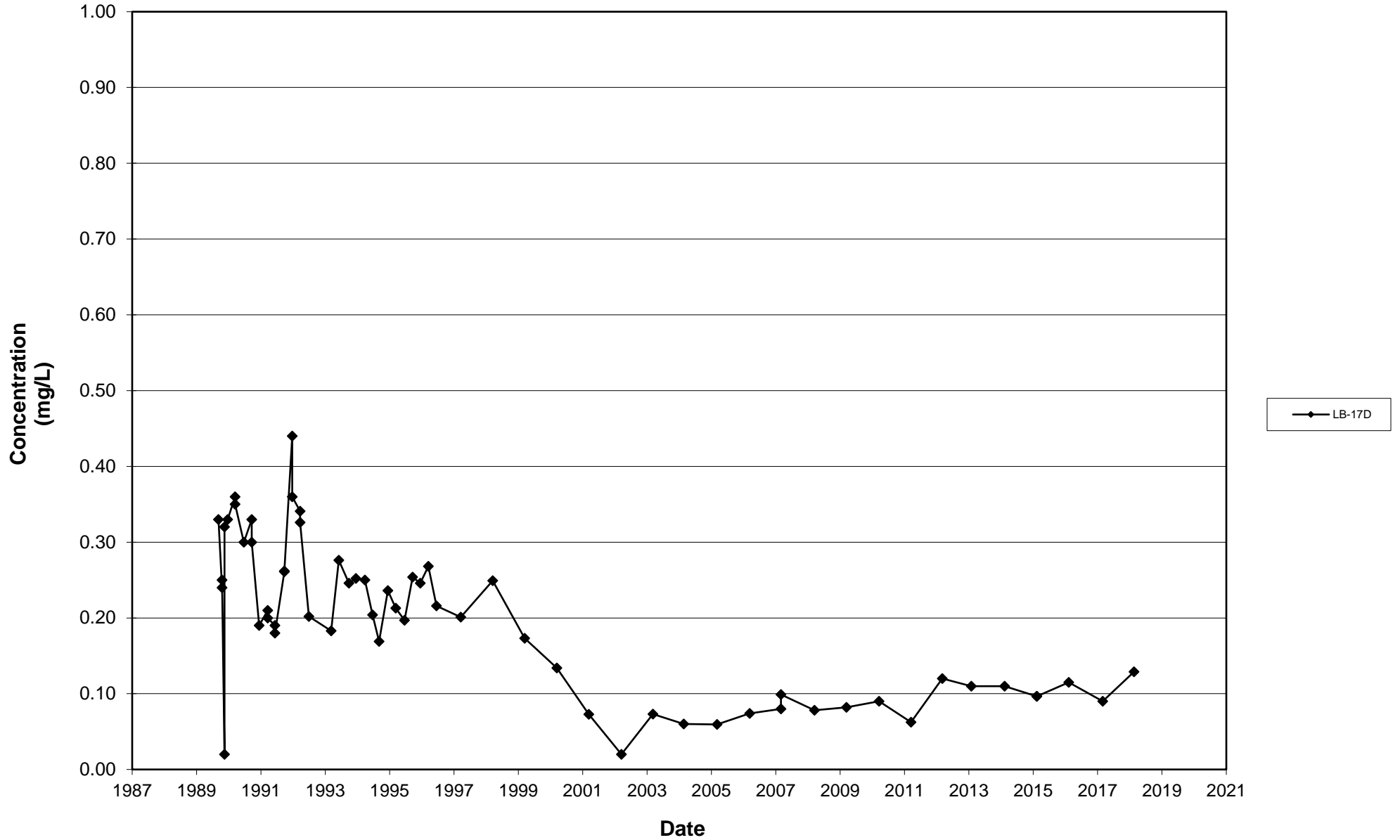
Leichner Landfill
Dissolved Iron, LB-13D
1987 - 2018



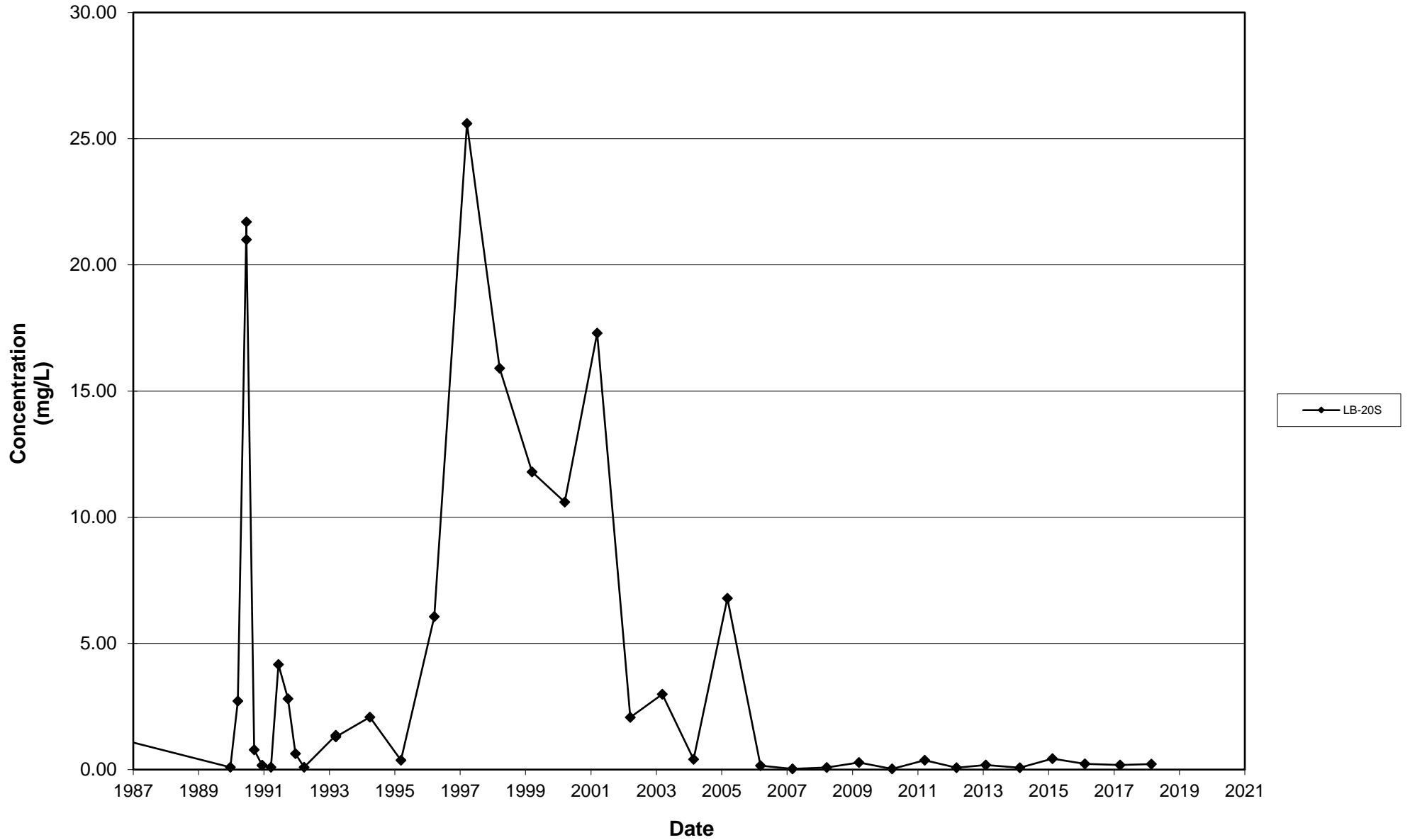
Leichner Landfill
Dissolved Iron, LB-17I
1987 - 2018



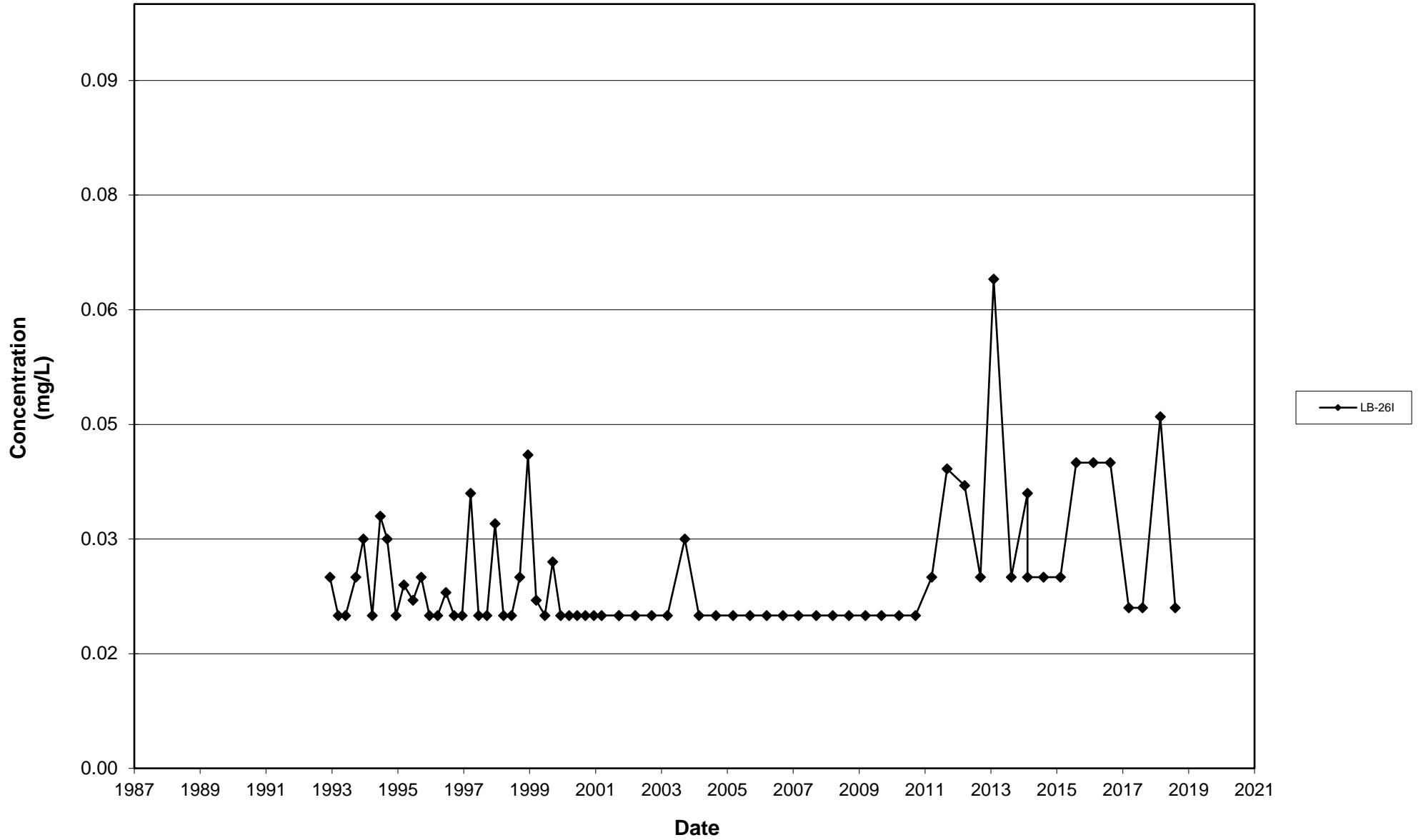
Leichner Landfill
Dissolved Iron, LB-17D
1987 - 2018



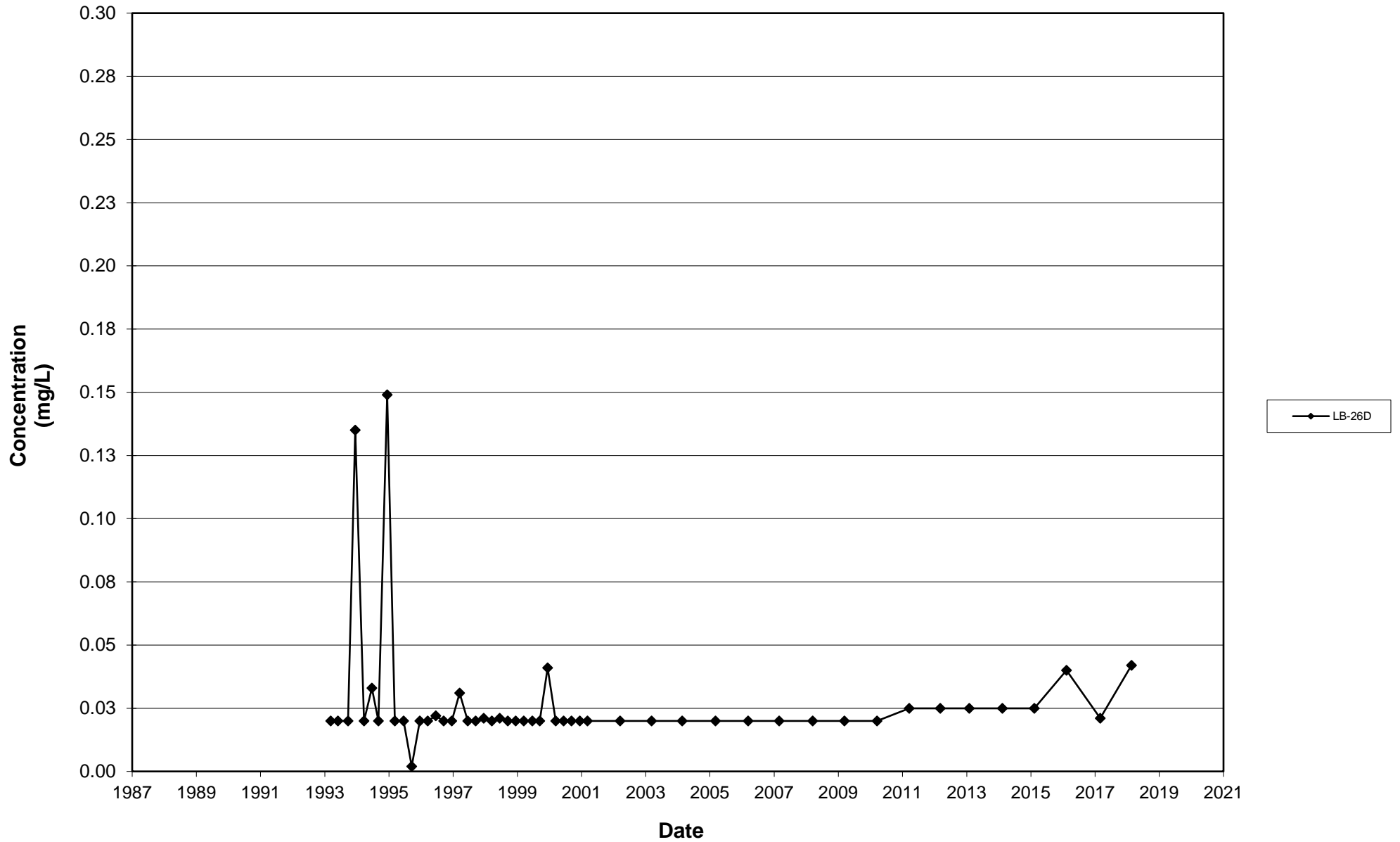
Leichner Landfill
Dissolved Iron, LB-20S
1987 - 2018



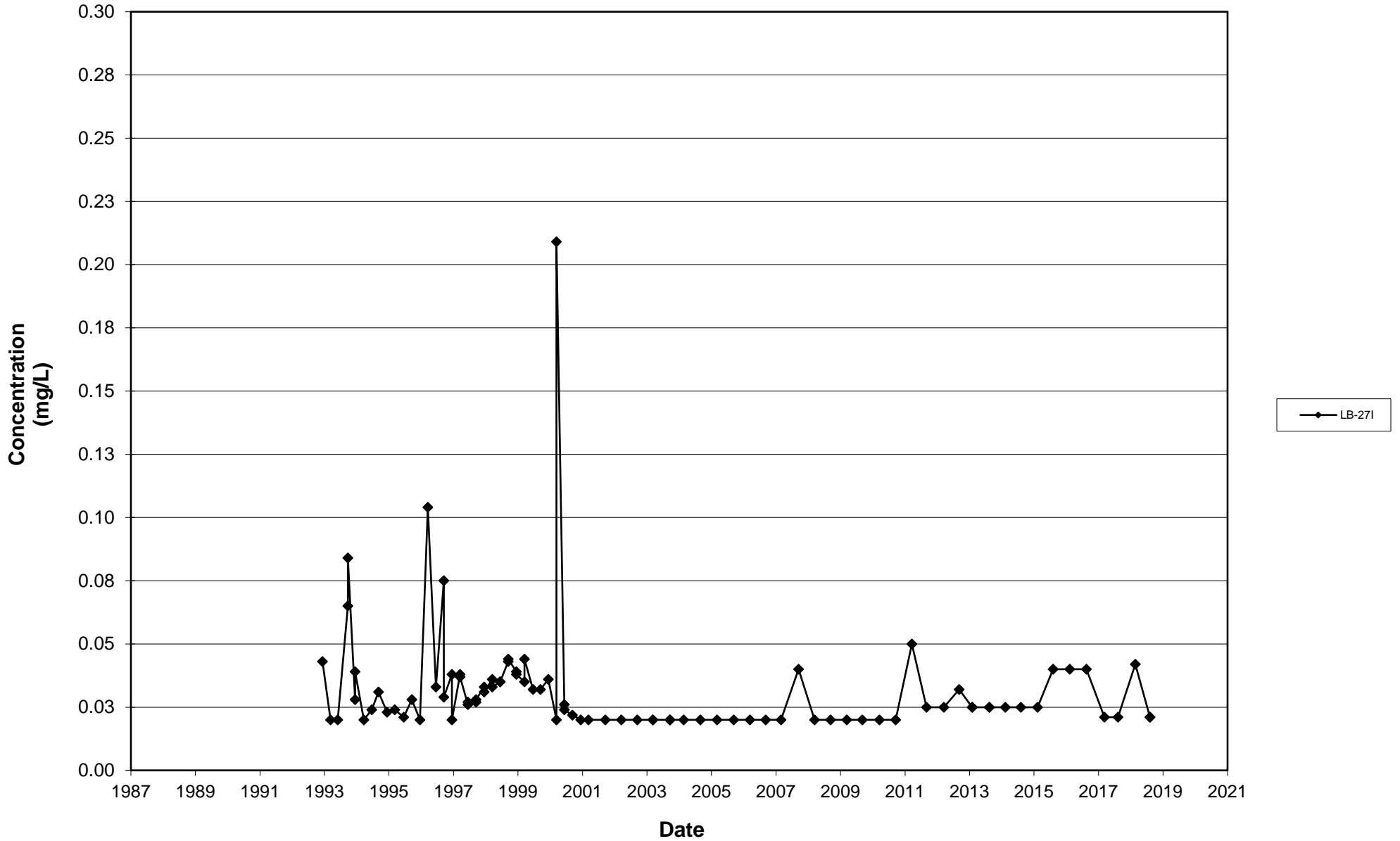
Leichner Landfill
Dissolved Iron, LB-26I
1987 - 2018



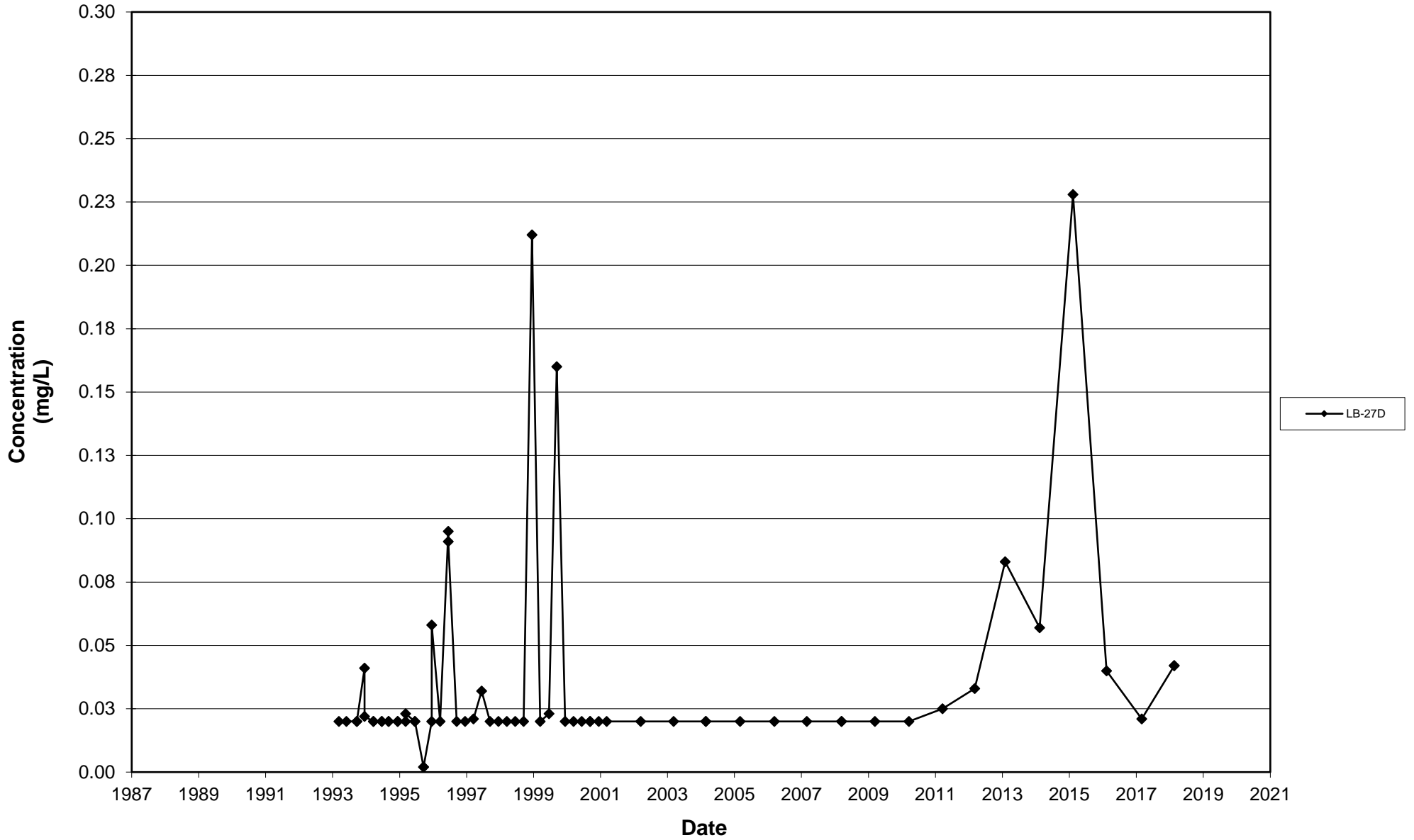
Leichner Landfill
Dissolved Iron, LB-26D
1987 - 2018



Leichner Landfill
Dissolved Iron, LB-27I
1987 - 2018

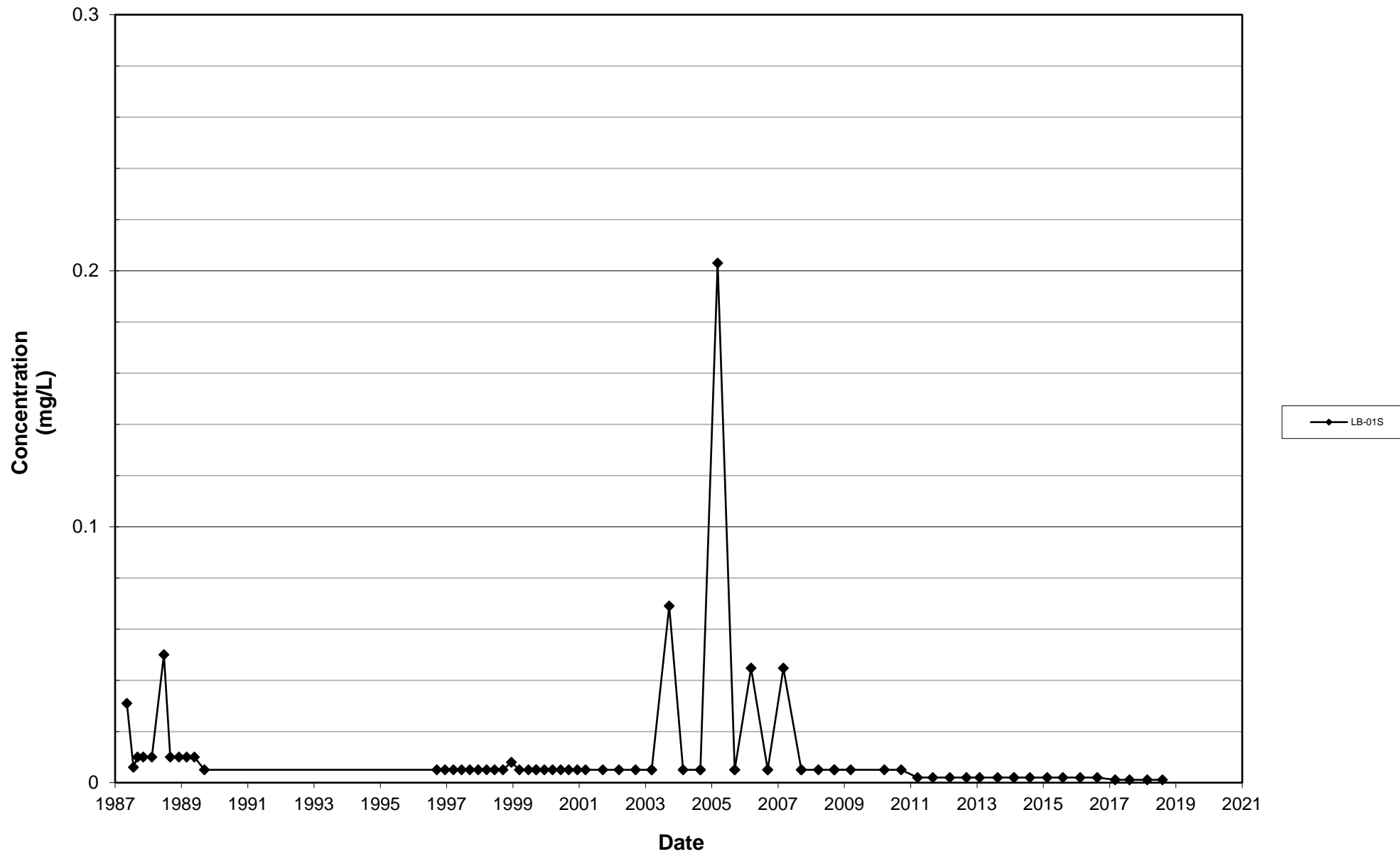


Leichner Landfill
Dissolved Iron, LB-27D
1987 - 2018

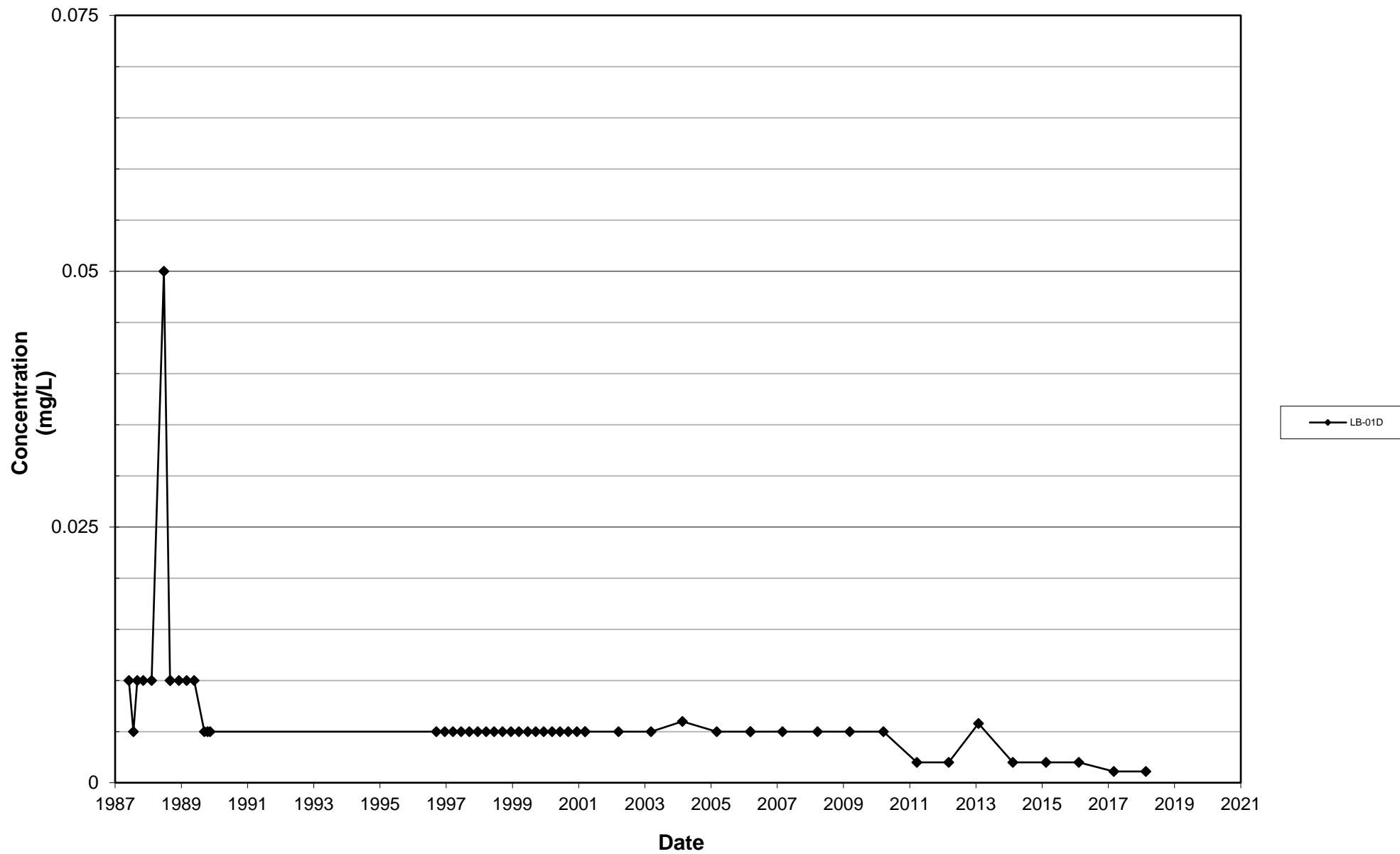


Dissolved Manganese

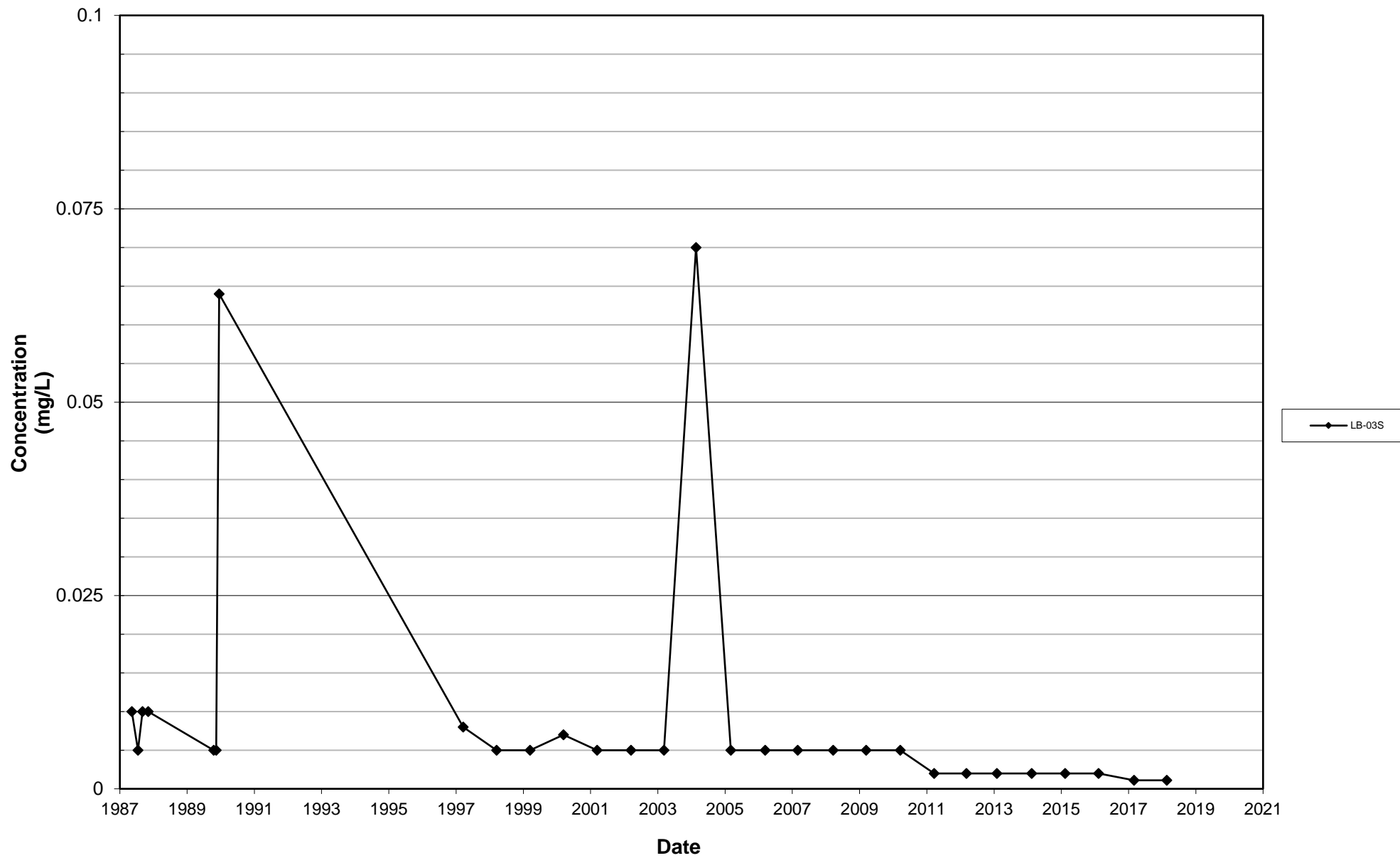
Leichner Landfill
Dissolved Manganese, LB-01S
1987 - 2018



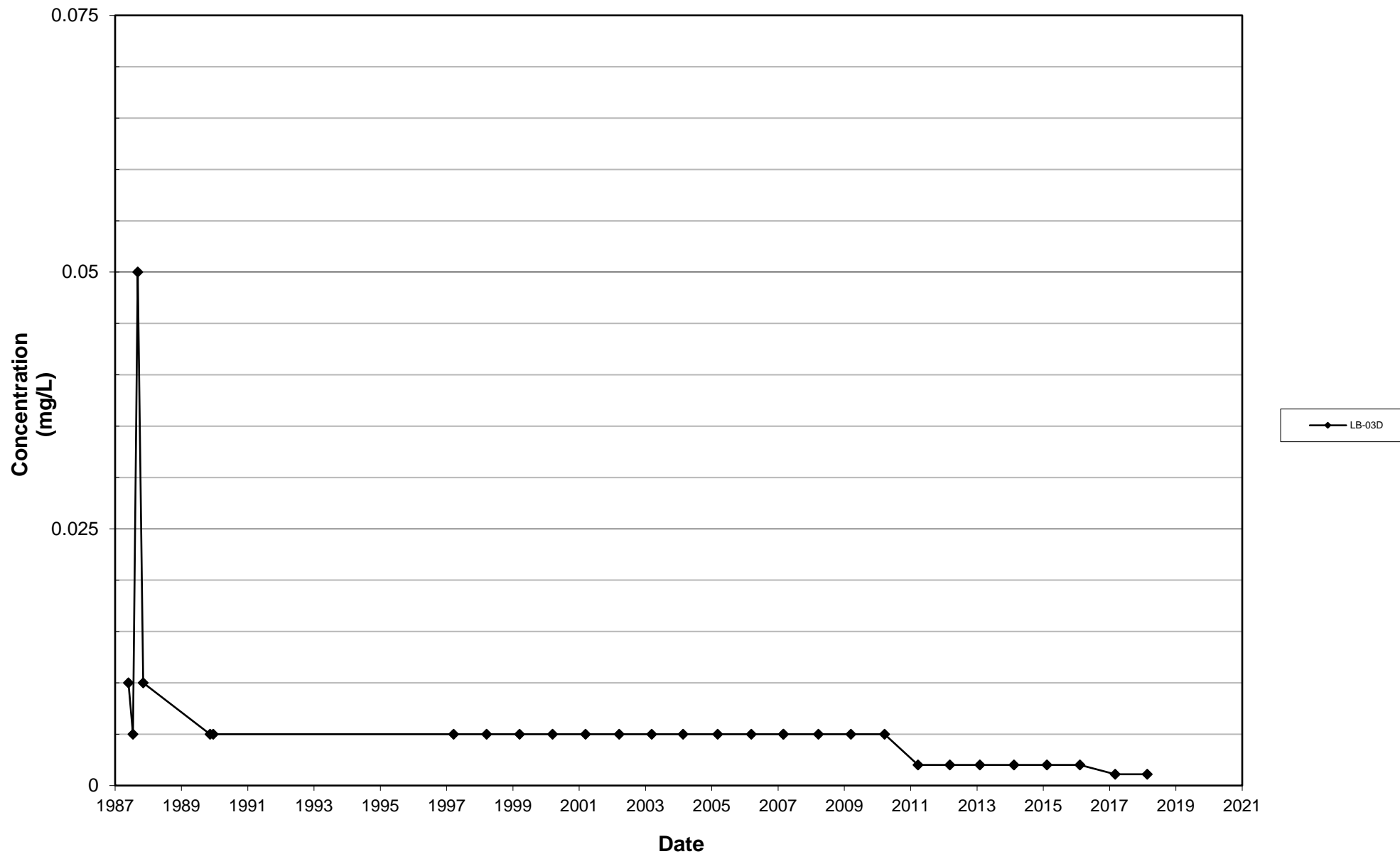
Leichner Landfill
Dissolved Manganese, LB-01D
1987 - 2018



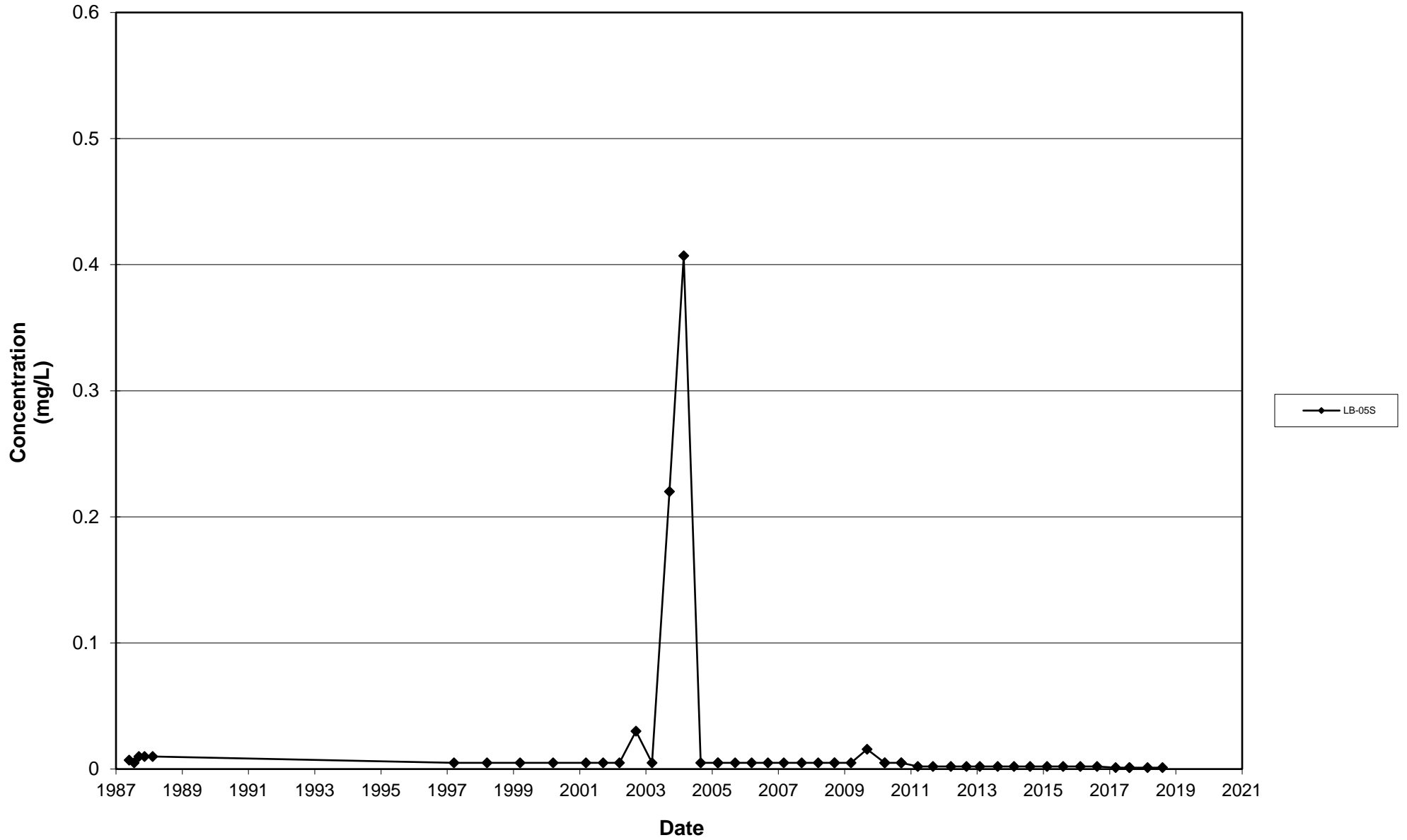
Leichner Landfill
Dissolved Manganese, LB-03S
1987 - 2018



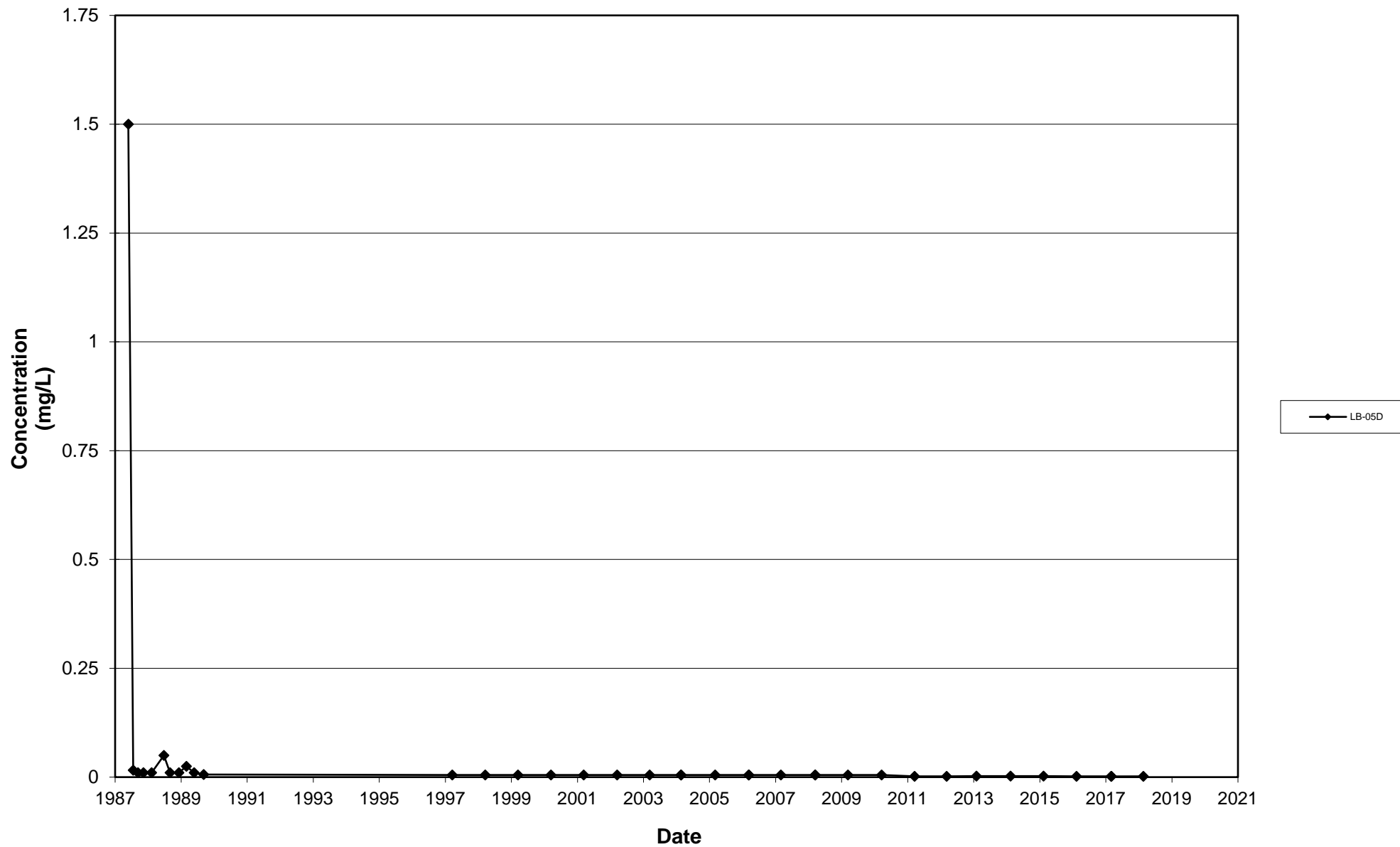
Leichner Landfill
Dissolved Manganese, LB-03D
1987 - 2018



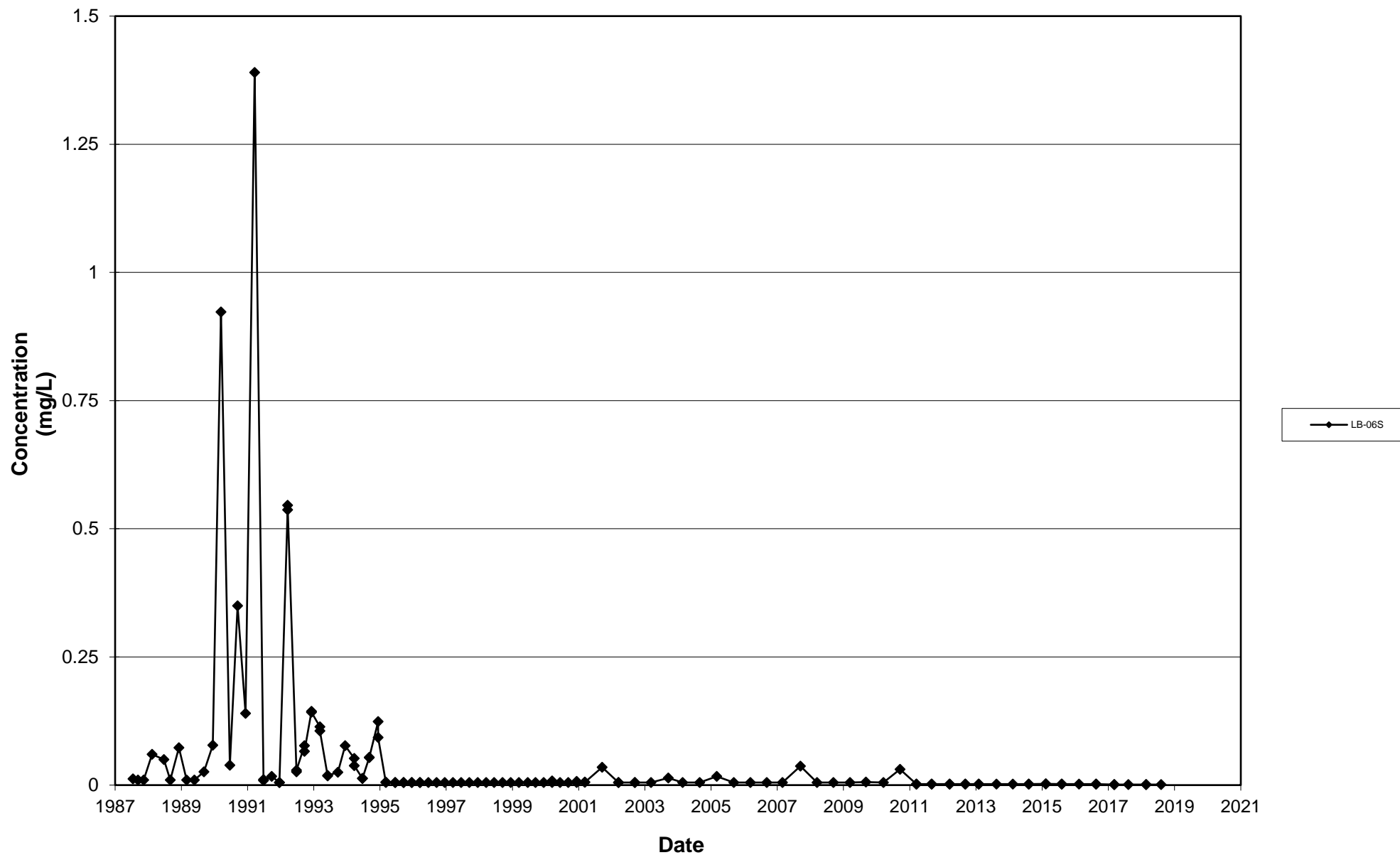
Leichner Landfill
Dissolved Manganese, LB-05S
1987 - 2018



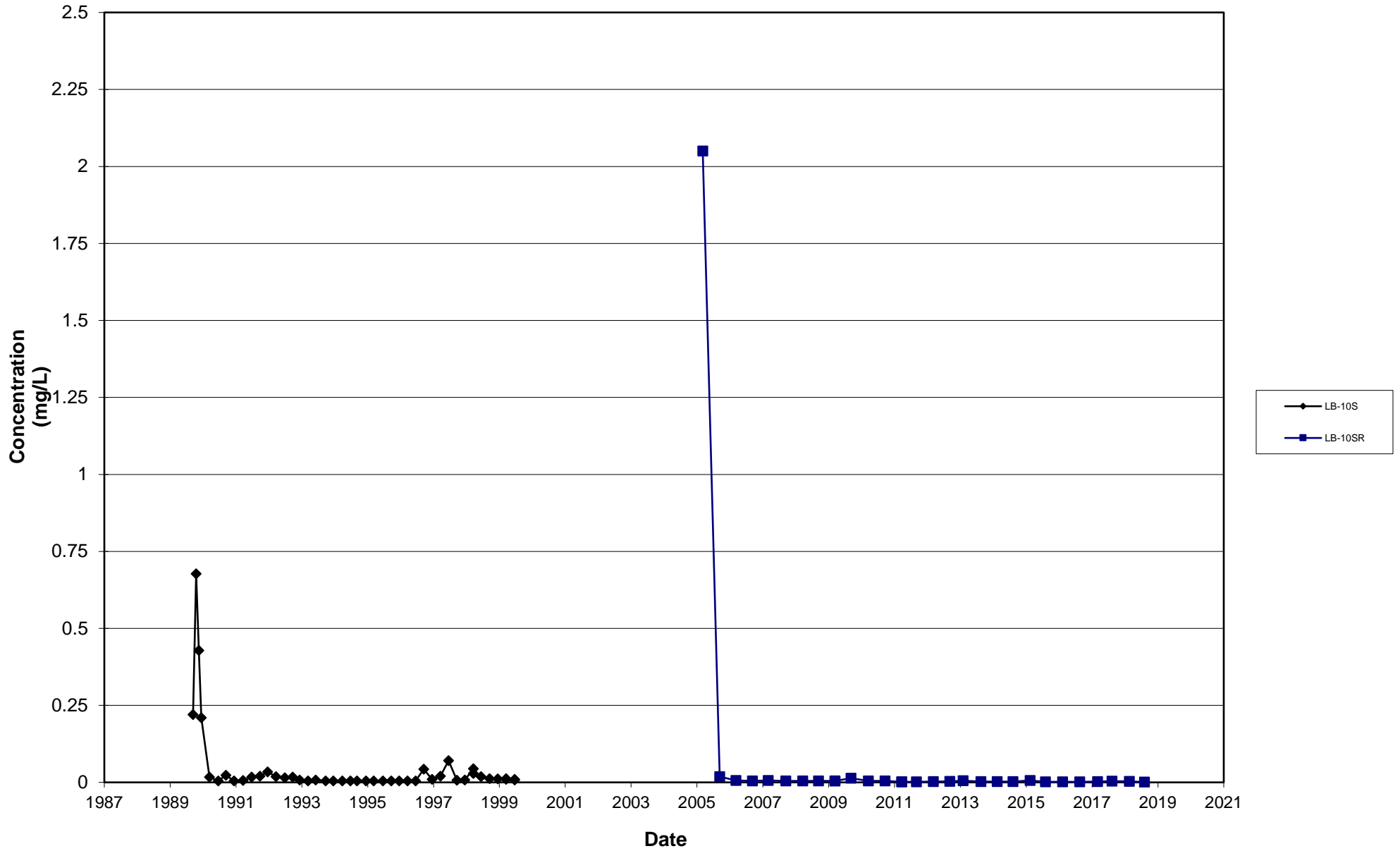
Leichner Landfill
Dissolved Manganese, LB-05D
1987 - 2018



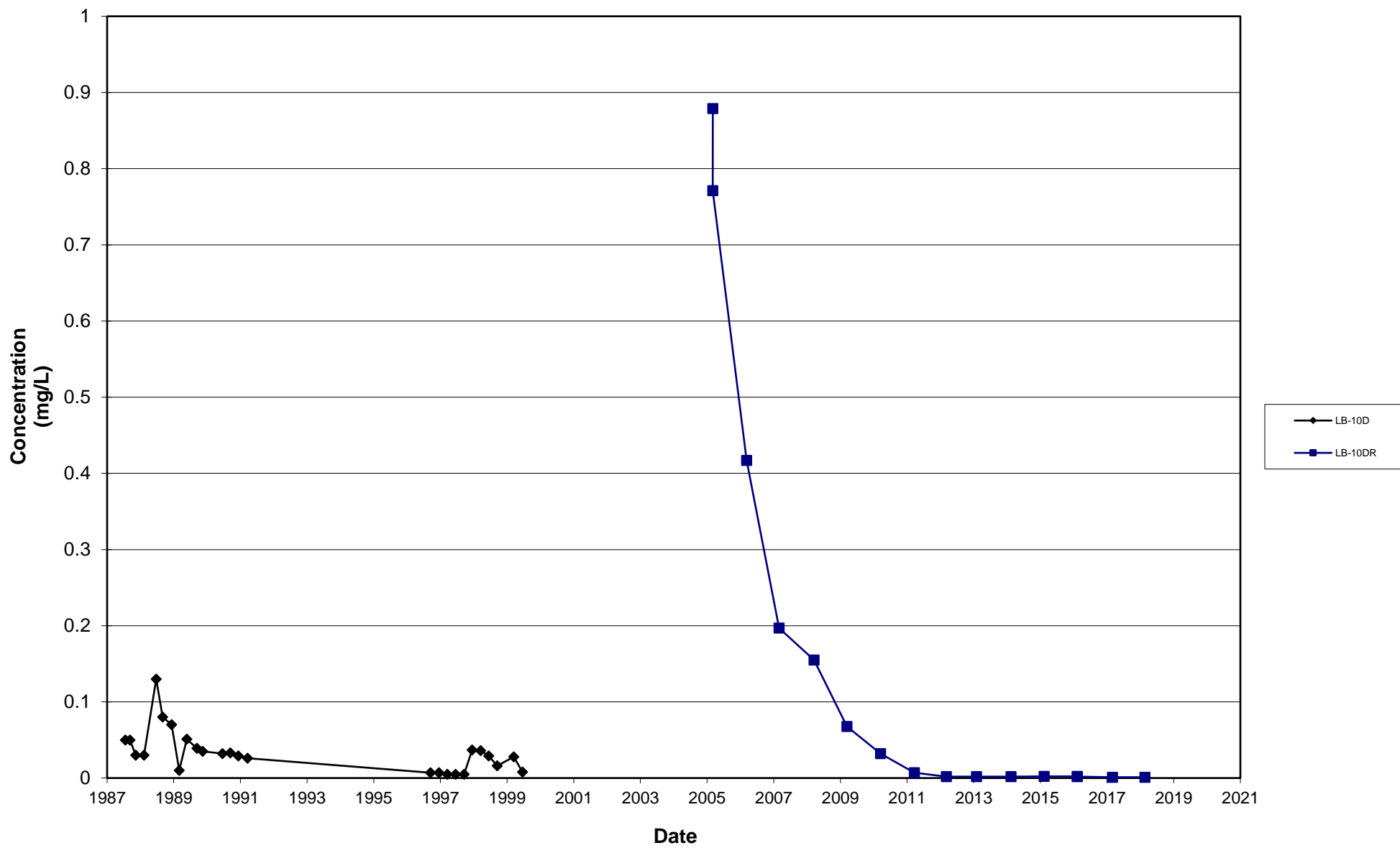
Leichner Landfill
Dissolved Manganese, LB-06S
1987 - 2018



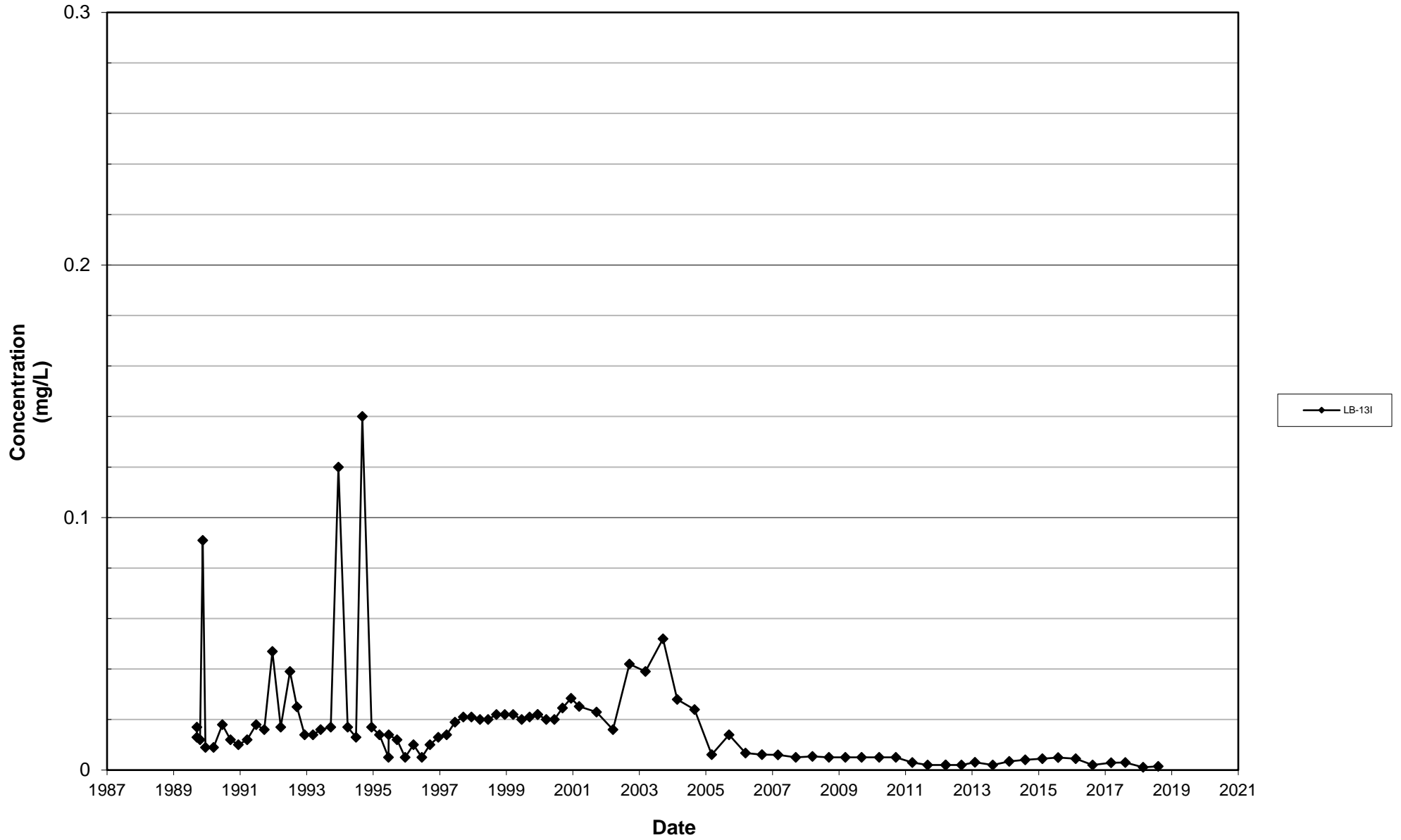
Leichner Landfill
Dissolved Manganese, LB-10S and LB-10SR
1987 - 2018



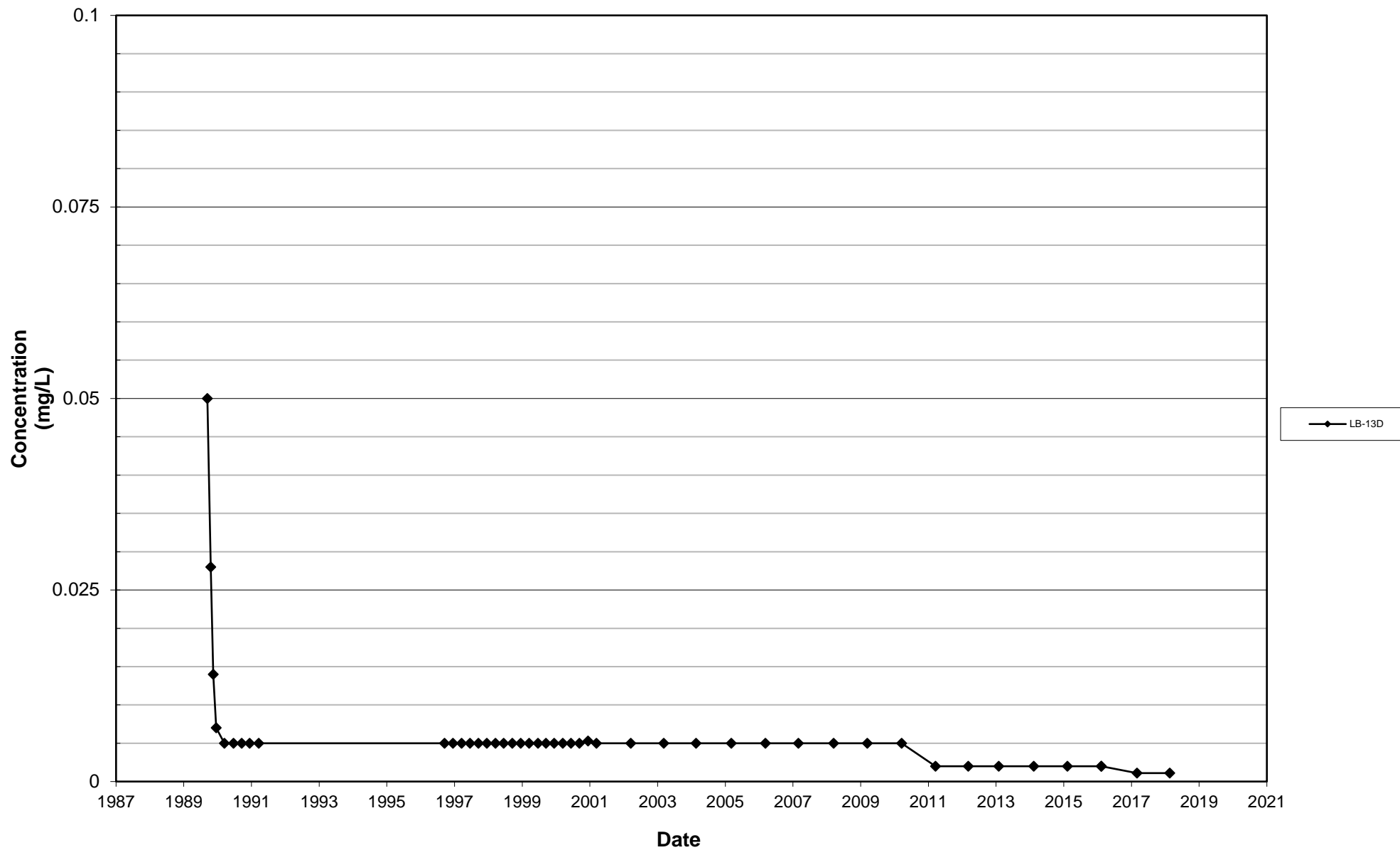
Leichner Landfill
Dissolved Manganese, LB-10D and LB-10DR
1987 - 2018



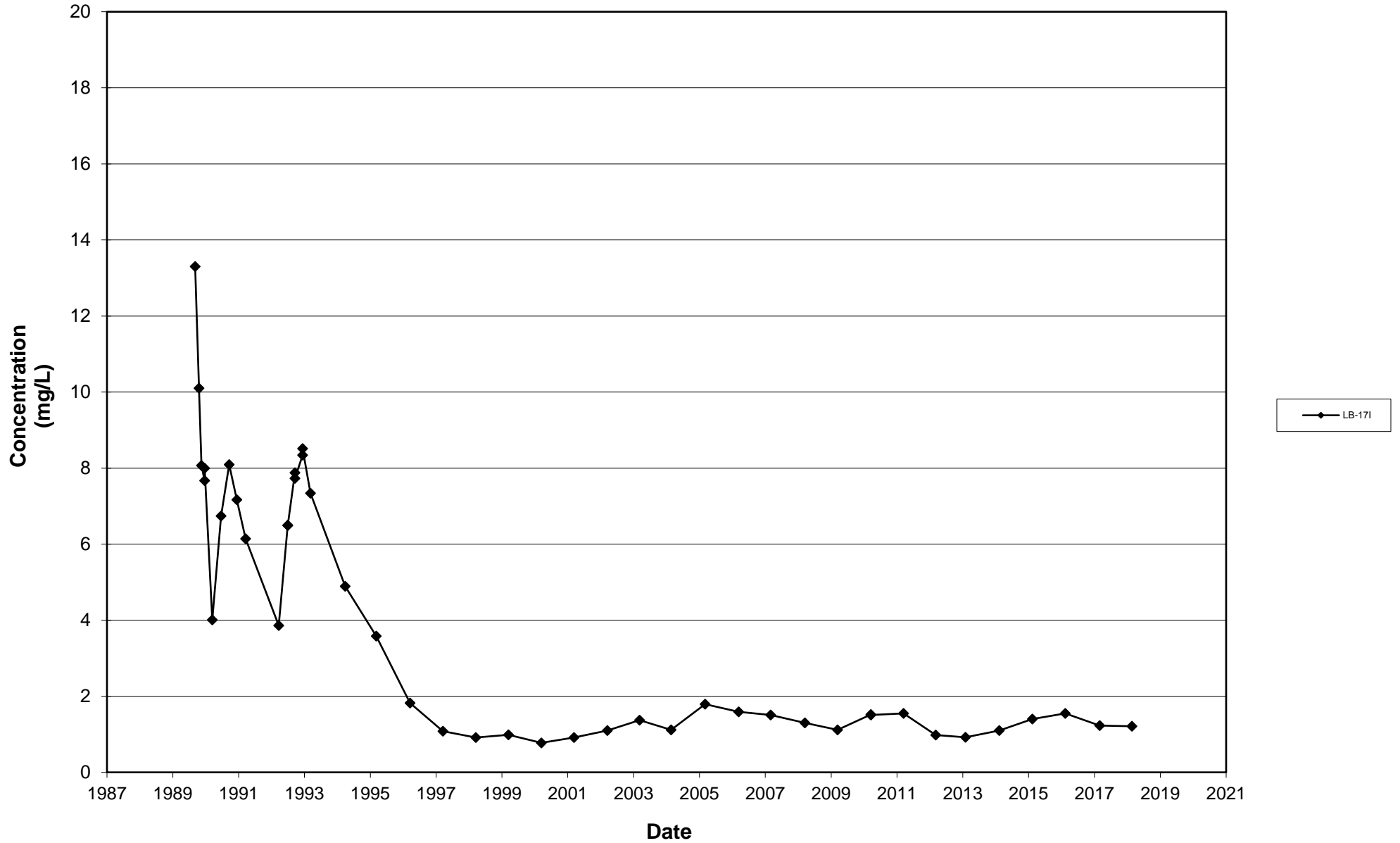
Leichner Landfill
Dissolved Manganese, LB-13I
1987 - 2018



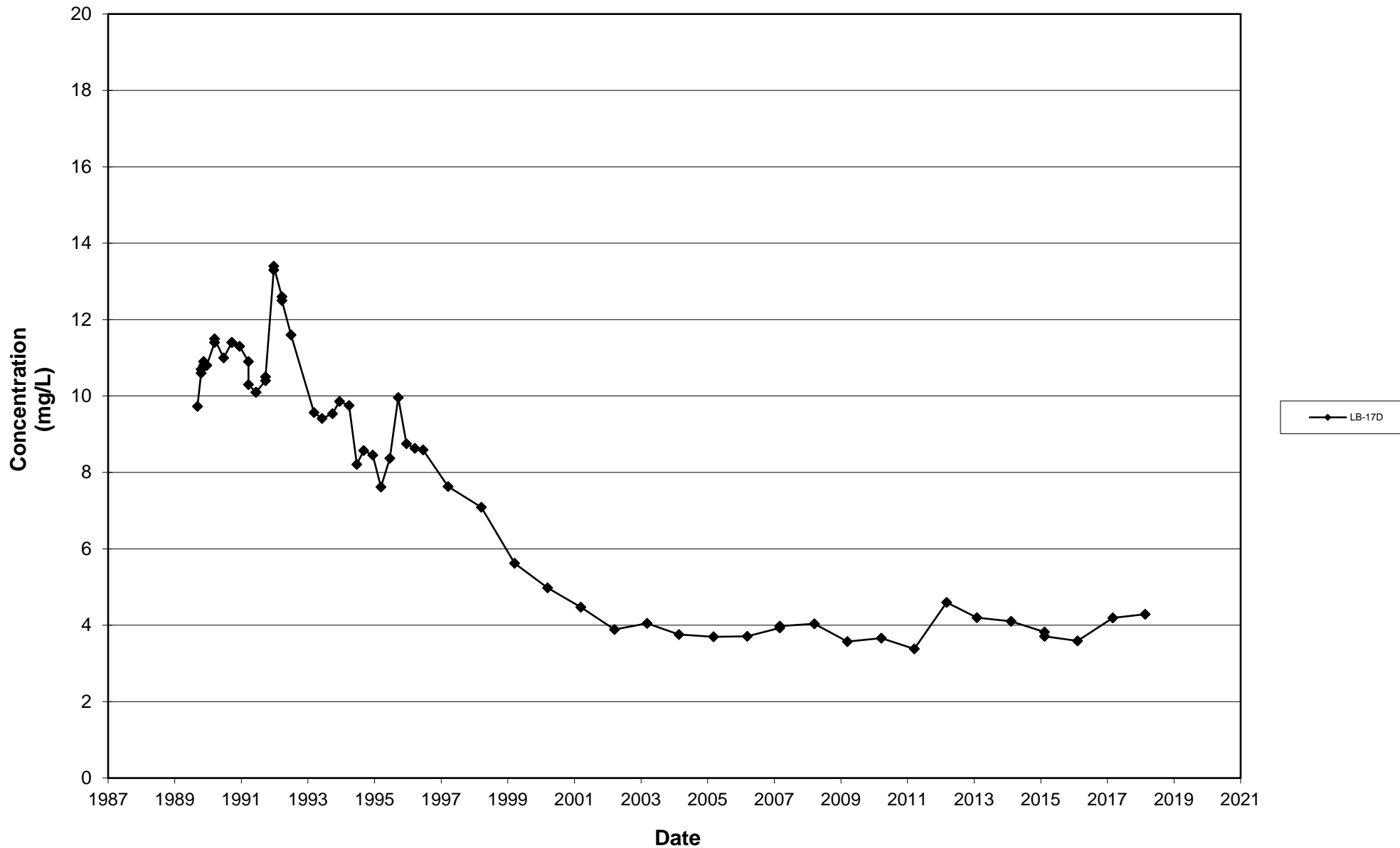
Leichner Landfill
Dissolved Manganese, LB-13D
1987 - 2018



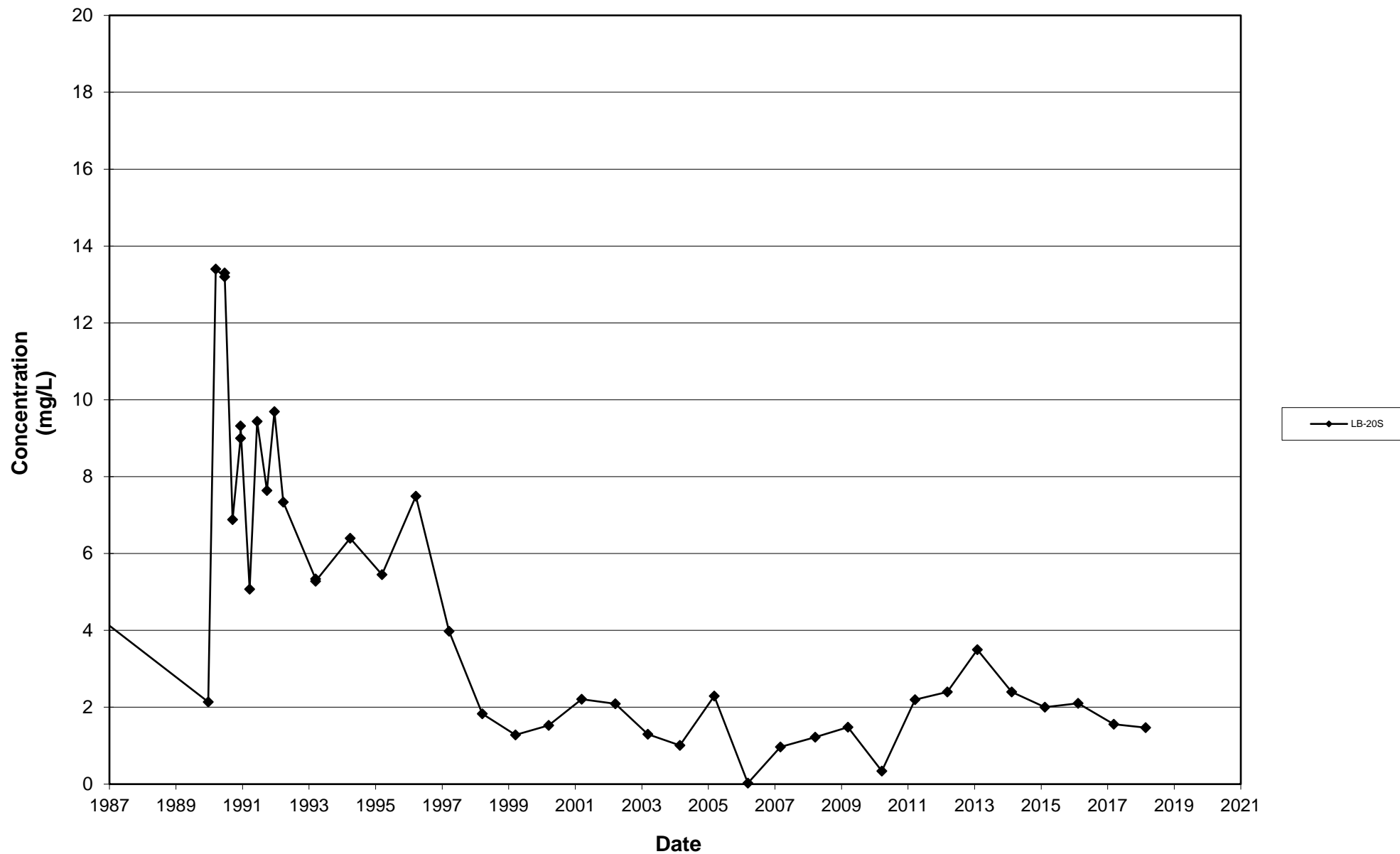
Leichner Landfill
Dissolved Manganese, LB-17I
1987 - 2018



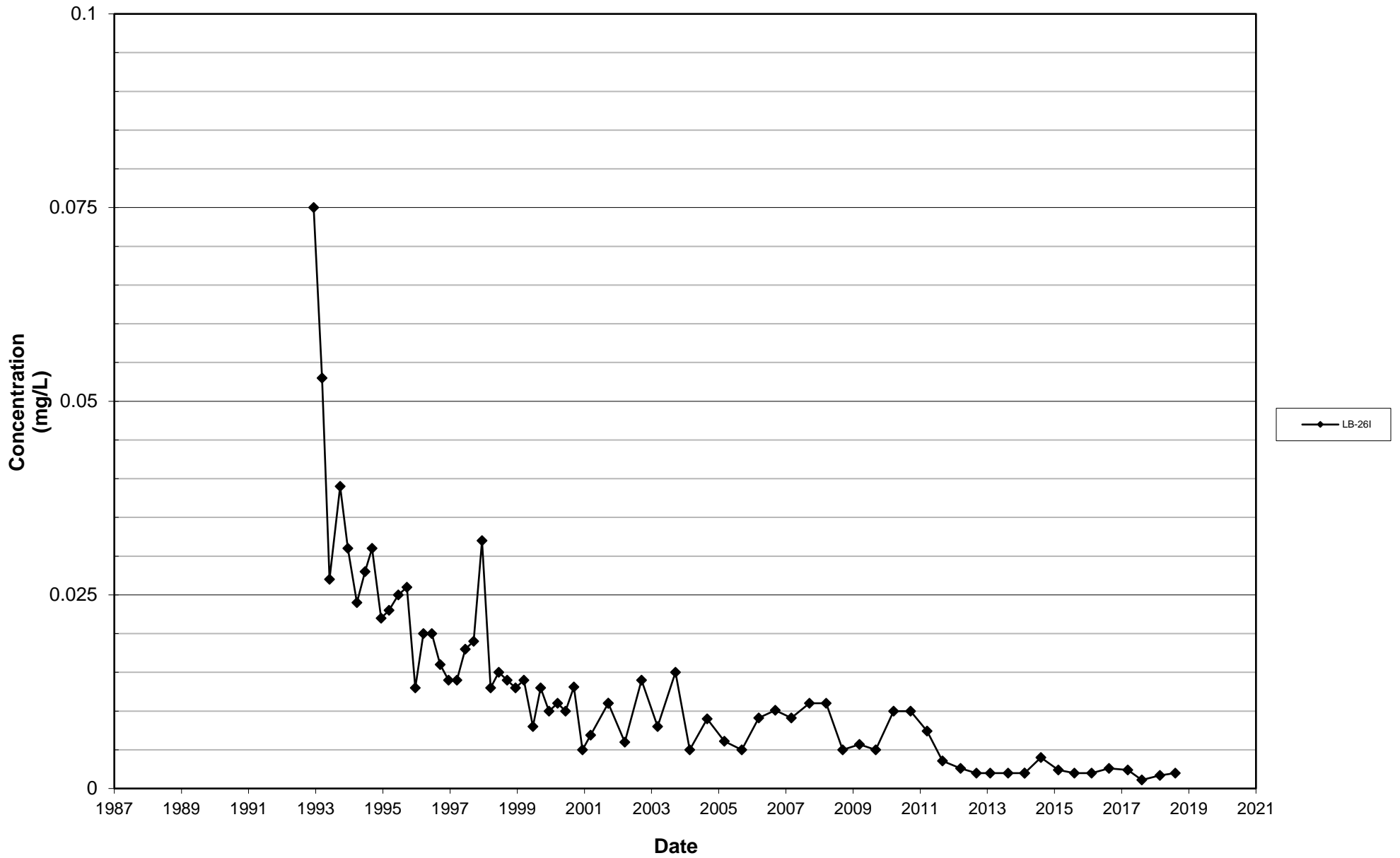
Leichner Landfill
Dissolved Manganese, LB-17D
1987 - 2018



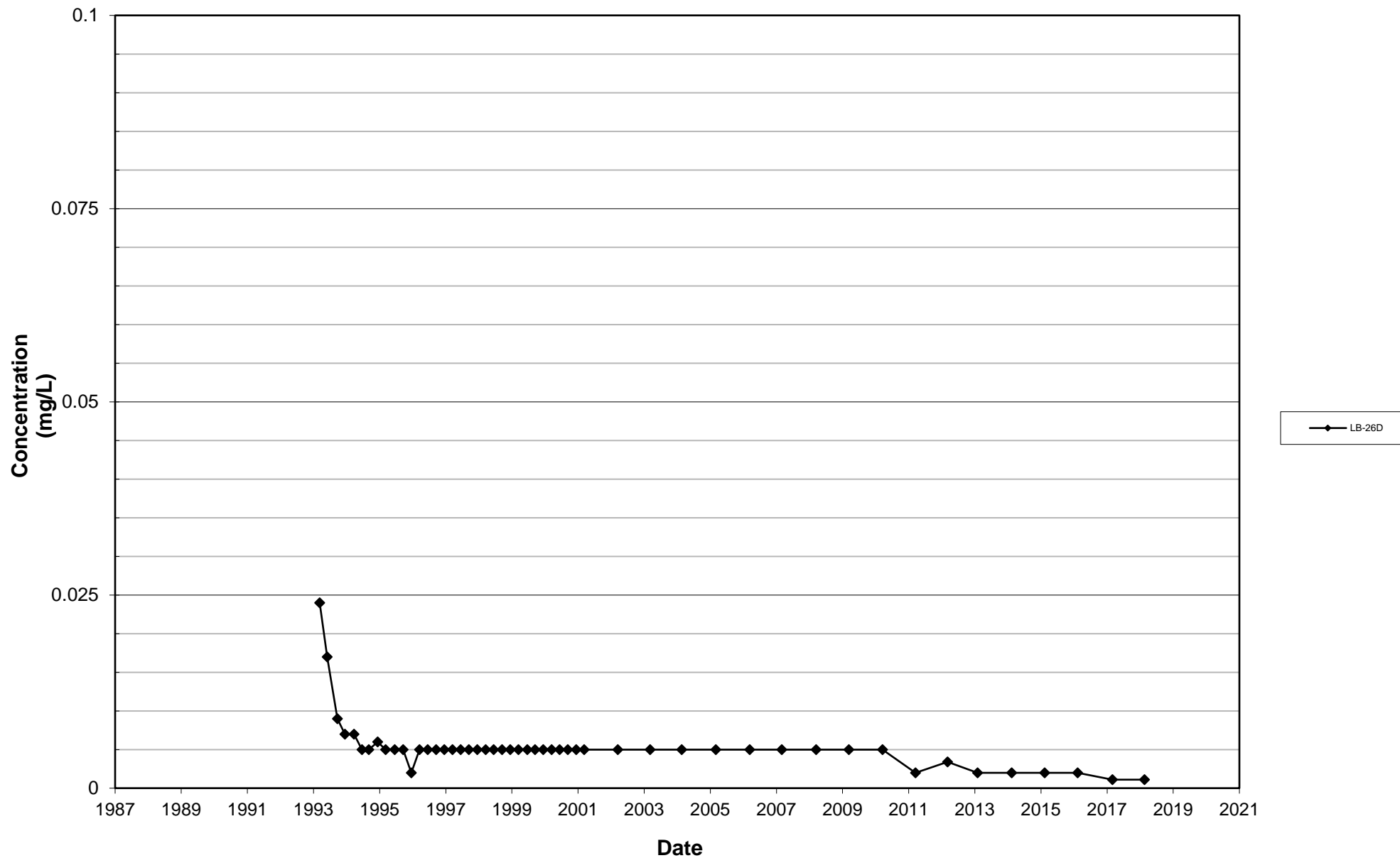
Leichner Landfill
Dissolved Manganese, LB-20S
1987 - 2018



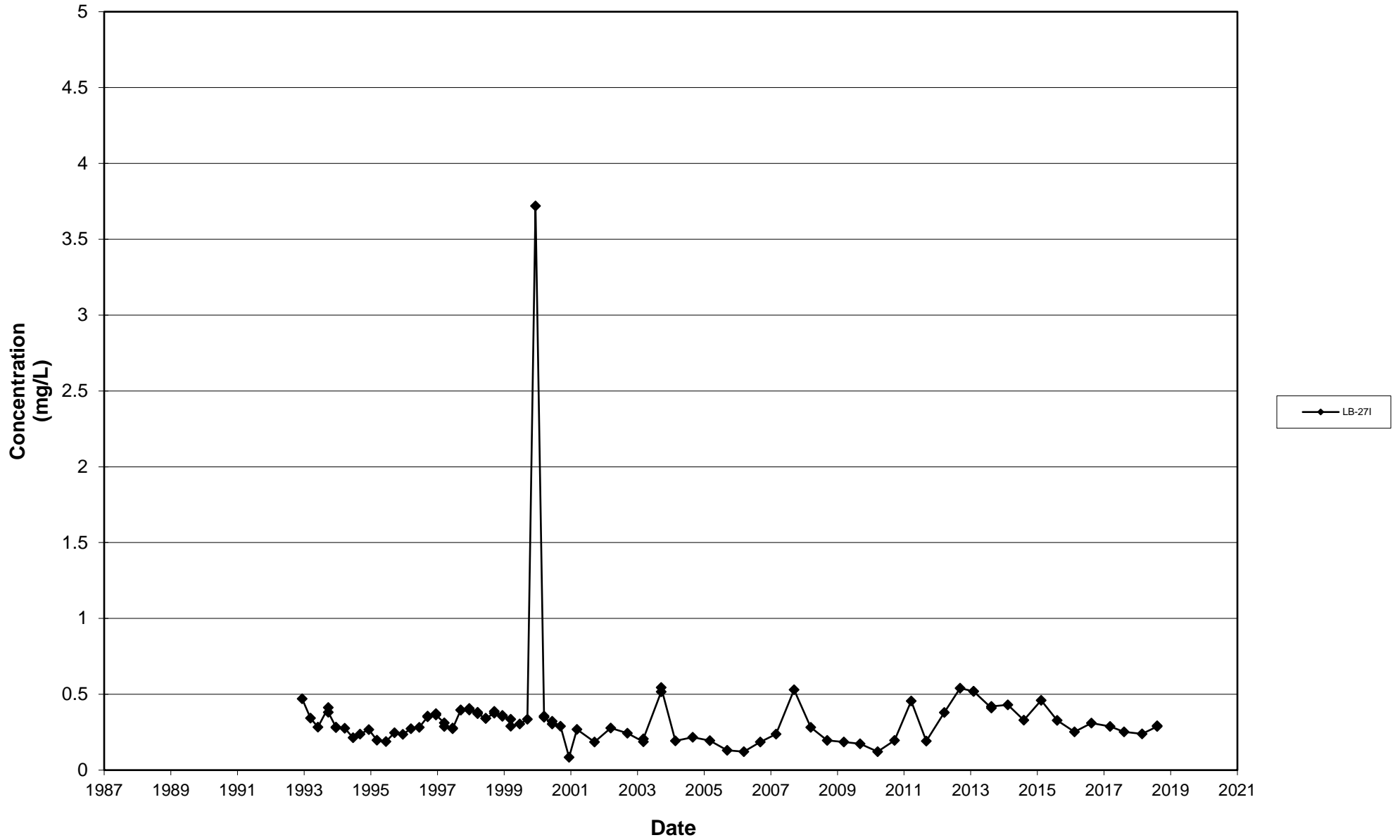
Leichner Landfill
Dissolved Manganese, LB-26I
1987 - 2018



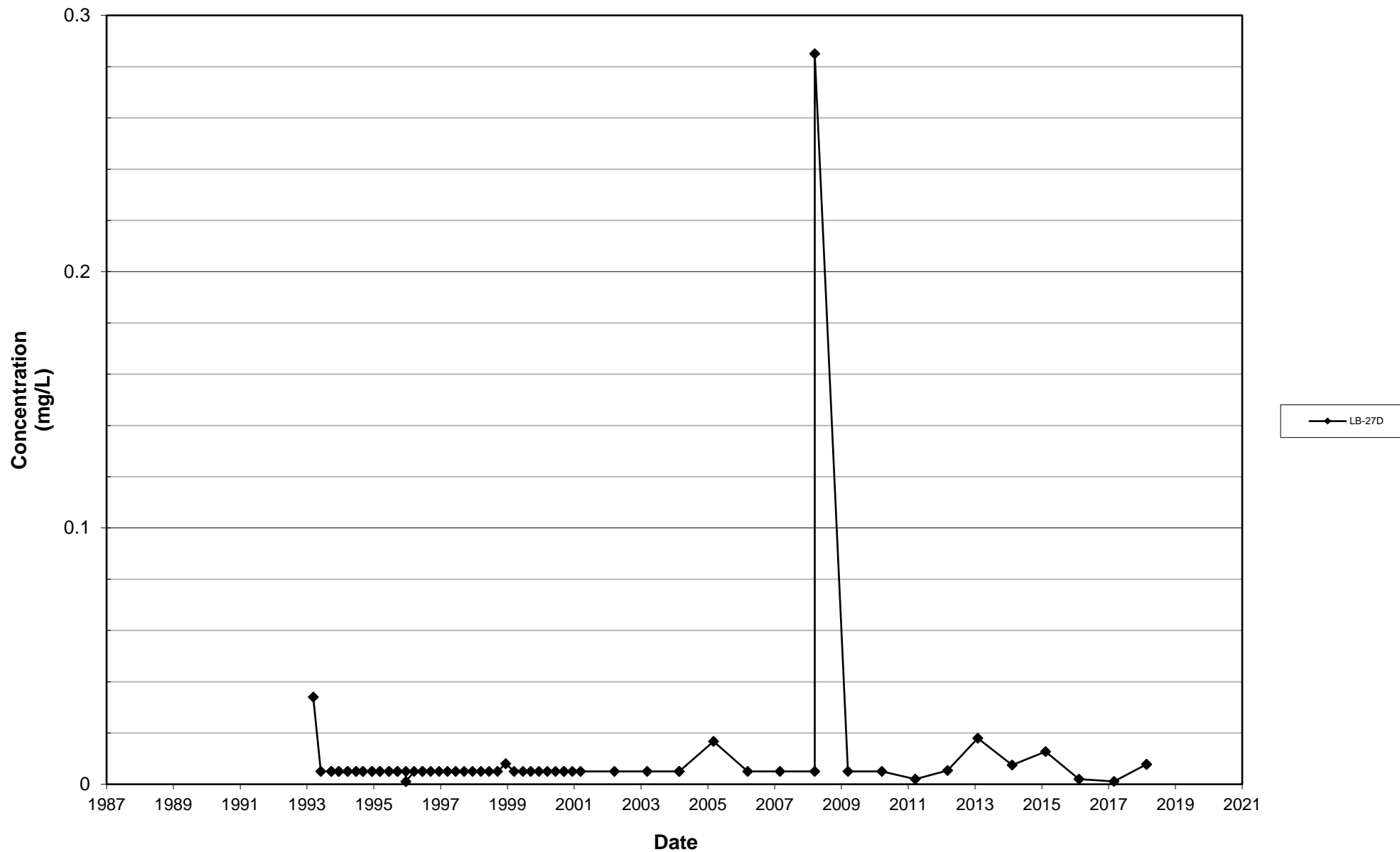
Leichner Landfill
Dissolved Manganese, LB-26D
1987 - 2018



Leichner Landfill
Dissolved Manganese, LB-27I
1987 - 2018



Leichner Landfill
Dissolved Manganese, LB-27D
1987 - 2018



APPENDIX G

Summary of 2018 Groundwater Statistical Calculations

Table G-1
Groundwater Statistics - 2014 through 2018 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)	11	11	Non	9.38	M(19.0)	5	5	Lognormal	7.06	7.53
Nitrate (mg/L)	11	11	Lognormal	5.32	6.29	5	5	Non	6.15	M(7.09)
TDS (mg/L)	11	11	Lognormal	204.09	221.22	5	5	Lognormal	178.40	213.03
Metals (mg/L)										
Iron (dissolved)	11	0	NC	NC	All ND	5	0	NC	NC	All ND
Manganese (dissolved)	11	0	NC	NC	All ND	5	1	NC	0.001	M(0.001)
VOCs (µg/L)										
1,4-Dichlorobenzene	11	0	NC	NC	All ND	5	0	NC	NC	All ND
Tetrachloroethene	11	0	NC	NC	All ND	5	0	NC	NC	All ND
Trichloroethene	11	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	3.66	M(4.14)	5	5	Non	4.57	M(5.32)
Nitrate (mg/L)	5	5	Non	3.67	M(4.00)	5	5	Non	4.42	M(4.81)
TDS (mg/L)	5	5	Lognormal	161.60	188.06	5	5	Lognormal	167.80	203.02
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 - 2014 through 2018 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	4.21	4.66	5	5	Lognormal	8.78	9.92
Nitrate (mg/L)	10	10	Lognormal	5.06	5.84	5	5	Non	0.62	M(0.82)
TDS (mg/L)	10	10	Non	159.20	M(182)	5	5	Lognormal	218.60	232.24
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	0.0020	0.0027
VOCs (µg/L)										
1,4-Dichlorobenzene	10	0	NC	NC	All ND	7	0	NC	NC	All ND
Tetrachloroethene	10	0	NC	NC	All ND	7	0	NC	NC	All ND
Trichloroethene	10	0	NC	NC	All ND	7	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)	13	13	Normal	4.54	5.41	5	5	Lognormal	13.89	M(35)
Nitrate (mg/L)	13	13	Normal	1.69	1.99	5	1	NC	0.40	M(0.40)
TDS (mg/L)	13	13	Normal	151.46	168.00	5	5	Lognormal	205.20	241.90
Metals (mg/L)										
Iron (dissolved)	13	0	NC	NC	All ND	5	5	Lognormal	0.23	0.69
Manganese (dissolved)	13	0	NC	NC	All ND	5	5	Lognormal	1.91	2.41
VOCs (µg/L)										
1,4-Dichlorobenzene	13	0	NC	NC	All ND	5	1	NC	0.200	M(0.20)
Tetrachloroethene	13	0	NC	NC	All ND	5	0	NC	NC	All ND
Trichloroethene	13	0	NC	NC	All ND	5	0	NC	NC	All ND

Table G-1
Groundwater Statistics - 2014 through 2018 Data
95 Percent Upper Confidence Limits on the Mean
Leichner Landfill

Parameter	LB-10SR					LB-10DR				
	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	18.50	26.60	5	5	Lognormal	13.50	17.60
Nitrate (mg/L)	10	10	Lognormal	1.83	3.86	5	5	Lognormal	2.64	3.42
TDS (mg/L)	10	10	Lognormal	255.30	283.14	5	5	Lognormal	244.6	294.24
Metals (mg/L)										
Iron (dissolved)	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Manganese (dissolved)	10	7	Non	0.003	M(0.0059)	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

Parameter	LB-13I					LB-13D				
	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	8.33	9.16	5	5	Non	5.93	M(10.8)
Nitrate (mg/L)	10	10	Normal	3.18	3.78	5	5	Lognormal	4.86	5.14
TDS (mg/L)	10	10	Lognormal	189.60	200.61	5	5	Lognormal	159.40	185.09
Metals (mg/L)										
Iron (dissolved)	10	0	NC	NC	All ND	5	0	NC	NC	All ND
Manganese (dissolved)	10	8	Normal	0.004	0.0039	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 - 2014 through 2018 Data
95 Percent Upper Confidence Limits on the Mean
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	10.58	11.66	6	6	Non	9.04	M(15.90)
Nitrate (mg/L)	5	0	NC	NC	All ND	6	0	NC	NC	All ND
TDS (mg/L)	5	5	Non	212.60	M(250)	6	6	Lognormal	205.00	220.51
Metals (mg/L)										
Iron (dissolved)	5	5	Non	8.15	M(9.8)	6	6	Lognormal	0.106	0.120
Manganese (dissolved)	5	5	Lognormal	1.30	1.50	6	6	Lognormal	3.95	4.20
VOCs (µg/L)										
1,4-Dichlorobenzene	5	0	NC	NC	All ND	6	0	NC	NC	All ND
Tetrachloroethene	5	0	NC	NC	All ND	6	0	NC	NC	All ND
Trichloroethene	5	0	NC	NC	All ND	6	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)	11	11	Non	7.76	M(11)	5	5	Non	5.27	M(5.88)
Nitrate (mg/L)	11	11	Lognormal	3.95	4.40	5	5	Non	5.20	M(5.76)
TDS (mg/L)	11	11	Lognormal	187.91	198.59	5	5	Lognormal	170.00	192.3
Metals (mg/L)										
Iron (dissolved)	11	2	NC	0.041	M(0.046)	5	0	NC	NC	All ND
Manganese (dissolved)	11	6	Non	0.003	M(0.004)	5	0	NC	NC	All ND
VOCs (µg/L)										
1,4-Dichlorobenzene	11	0	NC	NC	All ND	5	0	NC	NC	All ND
Tetrachloroethene	11	0	NC	NC	All ND	5	0	NC	NC	All ND
Trichloroethene	11	0	NC	NC	All ND	5	0	NC	NC	All ND

Table G-1
Groundwater Statistics - 2014 through 2018 Data
95 Percent Upper Confidence Limits on the Mean
Leichner Landfill

Parameter	LB-27I					LB-27D				
	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	28.86	33.4	5	5	Non	9.27	M(13)
Nitrate (mg/L)	10	3	Normal	0.54	M(0.91)	5	5	Non	4.10	M(4.25)
TDS (mg/L)	10	10	Lognormal	337.00	356.02	5	5	Lognormal	221.20	255.50
Metals (mg/L)										
Iron (dissolved)	10	0	NC	NC	All ND	5	2	NC	0.14	M(0.228)
Manganese (dissolved)	10	10	Lognormal	0.32	0.37	5	3	Non	0.009	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 MTCASat,										
and (c) UCL calculated using MTCASat was higher than the maximum value of the data set.										
^a Distribution was determined using MTCASat 97 program and Statistical Guidance for Ecology Site Managers.										
^b UCL 95 was calculated using MTCASat 97 program and Statistical Guidance for Ecology Site Managers.										



APPENDIX H
2018 Landfill Gas Probe Monitoring Data

Table H-1
2018 Compliance Landfill Gas Monitoring Probe Data
Leichner Landfill

Probe	Date and Time	Methane	Carbon Dioxide	Oxygen	Balance Gases
		Percent by Volume			
GP-1A	3/30/2018 12:52	0.0	2.3	19.4	78.3
GP-1A	6/7/2018 10:23	0.0	2.6	19.4	78.0
GP-1A	9/14/2018 08:46	0.0	1.2	19.7	79.1
GP-1A	12/7/2018 12:11	0.0	1.7	19.7	78.6
GP-1B	3/30/2018 12:53	0.0	2.2	19.4	78.4
GP-1B	6/7/2018 10:23	0.0	2.3	19.5	78.2
GP-1B	9/14/2018 08:47	0.0	1.3	19.7	79.0
GP-1B	12/7/2018 12:12	0.0	1.5	19.6	78.9
GP-02	3/30/2018 12:56	0.0	2.6	19.0	78.4
GP-02	6/7/2018 10:27	0.0	3.2	18.3	78.5
GP-02	9/14/2018 08:51	0.0	2.5	18.4	79.1
GP-02	12/7/2018 12:16	0.0	2.6	18.6	78.8
GP-03	3/30/2018 11:41	0.0	2.1	18.0	79.9
GP-03	6/7/2018 09:37	0.0	3.4	17.9	78.7
GP-03	9/14/2018 08:55	0.0	2.7	18.5	78.8
GP-03	12/7/2018 11:11	0.0	1.6	18.8	79.6
GP-4A	3/30/2018 11:49	0.0	3.0	17.4	79.6
GP-4A	6/7/2018 09:52	0.0	3.3	17.6	79.1
GP-4A	9/14/2018 12:32	0.0	1.4	18.5	80.1
GP-4A	12/7/2018 11:22	0.0	2.1	18.6	79.3
GP-4B	3/30/2018 11:50	0.0	3.1	17.2	79.7
GP-4B	6/7/2018 09:53	0.0	3.0	17.6	79.4
GP-4B	9/14/2018 12:33	0.0	1.7	18.6	79.7
GP-4B	12/7/2018 11:25	0.0	3.3	17.4	79.3
GP-05	3/30/2018 11:46	0.0	3.6	16.6	79.8
GP-05	6/7/2018 09:49	0.0	3.6	16.7	79.7
GP-05	9/14/2018 09:13	0.0	4.2	16.2	79.6
GP-05	12/7/2018 11:39	0.0	4.5	16.5	79.0
GP-06	3/30/2018 11:59	0.0	4.5	14.8	80.7
GP-06	6/7/2018 09:46	0.0	2.5	19.9	77.6
GP-06	9/14/2018 09:10	0.0	5.4	15.0	79.6
GP-06	12/7/2018 11:36	0.0	5.9	14.2	79.9
GP-07	3/30/2018 14:56	3.2	6.7	3.1	87.0
GP-07	6/7/2018 09:43	3.9	12.7	0.0	83.4
GP-07	9/14/2018 09:03	0.0	13.2	3.7	83.1
GP-07	12/7/2018 11:32	0.0	9.4	6.6	84.0

Table H-1
2018 Compliance Landfill Gas Monitoring Probe Data
Leichner Landfill

Probe	Date and Time	Methane	Carbon Dioxide	Oxygen	Balance Gases
		Percent by Volume			
GP-8R	3/30/2018 11:44	0.0	1.2	19.7	79.1
GP-8R	6/7/2018 09:40	0.0	2.1	19.8	78.1
GP-8R	9/14/2018 08:58	0.0	1.6	19.8	78.6
GP-8R	12/7/2018 11:15	0.0	1.6	19.7	78.7
GP-9A	3/30/2018 15:03	4.9	12.1	1.5	81.5
GP-9A	6/7/2018 09:58	0.0	11.8	8.0	80.2
GP-9A	9/14/2018 08:22	0.0	4.2	15.1	80.7
GP-9A	12/7/2018 11:58	0.0	7.0	10.5	82.5
GP-9B	3/30/2018 15:04	0.0	1.1	20.5	78.4
GP-9B	6/7/2018 09:59	0.3	12.9	1.2	85.6
GP-9B	9/14/2018 08:24	0.1	14.4	1.7	83.8
GP-9B	12/7/2018 12:00	0.0	15.7	0.5	83.8
GP-10A	3/30/2018 12:44	0.0	5.1	13.8	81.1
GP-10A	6/7/2018 10:01	0.0	5.7	11.7	82.6
GP-10A	9/14/2018 08:26	0.0	5.8	14.0	80.2
GP-10A	12/7/2018 12:02	0.0	5.6	15.0	79.4
GP-10B	3/30/2018 12:44	0.0	2.4	18.3	79.3
GP-10B	6/7/2018 10:03	0.0	2.5	18.3	79.2
GP-10B	9/14/2018 08:28	0.0	2.2	18.8	79.0
GP-10B	12/7/2018 12:03	0.0	2.7	18.5	78.8
GP-11	3/30/2018 13:17	0.0	0.9	18.8	80.3
GP-11	6/7/2018 10:39	0.0	2.4	18.6	79.0
GP-11	9/14/2018 08:34	0.0	1.5	19.1	79.4
GP-11	12/7/2018 12:32	0.0	1.0	19.1	79.9
GP-12	3/30/2018 13:14	0.0	0.7	20.9	78.4
GP-12	6/7/2018 10:42	0.0	1.1	20.8	78.1
GP-12	9/14/2018 08:37	0.0	1.1	19.7	79.2
GP-12	12/7/2018 12:29	0.0	1.3	20.2	78.5
GP-13	3/30/2018 13:22	0.0	1.0	19.0	80.0
GP-13	6/7/2018 10:45	0.0	1.7	19.1	79.2
GP-13	9/14/2018 08:15	0.0	2.6	18.3	79.1
GP-13	12/7/2018 12:42	0.0	1.0	19.5	79.5
GP-14	3/30/2018 13:25	0.0	0.7	20.6	78.7
GP-14	6/7/2018 10:52	0.0	1.1	20.5	78.4
GP-14	9/14/2018 09:51	0.0	0.8	20.6	78.6
GP-14	12/7/2018 12:45	0.0	0.7	20.3	79.0

Table H-1
2018 Compliance Landfill Gas Monitoring Probe Data
Leichner Landfill

Probe	Date and Time	Methane	Carbon Dioxide	Oxygen	Balance Gases
		Percent by Volume			
GP-15	3/30/2018 13:28	0.0	1.2	19.8	79.0
GP-15	6/7/2018 10:56	0.0	1.3	19.5	79.2
GP-15	9/14/2018 09:54	0.0	1.3	19.7	79.0
GP-15	12/7/2018 12:49	0.0	0.8	19.7	79.5
GP-16D	3/30/2018 13:36	0.0	3.0	18.3	78.7
GP-16D	6/7/2018 11:05	0.0	2.6	18.1	79.3
GP-16D	9/14/2018 10:46	0.0	2.9	18.2	78.9
GP-16D	12/7/2018 13:01	0.0	1.7	19.1	79.2
GP-16S	3/30/2018 13:38	0.0	1.3	20.2	78.5
GP-16S	6/7/2018 11:07	0.0	1.9	19.6	78.5
GP-16S	9/14/2018 10:48	0.0	2.1	19.3	78.6
GP-16S	12/7/2018 13:04	0.0	1.7	19.4	78.9
GP-17D	3/30/2018 13:42	0.0	1.2	20.4	78.4
GP-17D	6/7/2018 11:12	0.0	1.3	20.4	78.3
GP-17D	9/14/2018 10:56	0.0	3.2	17.8	79.0
GP-17D	12/7/2018 13:11	0.0	2.3	18.2	79.5
GP-17S	3/30/2018 13:43	0.0	3.3	17.8	78.9
GP-17S	6/7/2018 11:13	0.0	2.4	18.7	78.9
GP-17S	9/14/2018 10:57	0.0	2.7	18.6	78.7
GP-17S	12/7/2018 13:12	0.0	2.7	18.4	78.9
GP-18D	3/30/2018 13:51	0.0	1.5	19.8	78.7
GP-18D	6/7/2018 11:20	0.0	1.9	19.5	78.6
GP-18D	9/14/2018 11:09	0.0	1.7	19.4	78.9
GP-18D	12/7/2018 13:20	0.0	2.1	19.1	78.8
GP-18S	3/30/2018 13:52	0.0	0.9	20.3	78.8
GP-18S	6/7/2018 11:21	0.0	1.3	20.2	78.5
GP-18S	9/14/2018 11:10	0.0	1.4	19.8	78.8
GP-18S	12/7/2018 13:21	0.0	1.5	19.6	78.9
GP-19D	3/30/2018 13:56	0.0	1.9	19.2	78.9
GP-19D	6/7/2018 11:26	0.0	1.5	19.5	79.0
GP-19D	9/14/2018 11:18	0.0	2.5	18.3	79.2
GP-19D	12/7/2018 13:26	0.0	2.0	18.2	79.8
GP-19S	3/30/2018 13:57	0.0	1.4	19.9	78.7
GP-19S	6/7/2018 11:26	0.0	1.1	20.4	78.5
GP-19S	9/14/2018 11:19	0.0	1.4	19.4	79.2
GP-19S	12/7/2018 13:26	0.0	2.2	18.8	79.0

Table H-1
2018 Compliance Landfill Gas Monitoring Probe Data
Leichner Landfill

Probe	Date and Time	Methane	Carbon Dioxide	Oxygen	Balance Gases
		Percent by Volume			
GP-20	3/30/2018 14:03	0.0	9.0	6.3	84.7
GP-20	6/7/2018 11:34	0.0	7.8	9.5	82.7
GP-20	9/14/2018 11:33	0.0	6.2	11.7	82.1
GP-20	12/7/2018 13:32	0.0	7.3	10.4	82.3
GP-21A	3/30/2018 14:11	0.0	1.2	20.0	78.8
GP-21A	6/7/2018 11:42	0.0	1.4	20.0	78.6
GP-21A	9/14/2018 11:42	0.0	1.3	19.1	79.6
GP-21A	12/7/2018 13:40	0.0	1.8	19.7	78.5
GP-21B	3/30/2018 14:11	0.0	1.2	19.6	79.2
GP-21B	6/7/2018 11:43	0.0	1.4	19.6	79.0
GP-21B	9/14/2018 11:44	0.0	1.1	19.0	79.9
GP-21B	12/7/2018 13:41	0.0	1.3	19.6	79.1
GP-22	3/30/2018 14:13	0.0	1.2	20.1	78.7
GP-22	6/7/2018 11:45	0.0	1.1	20.3	78.6
GP-22	9/14/2018 11:48	0.0	0.8	19.4	79.8
GP-22	12/7/2018 13:43	0.0	1.3	19.8	78.9
GP-23	3/30/2018 14:15	0.0	1.6	19.5	78.9
GP-23	6/7/2018 11:47	0.0	1.1	20.2	78.7
GP-23	9/14/2018 11:52	0.0	1.1	19.3	79.6
GP-23	12/7/2018 13:45	0.0	1.3	19.6	79.1
GP-24A	3/30/2018 14:17	0.0	0.8	20.7	78.5
GP-24A	6/7/2018 11:49	0.0	0.7	20.8	78.5
GP-24A	9/14/2018 11:55	0.0	0.7	20.1	79.2
GP-24A	12/7/2018 13:47	0.0	1.1	20.2	78.7
GP-24B	3/30/2018 14:18	0.0	0.7	20.9	78.4
GP-24B	6/7/2018 11:51	0.0	0.4	20.9	78.7
GP-24B	9/14/2018 11:56	0.0	0.4	20.4	79.2
GP-24B	12/7/2018 13:49	0.0	1.0	19.8	79.2
GP-25A	3/30/2018 14:24	0.0	1.9	19.5	78.6
GP-25A	6/7/2018 12:06	0.0	2.0	19.3	78.7
GP-25A	9/14/2018 12:07	0.0	1.0	19.8	79.2
GP-25A	12/7/2018 13:56	0.0	1.9	19.5	78.6
GP-25B	3/30/2018 14:25	0.0	2.8	18.3	78.9
GP-25B	6/7/2018 12:07	0.0	2.6	18.4	79.0
GP-25B	9/14/2018 12:08	0.0	1.7	18.6	79.7
GP-25B	12/7/2018 13:57	0.0	2.1	18.0	79.9

Table H-1
2018 Compliance Landfill Gas Monitoring Probe Data
Leichner Landfill

Probe	Date and Time	Methane	Carbon Dioxide	Oxygen	Balance Gases
		Percent by Volume			
GP-26	3/30/2018 14:31	0.0	0.7	20.7	78.6
GP-26	6/7/2018 12:16	0.0	0.8	20.8	78.4
GP-26	9/14/2018 12:19	0.0	0.8	20.5	78.7
GP-26	12/7/2018 14:04	0.0	1.3	20.3	78.4
GP-27	3/30/2018 14:33	0.0	0.7	20.3	79.0
GP-27	6/7/2018 12:19	0.0	0.7	20.5	78.8
GP-27	9/14/2018 12:22	0.0	0.7	20.1	79.2
GP-27	12/7/2018 14:06	0.0	0.8	20.4	78.8
GP-28	3/30/2018 11:33	0.3	5.1	12.1	82.5
GP-28	6/7/2018 09:32	0.0	5.0	14.8	80.2
GP-28	9/14/2018 08:06	0.2	5.0	16.3	78.5
GP-28	12/7/2018 11:02	0.3	5.2	15.6	78.9
GP-29	3/30/2018 12:04	0.0	7.8	5.0	87.2
GP-29	6/7/2018 10:12	0.0	6.6	7.6	85.8
GP-29	9/14/2018 09:20	0.0	6.2	10.2	83.6
GP-29	12/7/2018 11:44	0.0	6.1	10.7	83.2
GP-30A	3/30/2018 12:08	0.0	4.6	16.1	79.3
GP-30A	6/7/2018 10:17	0.0	5.4	15.7	78.9
GP-30A	9/14/2018 09:28	0.0	5.0	15.4	79.6
GP-30A	12/7/2018 11:49	0.0	4.5	17.1	78.4
GP-30B	3/30/2018 12:09	0.0	4.2	16.4	79.4
GP-30B	6/7/2018 10:18	0.0	4.9	16.3	78.8
GP-30B	9/14/2018 09:29	0.0	4.3	16.9	78.8
GP-30B	12/7/2018 11:50	0.0	3.3	17.9	78.8
GP-31	3/30/2018 13:54	0.0	0.9	20.4	78.7
GP-31	6/7/2018 11:23	0.0	1.0	20.2	78.8
GP-31	9/14/2018 11:14	0.0	1.2	19.7	79.1
GP-31	12/7/2018 13:23	0.0	1.1	19.6	79.3
GP-32	3/30/2018 13:59	0.0	2.1	18.8	79.1
GP-32	6/7/2018 11:28	0.0	1.4	19.6	79.0
GP-32	9/14/2018 11:26	0.0	1.5	19.0	79.5
GP-32	12/7/2018 13:28	0.0	1.9	18.3	79.8
GP-33	3/30/2018 14:01	0.0	1.5	19.7	78.8
GP-33	6/7/2018 11:32	0.0	1.4	19.3	79.3
GP-33	9/14/2018 11:30	0.0	1.5	18.4	80.1
GP-33	12/7/2018 13:30	0.0	2.0	18.0	80.0

Table H-1
2018 Compliance Landfill Gas Monitoring Probe Data
Leichner Landfill

Probe	Date and Time	Methane	Carbon Dioxide	Oxygen	Balance Gases
		Percent by Volume			
GP-34	3/30/2018 14:06	0.0	4.7	12.8	82.5
GP-34	6/7/2018 11:39	0.0	4.4	14.8	80.8
GP-34	9/14/2018 11:37	0.0	4.5	13.8	81.7
GP-34	12/7/2018 13:36	0.0	5.4	14.4	80.2
GP-35	3/30/2018 14:08	0.0	2.2	17.7	80.1
GP-35	6/7/2018 11:40	0.0	2.6	18.4	79.0
GP-35	9/14/2018 11:39	0.0	2.4	17.5	80.1
GP-35	12/7/2018 13:38	0.0	3.5	17.7	78.8
GP-36	3/30/2018 14:20	0.0	0.9	20.0	79.1
GP-36	6/7/2018 11:54	0.0	0.8	19.7	79.5
GP-36	9/14/2018 12:00	0.0	1.3	17.5	81.2
GP-36	12/7/2018 13:52	0.0	1.6	17.5	80.9
GP-37	3/30/2018 14:23	0.0	2.1	18.7	79.2
GP-37	6/7/2018 11:59	0.0	1.3	19.7	79.0
GP-37	9/14/2018 12:04	0.0	1.1	19.0	79.9
GP-37	12/7/2018 13:54	0.0	2.0	17.9	80.1
GP-38	3/30/2018 14:29	0.0	1.3	20.0	78.7
GP-38	6/7/2018 12:11	0.0	1.2	20.2	78.6
GP-38	9/14/2018 12:14	0.0	1.3	20.0	78.7
GP-38	12/7/2018 14:01	0.0	1.8	19.3	78.9