2025 ANNUAL REPORT ON ENVIRONMENTAL MONITORING

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1.0 Introduction

The following summary report was prepared pursuant to the annual reporting requirements for the groundwater, leachate, surface water, and leak detection monitoring programs for Wayne Disposal Site #2 (Site #2). These requirements are outlined in Part V, Environmental Monitoring Conditions, of the Part 111 Act 451 Operating License for Site #2, which became effective on January 29, 2026. Therefore, the data collected in 2025 was done in accordance with the previous Operating License. In addition, this report summarizes the results of the groundwater monitoring that is performed in accordance with the Groundwater Monitoring Plan in Exhibit A of the Consent Decree dated August 17, 1989, for Master Cell IX.

The annual reporting requirements are detailed in four conditions contained within Part V-Environmental Monitoring Conditions of the Operating License, as well as in the reporting requirements of the Master Cell IX groundwater monitoring plan. The specific Part 111 Operating License conditions that address the reporting requirements are conditions A.5 (groundwater), E.7 (leachate), F.12 (leak detection, collection, and removal systems), and G9 (lysimeters). In addition, surface water, sedimentation basin, and soil monitoring results are summarized in this report. A brief description of the reporting requirements for each license condition is provided as follows:

Condition A.5 – This license condition requires a summary of the groundwater sampling and data analyses performed during 2025, including the results of statistical analyses, tabular and graphical analyses, and a discussion of laboratory quality assurance/quality control (QA/QC) results. This condition also requires an analysis of the groundwater flow characteristics in the regional aquifer beneath the facility, including flow directions and flow rates.

Condition E.7 – This license condition requires a summary and evaluation of the analytical data from leachate analyses for the purpose of determining the need for any modifications to the groundwater and leak detection monitoring programs. In addition, this condition requires that leachate volume records obtained during 2025 be summarized and evaluated with respect to historical data.

Condition F.12 – This license condition requires a summary of the 2025 monitoring results from the leak detection, collection, and removal systems (LDCRS) in Master Cell VI. In addition, this condition requires an evaluation of the volume of liquids produced by each LDCRS and a comparison of leachate and LDCRS volumes for each cell.

Condition G.9 – This license condition requires a summary of the monitoring program results from the suction lysimeters, which serve as an early release detection system beneath the hazardous waste portions of Master Cell V and Master Cell VII.

The required information for each of the four conditions outlined above, as well as for the surface water, sedimentation basin, soil, and the groundwater monitoring that is performed in accordance with the August 1989 Consent Decree for Master Cell IX, are presented in the next seven sections of this report.

2.0 Groundwater Monitoring

Groundwater monitoring summaries for the Part 111 Operating License and the Master Cell IX August 1989 Consent Decree are included in the next two subsections, respectively.

2.1 Condition A.5 Groundwater Monitoring

There were no changes to the groundwater monitoring well network in 2025. There were also no changes to the parameter list or statistical methods. Pace Analytical continued to perform the analytical services for each of the WDI monitoring programs. WDI began 2025 in routine detection monitoring in accordance with the Operating License. Samples were collected during the four quarterly events of 2025 in accordance with the Groundwater Sampling & Analysis Plan. The analytical results and summary of statistical analyses were transmitted to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) in reports dated May 9th, July 18th, October 9th, and December 22nd of 2025.

2.1.1 Groundwater Statistical Evaluations

The statistical analysis of 2025 data was performed in accordance with the statistical analysis program contained in the sampling and analysis plan (SAP), which is Attachment 9 of the Operating License. Any primary parameter (volatile organic compound [VOC]) measured at or above the reported detection limits is considered an apparent statistically significant increase (SSI) in the statistical program and requires confirmation sampling. The simultaneous SSIs of any two secondary parameters in the same well also results in confirmation sampling. A summary table of the analytical results from 2021 through 2025 is included in Appendix A.

No primary monitoring parameters were detected above the reporting limit in groundwater sample collected during 2025. There were also no instances of two secondary parameters showing new apparent SSIs in samples collected in 2025. Therefore, no apparent SSIs were observed in 2025 and WDI remains in routine detection monitoring.

Historical increases in the concentration of secondary parameters have been noted over time at WDI. Some of the increases observed in previous years continued to be observed in 2025. However, in each case where increasing concentrations of secondary parameters have been noted, it has been determined that none of the increases are due to a release from the facility, but increases are instead due to natural variability or changes in sampling/laboratory procedures. Some of these increases require annual evaluation to confirm that continued changes which may be related to the facility are not being overlooked. This additional annual review is included in Section 2.1.2 of this report.

2.1.2 General Groundwater Quality

As described in Section 2.1.1, historical (pre-2025) statistically significant changes (SSIs) have been previously evaluated for secondary parameters but must be reviewed annually to confirm that changes in these parameters continue to not be indicative of influence from the facility. At the end of 2025, there were 65 instances where secondary parameters have exhibited historical statistical increases. Six of these were for iron, fifteen were for chloride, eight were for sulfate, nineteen were

for total organic carbon, and twelve were for carbonate alkalinity. The remaining 5 are divided among two parameters (sodium and potassium) and appear to be the result of minor fluctuations in concentration of these naturally occurring elements over time combined with a low variance in the intrawell background data. The largest number of SSIs for the secondary parameter statistics in 2025 continued to be for total organic carbon (TOC), which was also the case in 2024. The reported increases were generally small, about 2 mg/L or less, and were observed sitewide (not just in downgradient wells), indicating a laboratory origin. While the increased concentrations are sitewide, the intrawell levels are not uniform over time; some of the recent TOC results are relatively consistent with historical concentrations while others are elevated and resulting in SSIs. All of these observations further support a lab origin for the noted variability. The contract laboratory has been unable to determine the cause of the increased variability of this parameter.

As indicated in the 2023 annual report, numerous instances of increased carbonate alkalinity were observed with commensurate decreases in bicarbonate alkalinity (total alkalinity remaining unchanged). Similar carbonate and bicarbonate alkalinity results were also reported in the samples analyzed in 2024 and 2025. It has been suggested that because the sample bottle for alkalinity is used for several other parameters that carbon dioxide was exsolve from the sample, and release to the atmosphere when the bottle is opened. This can cause a rise in pH and a shift in the alkalinity species from bicarbonate to carbonate. In the fourth quarter of 2025, some of the alkalinity samples were collected in a separate bottle and opened only for alkalinity analyses. Preliminary results suggest that the cause for the shift is indeed related to sample handling. This sampling protocol will continue in 2026.

Iron and sulfate are REDOX sensitive parameters which are non-conservative and thus subject to variability during sampling or natural variation. As a result of their non-conservative and variable nature, iron and sulfate trends are not required to be evaluated annually. However, chloride trends must be re-evaluated each year as this parameter is a conservative leachate indicator and shows statistical exceedances at fourteen wells. Chloride trends were evaluated in detail in the 1997 annual report but must be re-evaluated each year to confirm that the patterns are stable. As discussed in the 1997 report, the wells with higher chloride levels, including those showing upward trends in concentration, are generally in the deepest wells at the site. The last chloride value (i.e., fourth quarter 2025) measured in each well during the last sixteen years is presented on Table 1. As shown on the table, wells yielding samples with low (less than 10 mg/l) chloride concentrations generally stay stable or increase only slightly over time. For those low concentration wells that do show an increasing trend, increases begin more recently than the corresponding deeper well. Because there is no confining layer between the deeper wells and the shallow wells at the downgradient locations, it would be expected that diffusion in response to the chemical gradient may eventually cause chloride concentrations to increase in the shallower wells.

Figure 1 presents well screen elevations versus the last chloride concentrations reported in 2025 for all on-site wells (hazardous waste area, non-hazardous waste area, and Master Cell IX). As shown, the higher chloride concentrations continue to be observed in the deeper wells, screened in the rock or in the sand on top of the rock. With a few exceptions, wells screened above elevation 610 have low (less than 10 mg/l) chloride levels. This pattern is especially clear if the chloride at well pairs is compared. For instance, the chloride at well OB-2A (screen at elevation 588) is 34.3 mg/l while the chloride from well OB-44 (screen at elevation 639) is 1.5 mg/l. If the increasing

chloride concentrations were a result of a release from a waste management unit, then the exact opposite situation would be expected; the shallower wells should be the first to exhibit the increases supporting the opinion that the increases in chloride concentrations are the result of upward diffusion from lower, more mineralized groundwater within the bedrock.

Another aspect of the chloride question is whether concentrations are continuing to rise or are stabilizing. To address this question, a time concentration plot has been prepared using data from 1995 through 2025 for six wells where chloride has been increasing. This plot is shown on Figure 2. Chloride concentrations at well OB-22, which has an upward trend, may have started to stabilize in 2024. Chloride concentrations at wells OB-23AR and OB-37 appear to have stabilized in 2012/2013. Chloride concentrations in wells OB-28 and OB-38 have been decreasing since 2016 while concentrations at well OB-39 has decreased during the last several years.

There were no substantial changes in the distribution of chloride in the aquifer and thus no need to further evaluate the chloride phenomenon at this time. As previously described, it appears that the increasing chloride levels are the result of upward movement of more mineralized water, perhaps enhanced by the interruption of aquifer recharge through the native clay, which has been replaced by impermeable liners, leachate collection systems, and final covers constructed for landfill cells. However, chloride data must be evaluated each year to determine whether future changes are potentially landfill related.

2.1.3 QA/QC

Groundwater samples are collected in a nitrogen glovebox in accordance with the procedures outlined in the SAP. Field QA/QC procedures include the collection of a blind duplicate sample, as well as both field and trip blanks. A field blank is collected for each sample collected but only a portion of the field blanks (one for every ten samples) are analyzed unless a VOC is detected in one of the samples. If a VOC is detected in one of the groundwater samples, then the corresponding field blank is also analyzed. A trip blank is included in each batch (cooler) of samples delivered to the lab. All trip blanks are analyzed. The VOCs were non-detect in all the trip and field blanks collected in 2025, indicating that field QA/QC is effective for sampling groundwater.

Laboratory QA/QC is evaluated using the duplicate results, trip and field blank results, method blank results, and the laboratory QA/QC reports included with the analytical data. The results of this evaluation are included in the quarterly reports submitted to EGLE. The evaluation of QA/QC in 2025 shows that there were no serious deficiencies with the data and that the data can be used for its intended purposes. Most concentrations of duplicate sample parameters were acceptable with relative percent differences of less than 10 percent between the sample and the duplicate.

Laboratory QA/QC procedures identified a small number of sample results that had to be qualified. Several matrix spike or matrix spike duplicates were outside of control limits, and several matrix spike recoveries were outside of control limits. Based on overall QA/QC performance, none of these results were sufficient to disqualify the data from the intended purpose.

2.1.4 Evaluation of Groundwater Flow

Four quarterly sets of static water elevations were collected from each of the on-site monitoring wells, including those used for monitoring in other, non-hazardous portions of the facility. A summary of water level data collected in 2025 is presented on Table 2.

Piezometric surface elevation contour maps were prepared from each set of data for both the glacial drift aquifer and the underlying rock aquifer. These maps are included in Appendix B. The contour maps illustrate a predominantly southward groundwater flow direction in both the glacial drift and rock formations. It also appears that there may be a southwest flow component in the south/southwest portion of the site and a southeast flow component over the eastern portion of the site. This flow pattern closely resembles the historical data for the site suggesting that there has been little change to the flow regime and no evidence of changes that could be attributed to the presence of the various landfill cells.

Conceptual flow diagrams that consider vertical as well as horizontal flow components have been prepared on cross-sections through the predominant north-south flow direction. These diagrams are also included in Appendix B. As in past years, the diagrams illustrate a downward flow component along the upgradient well locations of the site and primarily horizontal flow in downgradient well locations.

Based on the 2025 contour maps, it appears that the hydraulic gradient in the sand aquifer continues to be between 0.0007 and 0.0012. An estimate of groundwater flow velocity was made from the 2025 data using three flow-paths and hydraulic conductivity and effective porosity from a report titled Item IV - Groundwater Protection (Subpart F) - Hazardous Waste Management Area prepared by Neyer, Tiseo & Hindo, Ltd. The flow velocity was calculated using measured gradients, a hydraulic conductivity for the silty sand of 0.001 cm/sec, and a conservative estimate for effective porosity of 10%. Using these values, the calculated groundwater flow rates ranged from 7.4 to 12.5 feet per year, which are considered conservative (higher) due to the use of a low estimate of effective porosity. Nonetheless, this is a reasonable range for groundwater flow within the silty fine sand, which is the major component of the regional glacial aquifer, particularly in the upper part of the aquifer. Groundwater in the coarse sands and gravel found in some areas of the lower portion of the glacial aquifer may flow at a higher rate due to higher hydraulic conductivity.

In summary, groundwater flow conditions appear to remain consistent with previous years.

2.2 Groundwater Monitoring for Master Cell IX

Groundwater monitoring of the wells included in the Master Cell IX monitoring program was conducted semi-annually during 2025, in accordance with the sampling and analysis plan contained in the Consent Decree. The results are analyzed statistically in accordance with the Groundwater Monitoring Plan. The results from the two required semi-annual sampling events were submitted to EGLE on June 26th and December 15th of 2025.

In the first semi-annual event, both primary and secondary parameters were analyzed statistically. None of the primary parameters were found to be above the detection limits, so there were no SSIs for these parameters. One instance of a statistical failure was noted during 2025 for well OB-43,

where a total of 7 “pluses” were recorded for the sign test. The only parameter that gained a plus in well OB-43 compared to historical results was carbonate alkalinity, which was reported at 12.4 mg/l (slightly above the calculated mean of 11.5 mg/l). By chance, the duplicate sample was collected from well OB-43. The carbonate concentration for the duplicate sample was 12.4 mg/l, which also exceeded the background value of 11.5 mg/l. This exact exceedance was also observed in the first semiannual 2022 sampling event. Well OB-43 was resampled in quadruplicate following the first semiannual 2025 sampling event, and all four replicates had less than 10 mg/L as $CaCO_3$ of carbonate alkalinity. As the background carbonate alkalinity is 11.5 mg/L as $CaCO_3$, none of the four replicates exceeded the background value and thus the SSI for the sign test was not confirmed. In the second sampling event, samples are analyzed for the six primary monitoring parameters. None of these parameters were found to be above critical values and therefore no SSIs were identified.

In summary, no confirmed SSIs were reported in the primary or secondary parameters in the groundwater monitoring program for Master Cell IX. The Master Cell IX monitoring program remains in "detection monitoring" status.

3.0 Leachate Monitoring

Leachate samples are collected annually from each of the twenty-one hazardous waste landfill sumps. The 2025 samples were collected between September 9th and 11th with the report submitted to EGLE on October 31, 2025. The leachate data are required to be evaluated, and, if necessary, groundwater or LDCRS parameter lists are adjusted. Summaries and evaluations of leachate quality monitoring and leachate volume measurements are presented in the next two sub-sections, respectively.

3.1 Leachate Quality Results

Condition E.6.c of the Operating License requires that the leachate data be evaluated to determine whether refinements of the groundwater or LDCRS monitoring programs are warranted. This condition requires an evaluation of organics data to see if additional VOCs, SVOCs, or “Appendix IX” compounds should be added to the groundwater and/or LDCRS programs.

Appendix IX analysis of leachate from Cells VI-C and VI-D was performed in 2025. As outlined in the annual leachate report, none of the Appendix IX parameters detected were recommended for inclusion in the annual leachate monitoring program due to the low rate of detection and concentration. The Appendix IX parameters pyridine and styrene were detected during this sampling event; however, a review of historical data showed that both of these compounds are rarely detected and were reported at concentrations less than 1 mg/L.

A summary of the VOCs, SVOCs, and PCBs detected in the leachate in 2025 is shown on Table 3, which also includes the rate of detection, maximum concentration, and whether the compound is already included in the groundwater and/or LDCRS programs. For the VOCs, two routine leachate parameters detected are not already included in LDCRS/lysimeter programs, specifically 4-methyl-2-pentanone (MIBK) and isobutanol. MIBK is a common lab contaminant and was found in 20 of 21 samples but isobutanol was only detected in 2 of 21 samples. The other two common

lab contaminants, acetone and 2-butanone are already included in the LDCRS/lysimeter programs and are present at significantly higher concentrations than MIBK.

Six VOCs were detected in leachate that are not included in the groundwater monitoring program. The six VOCs include MIBK, acetone, and 2-butanone, which are common lab contaminants and thus have a significant potential for false positives, as well as styrene, chlorobenzene, and isobutanol (each detected in 2 samples). In addition to the low rate of detection, all of these six VOCs were detected at low concentrations. Therefore, no changes to the groundwater monitoring list are recommended based on the 2025 leachate monitoring results.

A review of the SVOC data on Table 3 shows that six non-phenol-based compounds (benzoic acid, benzyl alcohol, aniline, pyridine, nitrobenzene, and naphthalene) were detected in the leachate. Benzoic acid and benzyl alcohol, as in previous years, were detected at rates and concentrations warranting consideration. However, benzoic acid is biodegradable in the groundwater environment and thus not a reliable monitoring parameter. During 2025, benzyl alcohol was only detected in 5 of 21 samples, which is a relatively low rate of detection. Except for naphthalene (5 of 21 samples), aniline (1 of 21 samples), nitrobenzene (1 of 21 samples) and pyridine, the other SVOCs listed were phenol-based compounds, which are by far the most common and highly concentrated SVOCs found in leachate samples. The phenol-based compounds are measured indirectly in both the groundwater and LDCRS monitoring programs via total phenolics analysis. Therefore, based on the leachate data from 2025, no additional SVOCs need be considered for inclusion in the groundwater or LDCRS monitoring programs at this time.

3.2 Leachate Removal Volumes

Leachate removal volumes are measured monthly for each cell within Master Cells V, VI and VII. Master Cells V and VII are closed, while Master Cell VI is active/open. The volumes are recorded by flow meters that are placed at the individual subcells. The pumps are automated and are activated when either leachate within the sump reaches a certain level or are on a timer set to pump at a frequency required to maintain compliance levels. The pump systems are inspected weekly to confirm they are operating, and leachate levels are measured to confirm that heads are lower than the required levels (one foot above the lowest portion of the liner outside the sump. The monthly volumes of leachate removed from each sump are presented on Tables 4, 5, and 6 for Master Cells V, VI and VII, respectively. Graphical representation of these data are presented in Figures 3, 4, and 5.

In 2025, leachate removal volume for MC-V decreased by 88,500 gallons compared to 2024. The volume for MC-VII decreased by 19,352 gallons compared to 2024. The MC-V monthly volumes are shown on Table 4 and Figure 3, while the MC-VII monthly volumes are shown on Table 6 and Figure 5. The leachate removed from MC-VI increased by 292,949 gallons compared to 2025. Cell VI-F-3 was open the entire year and added to the total because it was constructed during 2024 and those only open for part of the 2024 calendar year. Because the cells in MC-VI are not closed, the volume is influenced by the amount of precipitation and/or the installation of more exposed geomembrane cover over that cell. The monthly volumes removed from MC-VI are summarized on Table 5 and Figure 4.

As described above, Cell V leachate removal volumes decreased in 2025. The decrease for Cell V volume was primarily due to significant decreases in the volumes from Cells V-A and V-C. The volumes recorded in Cells V-B and V-E increased compared to 2024 but far less than the decreases seen in the other two cells. Although the volume for Cell V-C decreased in 2025, it was the highest leachate producing sub-cell. The monthly data was reviewed to determine if there were spikes in volume potentially associated with infiltration of surface run-off into the cell from around the sump or perimeter dike. No such spikes were evident. The monthly volume from Cell V-C is being closely monitored in 2026 to see if further evaluation of the situation is necessary. The decrease in volume removed at Cell VII was primarily due to a decrease in volume from Cell VII-C. Bar graphs showing the total annual volumes removed during the years 1988 through 2025 from closed Master Cells V and VII are shown on Figures 6 and 7. As can be seen on the graphs, leachate volumes consistently decreased following closure in the late 1980s followed by a period during which volumes leveled off and then increased. As described in previous annual reports, the increases observed prior to 2010 are believed to have been due to erroneous readings related to check valve and flow meter issues that have been largely resolved by more aggressive inspection and maintenance. The increases after 2010 were the result of the removal of the final cover for cell construction. Overall, the volumes generated in MC-V have been on a downward trend since 2011, except for the apparent increase in volume for Cell V-C in 2024. With the decrease in volume from MC-VII in 2025, volumes have been on an overall downward trend since 2019, as shown on Figure 7.

The volume of leachate removed from MC-VI in 2025 was 11,956,714 gallons. The total monthly volumes of leachate removed from each cell within MC-VI are summarized on Table 5. A graphical treatment of the data on Table 5 is presented on Figure 4. However, volumes from operating units provide little useful information about the performance of the cell. The leachate volume reported herein does not include “contact water” collected before it passes through the entire thickness of waste.

As described above, and in accordance with the Operating License, WDI is required to measure leachate head levels on a weekly basis. If leachate heads are found to exceed one foot above the target level (the lowest liner elevation outside of the sump), then corrective action must be taken. Tables 7, 8, and 9 show the weekly leachate head data in 2025 for Master Cells V, VI and VII, respectively. For 2025, there were no instances where the measured leachate level indicated more than a foot of hydraulic head on the liner in any of the measurements taken from MC-V, MC-VI, and MC-VII. Maintenance and monitoring improvements implemented over the last several years have resulted in better performance in controlling leachate levels in the closed cells.

4.0 Leak Detection, Collection and Removal System Monitoring Summary

The LDCRS for the double-composite lined landfill cells are composed of a drainage media and sump with a riser pipe to the surface located between the primary and secondary liner systems. The LDCRS monitoring program is designed to monitor the performance of the primary liner and to remove any liquids that accumulate between the liners. There were no changes to the LDCRS monitoring program in 2025. The weekly LDCRS sump inspection protocol includes pumping each sump until it was dry (except for very low yield sumps to ensure adequate volume for sampling) and recording the meter reading. On a monthly basis, LDCRS samples are field screened for pH and specific conductance. If either the volumes or field measurements from any LDCRS

are inconsistent with expected levels, as defined by the SAP, that LDCRS is sampled. Regardless of volumes or field parameters, routine monitoring samples are collected quarterly and submitted for laboratory analyses. A summary of the analytical data for the liquids removed from the LDCRS and of the volume data are presented in the next two subsections, respectively.

4.1 LDCRS Water Quality Monitoring

The liquids (water) removed from each LDCRS system are analyzed for many organic (primary) and inorganic (secondary) monitoring parameters. For the organic parameters (VOCs and PCBs), SSIs are defined as a confirmed detection above the laboratory reporting limit. For inorganic monitoring parameters, such as major ions, metals, and general indicator parameters, results are primarily evaluated qualitatively to assess the significance of any increases noted in primary parameters. A summary of the inorganic data is presented in Appendix C. Quarterly reports for the LDCRS were submitted to EGLE on May27th, August 1st, September 15th, and December 9th of 2025.

In the first quarterly sampling event, the polychlorinated biphenyl PCB-1242 was detected in the sample from VI-AN at a concentration of 0.00031 mg/l. In this same sample, three volatile organic compounds (VOCs), bromodichloromethane (0.0018 mg/l), chloroform (0.005 mg/l), and toluene (0.0034 mg/l), were also detected, which caused apparent SSI. The detection of PCB-1242 and the VOCs at VI-AN was most likely the result of work done to restore pumping in response to the need for maintenance at that sump. Bromodichloromethane and chloroform are byproducts of the chlorination process and are detectable in the municipal water supply at the site, which was used to flush the system during the restoration process. The confirmation samples for the SSIs at VI-AN was collected on May 1st. EGLE collected a split-sample at the same time. The results from WDI's contract laboratory have confirmed the presence of PCB-1242, but no VOCs were detected in any of the four replicates, suggesting that all or most of the residual municipal supply water used for flushing has been removed.

PCBs have been detected historically at this location after the installation of the current riser pipe, which was put in place when the original pipe collapsed. The required alternate source investigation of this SSI was conducted and a report submitted to EGLE on June 12, 2025. The investigation report concluded that, based on the history of this compound at this location, as well as the other evidence, the detection of PCB-1242 is residual from past corrective measures, possibly re-appearing due to agitation of sediments during the work completed on the system in February and March of 2025. Trace amounts of PCB-1242 continued to be detected, at decreasing concentrations, throughout 2025.

There were no other SSIs in 2025; however, secondary monitoring parameters, including some indicator parameters and metals, became elevated in samples from Cell VI-ENW. The sump was visually inspected by camera and flushed with potable water, but the elevated concentrations have remained. The lack of detectable primary parameters (VOCs) suggests the source is not leachate. There was infiltration of stormwater into this system in 2025 due to tie-in construction with the overlying cell; however, the timing does not correspond to the onset of anomalous chemistry. No alternative source has been identified at this time and further investigation will be performed in 2026.

4.2 LDCRS Volume Measurements

Volume measurements were collected monthly at each LDCRS sump. Tables 10 through 22 show the volumes of water removed (in gallons) and the specific discharge rate (gallons-per-acre-per-day) for the LDCRS of Cells VI-AS, VI-AN, VI-B, VI-C, VI-D, VI-E-SW, VI-E-SE, VI-E-NW, VI-E-NE, VI-G-1, Cell VI-F1, Cell VI-F2, and Cell VI-F3. In addition, the monthly volume removed was plotted on a graph for each LDCRS, which are shown on Figures 8 through 20. Each LDCRS produces water from consolidation of the primary clay liner. The rate of production is dependent on the initial moisture content of the clay, the rate of loading with waste, and the age of the cell. Therefore, no certain or expected production rate is universal for all cells. WDI's LDCRS monitoring program is designed to identify changes in the production of water and determine whether observed changes are within expected norms for each individual cell given the various factors that influence water production (e.g., when the filling rate or location changes or when work on the intermediate cover is performed). If no causal relationships are noted, the changes are evaluated to confirm that leachate is not penetrating the primary liner or that other sources of water are entering the system. The following is a summary of the volume data for each individual LDCRS sump for 2025:

Cell VI-AS – The volume data for the LDCRS for Cell VI-AS in 2025 (Table 10 and Figure 8) shows that flow rates were stable throughout the year ranging from 0.58 to 0.83 gallons per acre per day (gpad). The average flow rate was 0.73 gpad. The volume at this sump decreased slightly compared to 2024.

Cell VI-AN – The volume data for Cell VI-AN (Table 11 and Figure 9) shows that flow rates were variable, with low volumes early in the year and higher volumes after maintenance work was completed. Flow rates ranged from 1.9 to 7.0 gpad and averaging 4.2 gpad.

Cell VI-B – The volume data for Cell VI-B (Table 12 and Figure 10) shows that flow rates were low and steady for the year. The rates ranged from 0.2 to 1.2 gpad and averaged 0.9 gpad, slightly lower than 2024.

Cell VI-C – The volume data for Cell VI-C (Table 13 and Figure 11) shows that flow rates were stable in 2025 ranging from 1.5 to 2.2 gpad and averaging 1.8 gpad, down slightly from 2024.

Cell VI-D – The volume data for Cell VI-D (Table 14 and Figure 12) were relatively stable during 2025. The average flow rate in 2025 (1.6 gpad) was significantly lower than the average in 2024 (3.8 gpad). Flow rates generally decreased between May and December 2025.

Cell VI-E-SW – The volume data for VI-ESW (Table 15 and Figure 13) shows that flow rates were low early and late in 2025 with elevated rates in June through August. The elevated rates were due to stormwater infiltration when the edge of the system was exposed during tie-in construction with the overlying cell.

Cell VI-E-SE – The volume data for Cell VI-ESE (Table 16 and Figure 14) shows that flow rates were stable and very low during 2025, averaging 0.2 gpad.

Cell VI-E-NW – Volume data from this cell (Table 17 and Figure 15) was variable in 2025 due to the same tie-in construction that affected VI-ESW. The infiltration of stormwater can be seen in flow volumes recorded during May through October at this location. The rates varied from 2.0 gpad in January to 19.8 gpad in August. Following completion of construction, the flow rates returned to the range of 2 to 3 gpad.

Cell VI-E-NE – Volume data from this cell (Table 18 and Figure 16) show relatively stable flow rates observed in 2025 except for a higher-than-normal flow in August, possibly due to overflow from Cell VI-ENW. The average flow rate was 1.2 gpad, almost the same as in 2024.

Cell VI-G-1 – Volume data from this cell (Table 19 and Figure 17) show relatively high production rates (average 5.0 gpad) but decreased from 6.7 gpad in 2024. The highest flow rates were recorded during August, September, and October 2025, possibly due to the infiltration of stormwater during construction.

Cell VI-F-1 – Volume data from this cell (Table 20 and Figure 18) show relatively high and variable production rates (average 10.3 gpad) but decreased compared to 2024 (16.4 gpad). Cell VI-F-1 continues to be actively filled, likely resulting in variable loading throughout the year and, thus, variable production rates.

Cell VI-F-2 – Volume data for this cell (Table 21 and Figure 19) was consistent in 2025 ranging from 1.0 to 1.9 gpad and generally showing a decreasing trend since2024.

Cell VI-F-3 – Cell construction was completed in early 2024, so volume data for this cell (Table 22 and Figure 20) became active in May of 2024. During 2025, flow rates ranged from 1.9 to 10.3 gpad, averaging 4.4 gpad. The variable and relatively high flow rates are normal when a cell begins receiving waste.

The Operating License requires that LDCRS volume data be compared/contrasted to leachate volume data for each cell. To do this, 2025 monthly LDCRS volumes and leachate volumes were plotted together on graphs (Figures 21 through 33) to determine if any relationships are evident between leachate volumes and LDCRS volumes, specifically looking for instances when leachate and LDCRS flow rate increases occur simultaneously. As shown in Figures 21 - 33, monthly LDCRS volumes remain stable even when there are relatively large fluctuations in monthly leachate volume. Based on these plots, there is no discernable relationship between leachate and LDCRS volumes. The lack of a relationship is expected when the primary liner is functioning effectively. In addition, as discussed in Section 4.1, above, there is no chemical evidence of leachate in the leak detection systems.

5.0 Lysimeter Monitoring Results

The lysimeters beneath Cells V-B, VII-A, VII-B and VII-C are sampled semi-annually in accordance with the Operating License for the WDI facility. The samples are analyzed for VOCs. Any detection of a VOC is considered an SSI. The two lysimeter reports were submitted to EGLE on May 14th and September 5th of 2025. No VOCs were detected in any of the samples collected in 2025.

6.0 Surface Water Monitoring

As required by Condition V.D of the Operating License, surface water samples are collected as soon as possible after a ½-inch, 24-hour precipitation event that results in flow within the drainage ditches. The surface water management system is comprised of man-made ditches and sedimentation basins designed to collect storm-water run-off from closed landfill cells and areas where no active waste handling or disposal is occurring. This surface water is treated by sedimentation, filtration, and granular activated carbon (GAC) prior to discharge in accordance with the facility's NPDES permit. The samples are analyzed for a suite of indicator parameters and metals, as well as VOCs and PCBs.

Monitoring Results – Samples were collected from locations SS-1, SS-2, SS-5, SS-6, SS-7, SS-9, SS-10, and SS-11 during the first three quarters of 2025; a fourth quarter sample was not collected as there was no flow in the surface water drainage ditches even after a qualifying rain event due to the dry weather experienced during the third and fourth quarter monitoring periods. The surface water reports were transmitted to EGLE on April 30th, May 30th, and September 29th of 2025. The monitoring results are evaluated as follows: any detection of VOCs above the reporting limit is considered an apparent SSI, and a sign test is used to determine if an unusual number of indicator parameters are elevated with respect to background. SSIs for PCBs depend on whether the sampling location is in Area A (limit of 0.5 mg/L) or Area B (limit of 0.1 ug/L). There were no PCBs detected in any of the samples during 2025. There were also no SSIs for VOCs in 2025 and there were no exceedances of the sign test performed on metals and indicator parameters.

7.0 Sedimentation Basin Monitoring

Sediment samples were collected from six sectors in both the south sedimentation basin (SSB) and the north sedimentation basin (NSB) on July 22nd of 2025 and the report submitted to EGLE on September 18, 2025. The six grab samples were analyzed for metals, cyanides, and total phenolics. An apparent statistically significant increasing trend (ASSI) is declared if any instances of increasing concentrations are noted for four consecutive sample events. There were two instances where increasing trends were noted in Sectors 1 (cadmium, chromium, iron, lead, nickel, zinc, and vanadium) and 2 (lead, vanadium, and zinc) in the NSB and Sector 3 (cadmium) in the SSB. For the NSB, four replicate samples were collected from both Sectors 1 and 2 and the ASSIs were confirmed for at least one metal in each sector. For the SSB, the ASSI for cadmium was also confirmed. A work plan to address these ASSIs was submitted to EGLE on December 1, 2025.

When examining the recent and historical data, it was discovered that metal concentrations in the sediment appear to be strongly correlated with the moisture content of the sample. As the results are reported on a dry weight basis, this result was not anticipated. In fact, it appeared that the apparent trends causing the ASSIs may be an artifact of variable moisture content in the samples over time. Despite the trends, the reported metal concentrations were within the range of concentrations observed within each sedimentation basin. These observations were shared with EGLE and an alternative statistical approach was discussed. The alternative statistical approach will be pursued further in 2026.

In addition to the grab samples described above, a composite sample is formed by taking portions of the six grab samples from each sedimentation basin and the composite is analyzed for PCBs. No PCBs were detected in any of the composite samples collected during 2025.

8.0 Soil Monitoring

On-site soil samples are collected semi-annually at 30 locations, per the soil monitoring sampling and analysis plan. Collected samples are analyzed for PCBs. Results are compared to threshold limit values depending on whether the sample location is within "Area A" (limit of 0.75 mg/kg) or "Area B" (limit of 0.1 mg/kg). The samples were collected on March 20, 2025 and September 17, 2025, and the reports submitted on May 14 and October 31, 2025, respectively. The results for 2025 are summarized on Table 23.

As shown on the table, no PCBs were detected during the first semi-annual sampling event. During the second sampling event, PCB detections were reported in Area A at location SM-1 at a concentration of 0.13 mg/kg. This is below the Area A threshold concentration of 0.75 mg/kg. There were no detectable PCBs in Area B sample locations during either soil monitoring event in 2025. WDI remains in routine detection monitoring for soils.

9.0 Summary

This report was prepared to meet the 2025 annual reporting requirements for the groundwater, leachate, and leak detection monitoring programs at WDI Site #2. These requirements are outlined in conditions A.5 (groundwater), E.7 (leachate), F.12 (leak detection, collection, and removal systems), and G9 (lysimeters). In addition, a summary of surface water, sedimentation basin, and soil monitoring results are included in this report. The important results can be summarized as follows:

1. No apparent SSIs were reported in a primary parameter for any of the monitoring wells in any of the quarterly groundwater samples. Additionally, no two secondary parameters showed new apparent SSIs in any of the quarterly samples. WDI's groundwater monitoring program remains in detection monitoring.

2. No SSIs of the primary parameters were reported for the Master Cell IX 1989 Consent Decree monitoring program. There was apparent sign test exceedance for secondary parameters that was not confirmed by resampling.

3. Groundwater flow characteristics remain consistent with historical data.

4. Based on leachate monitoring data, there are no strong candidates for the inclusion of new parameters in groundwater and/or LDCRS programs.

5. Leachate volumes removed from Cells V and VII decreased compared to 2024, while leachate volumes removed for Cell VI increased related to 2024, at least in part, due to a full year of leachate collection from Cell VI-F3.

6. Leachate heads were in compliance with license conditions in Cells MC-V, MC-VI, and MC-VII for all measurements in 2025.

7. During the first quarterly sampling event, the PCB-1242 was detected in the LDCRS sample from VI-AN along with several VOCs. It was determined that PCB-1242 is from residual impact from a riser pipe collapse that occurred years ago and the VOCs were related to flushing the sump with water from the municipal source. The VOCs, which were likely a result of municipal water used to flush the sump during 2025, were not detected after additional water was removed and PCB-1242 continues to be detected at trace levels.

8. LDCRS volumes were generally stable and low in 2025 except for Cells VI-ESW and VI-ENW when there was storm water infiltration during the tie-in construction with the overlying cell.

9. No VOCs were detected in the lysimeter samples in 2025.

10. There were no PCBs or VOCs detected in surface water samples in 2025.

11. The SSB and NSB sediments were sampled and analyzed for metals, PCBs, total phenolics, and cyanide. No PCBs were detected. There were upward trends in metals at two locations in the NSB and one location in the SSB. Alternative statistical approaches are being considered for data evaluation.

12. Soil sampling was conducted semi-annually, and PCBs were detected in one of the 30 locations sampled during the second sampling event. However, the reported concentration was below the relevant criteria for Area A.

FIGURES

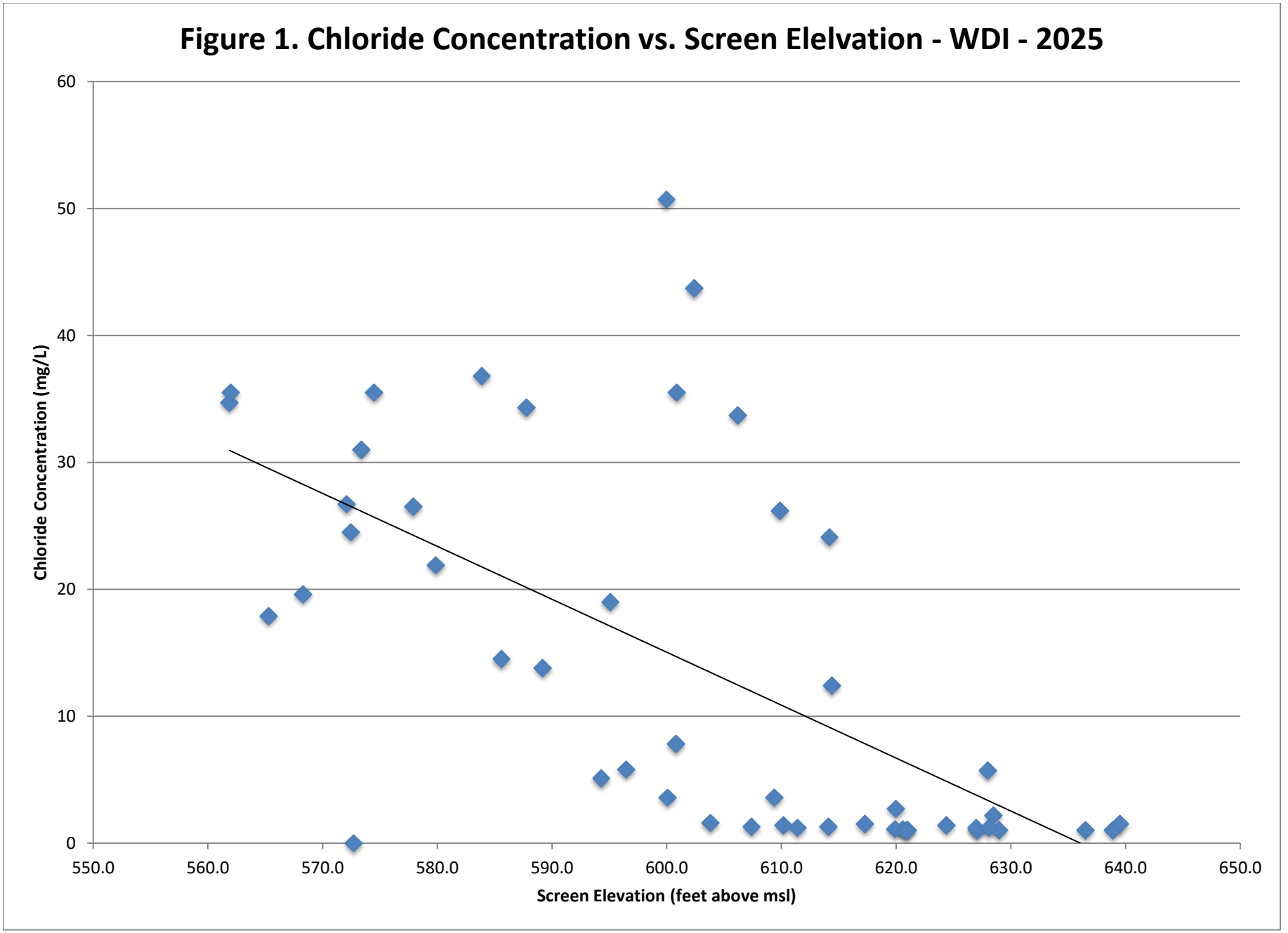


Figure 1. Chloride Concentration vs. Screen Elelvation - WDI - 2025
Chloride Concentration (mg/L)
60
50
40
30
20
10
0
550.0
560.0
570.0
580.0
590.0
600.0
610.0
620.0
630.0
640.0
650.0
Screen Elevation (feet above msl)

Figure 2. Time-Concentration Plots for Chloride at Selected Wells - WDI 2025

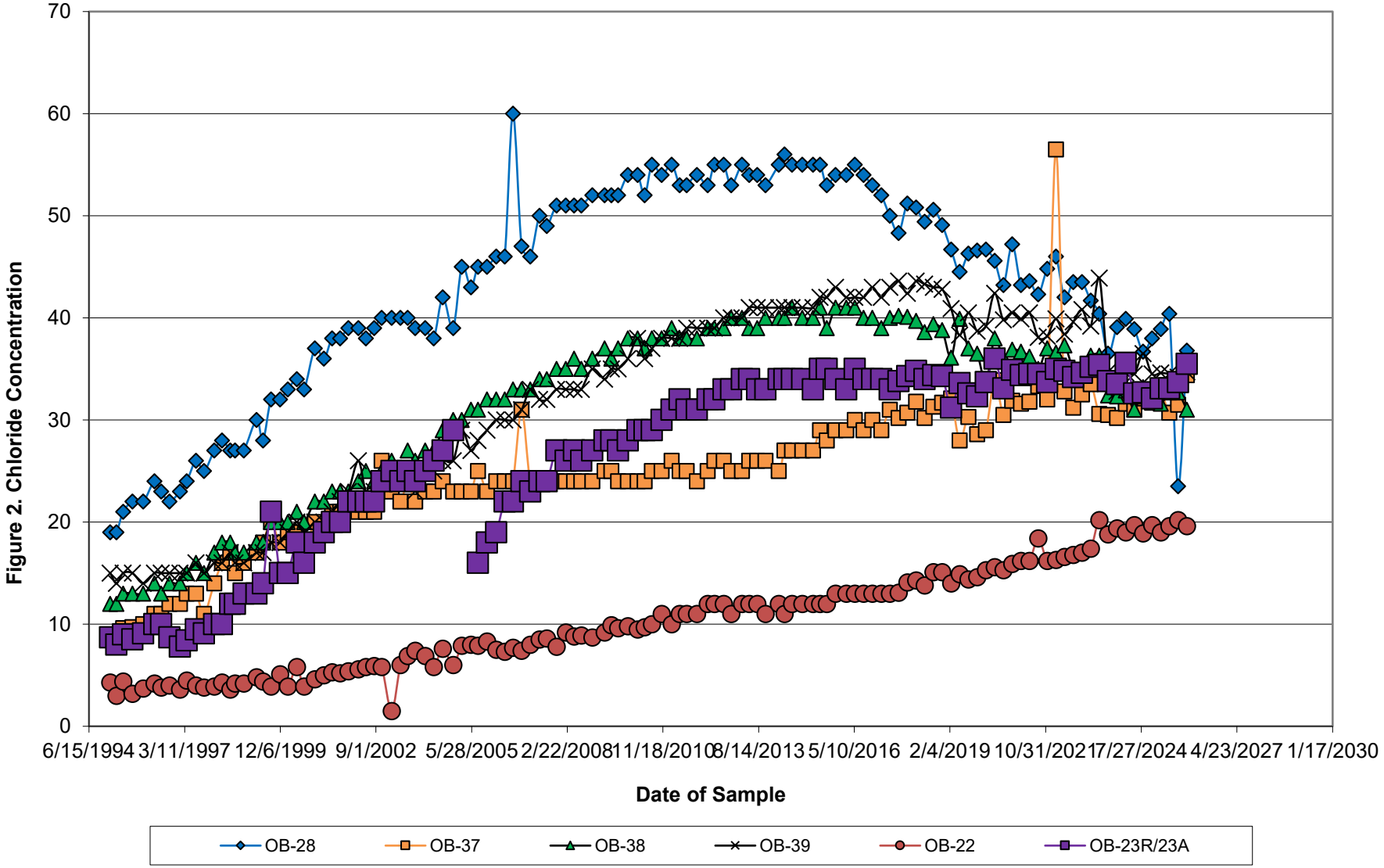


Figure 3. Monthly Leachate Volumes - MC-V - 2025

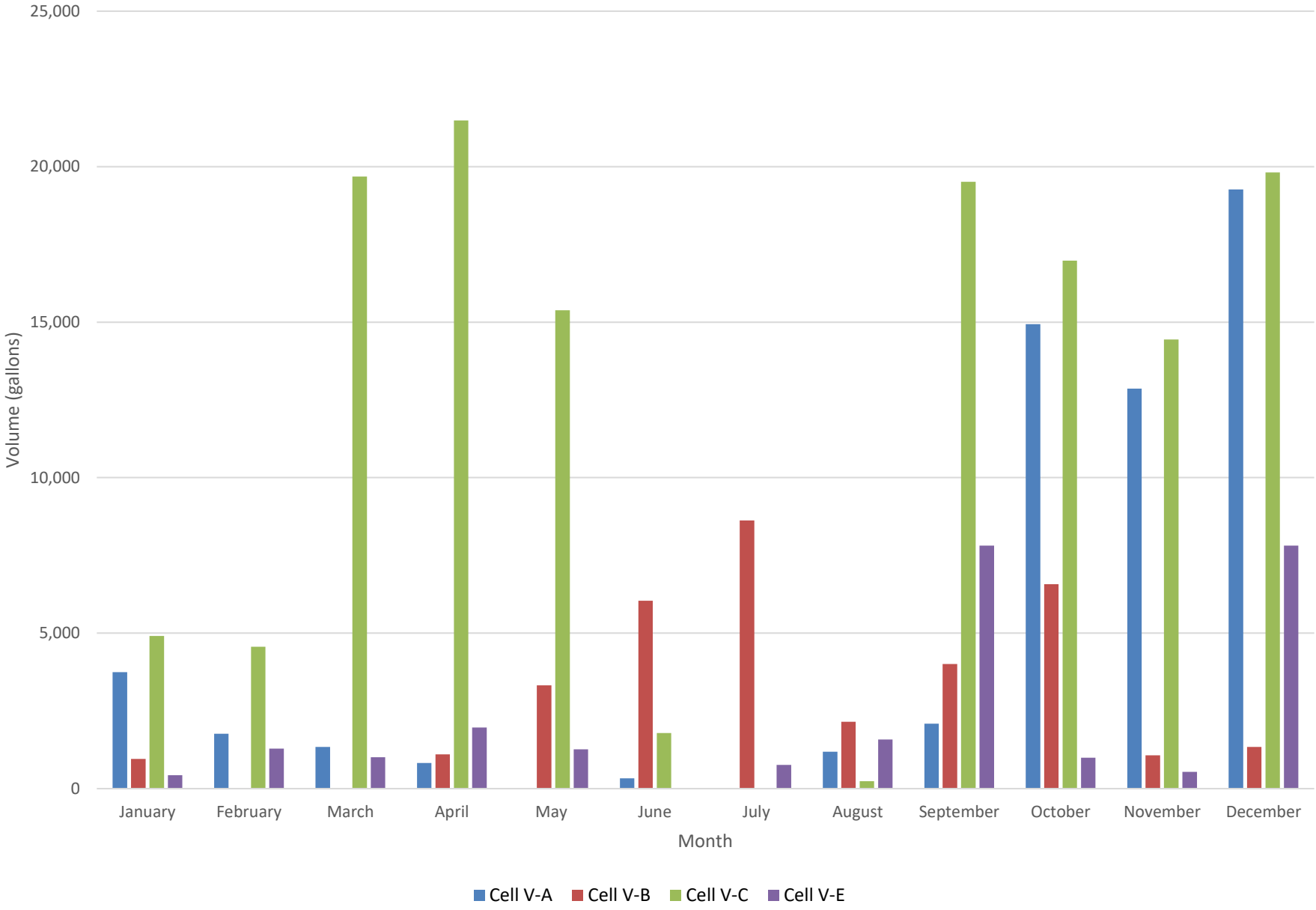
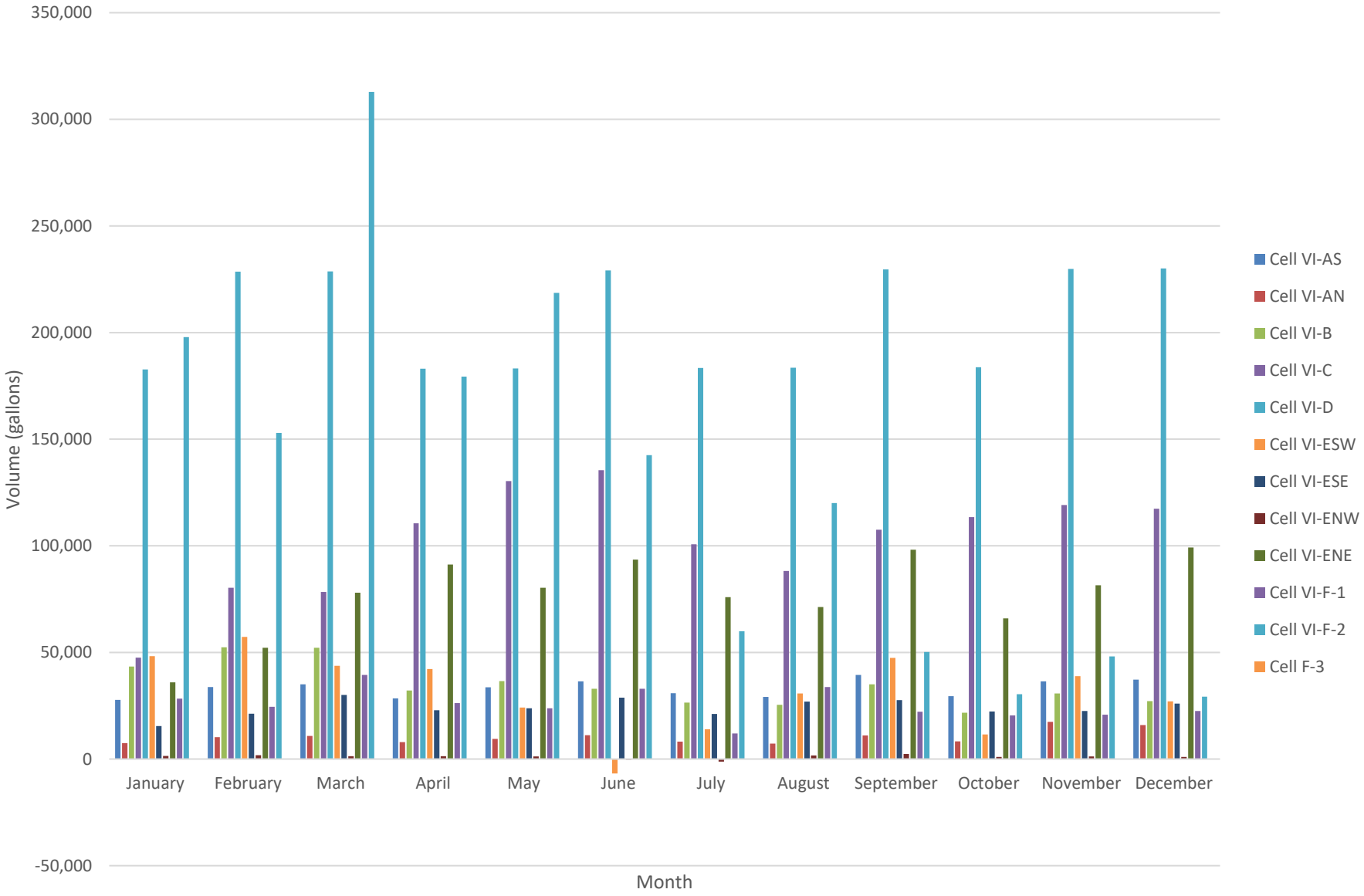


Figure 4. Monthly Leachate Volumes - MC-VI - 2025



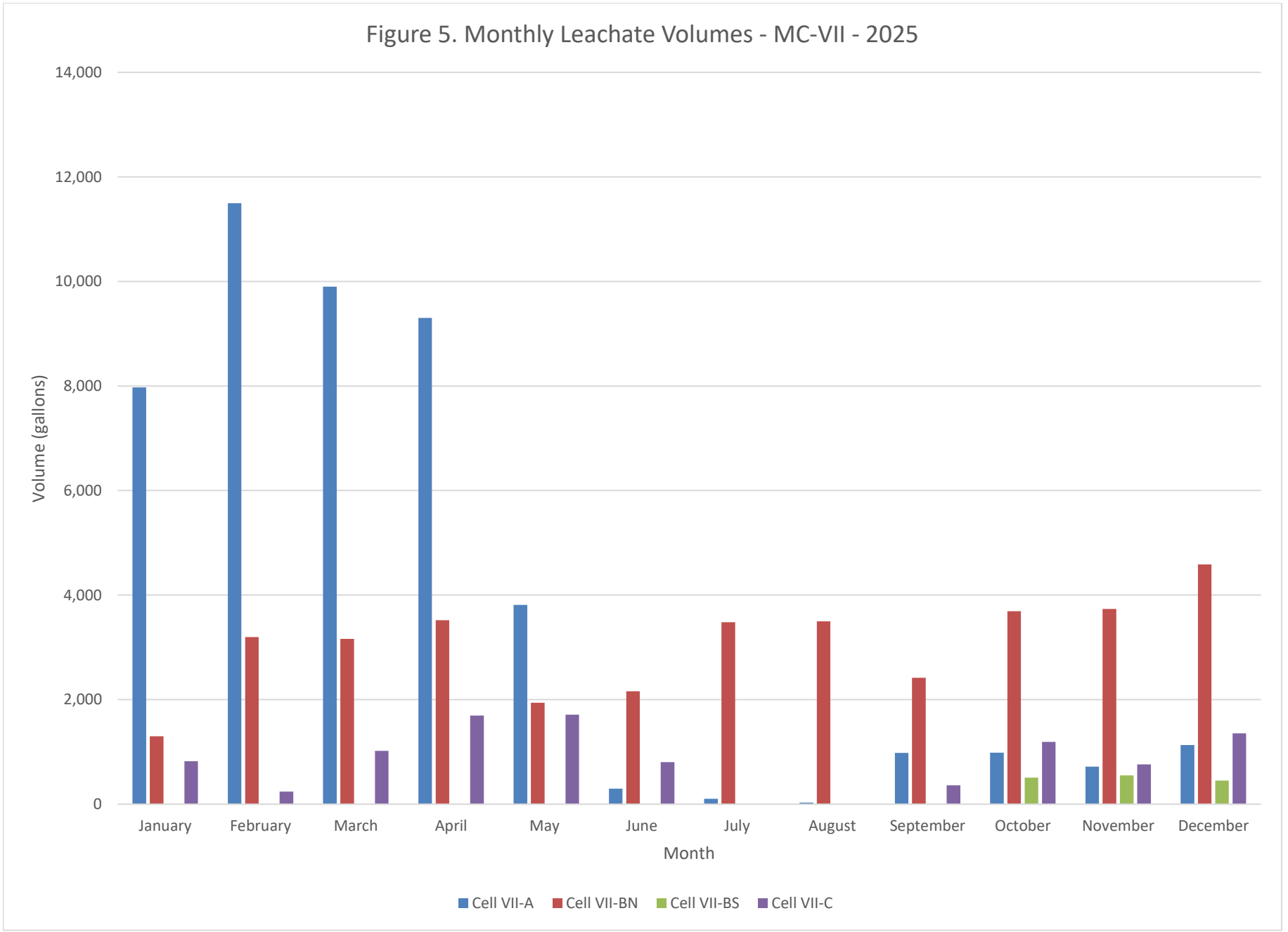


Figure 5. Monthly Leachate Volumes - MC-VII - 2025
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Volume (gallons)
January
February
March
April
May
June
July
August
September
October
November
December
Month
Cell VII-A
Cell VII-BN
Cell VII-BS
Cell VII-C

Figure 6. Annual Leachate Removal Volumes MC-V - WDI

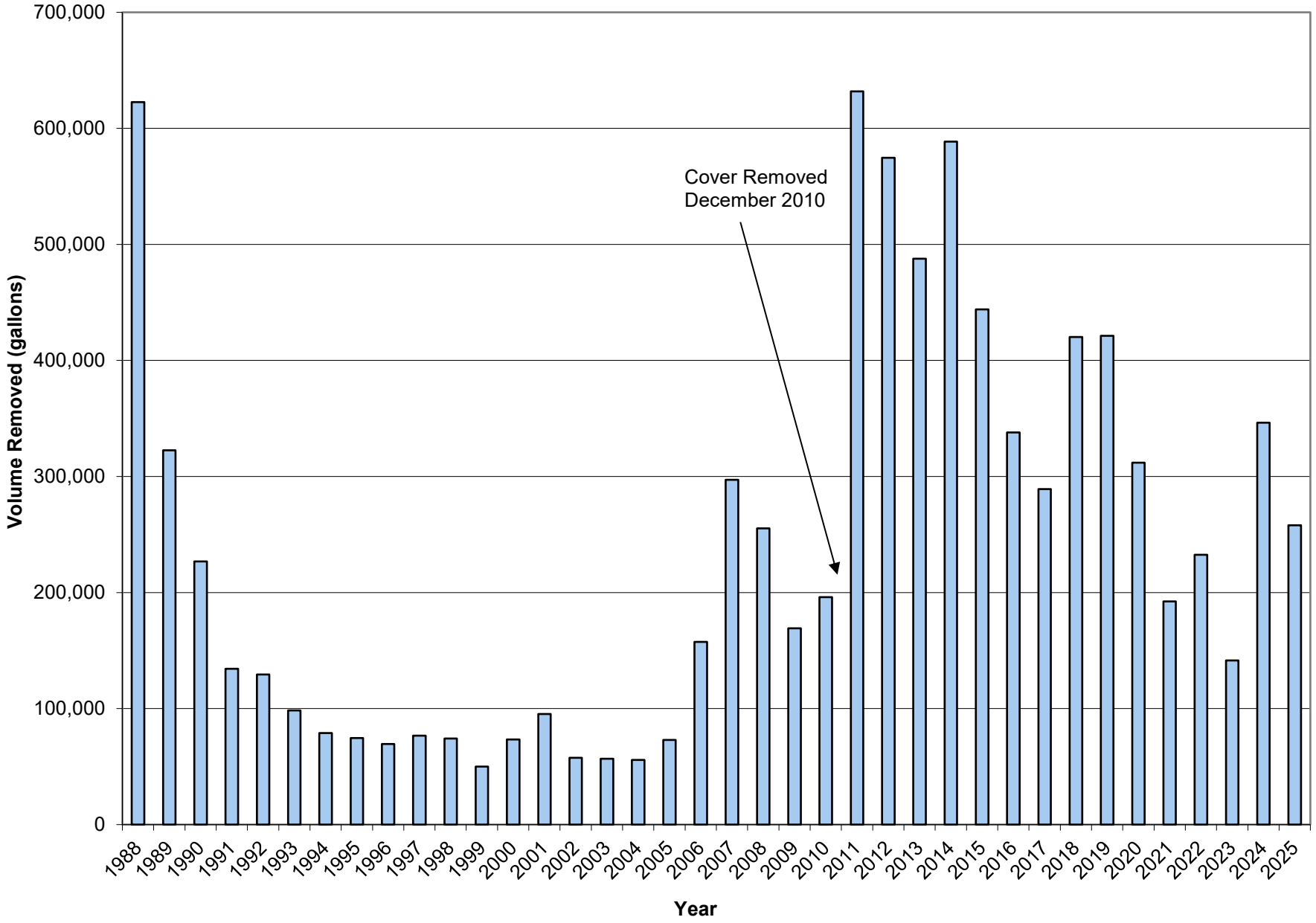


Figure 7. Annual Leachate Removal Volumes MC-VII - WDI

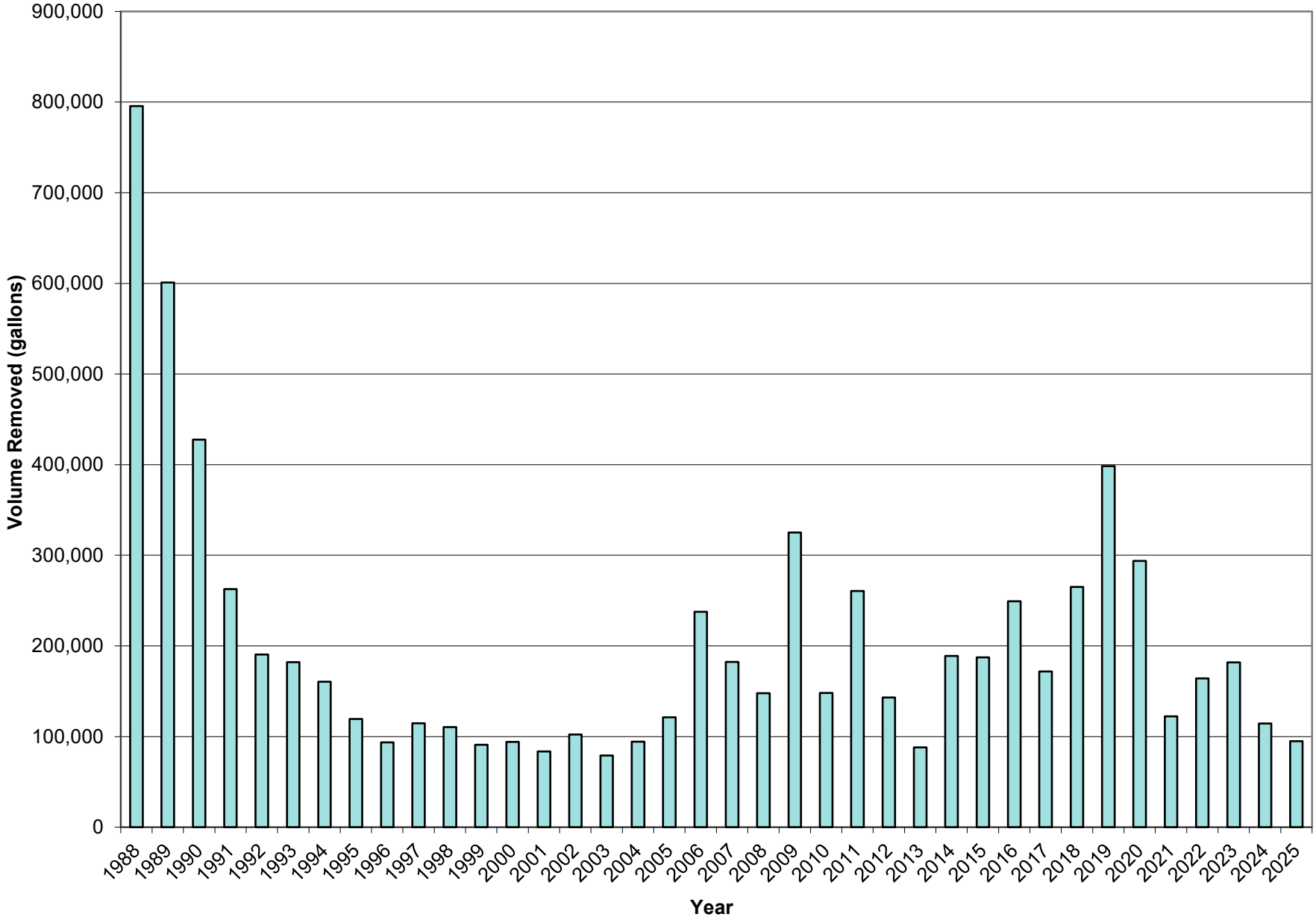


Figure 8. Monthly LDCRS Volume for Cell VI-AS - 2025

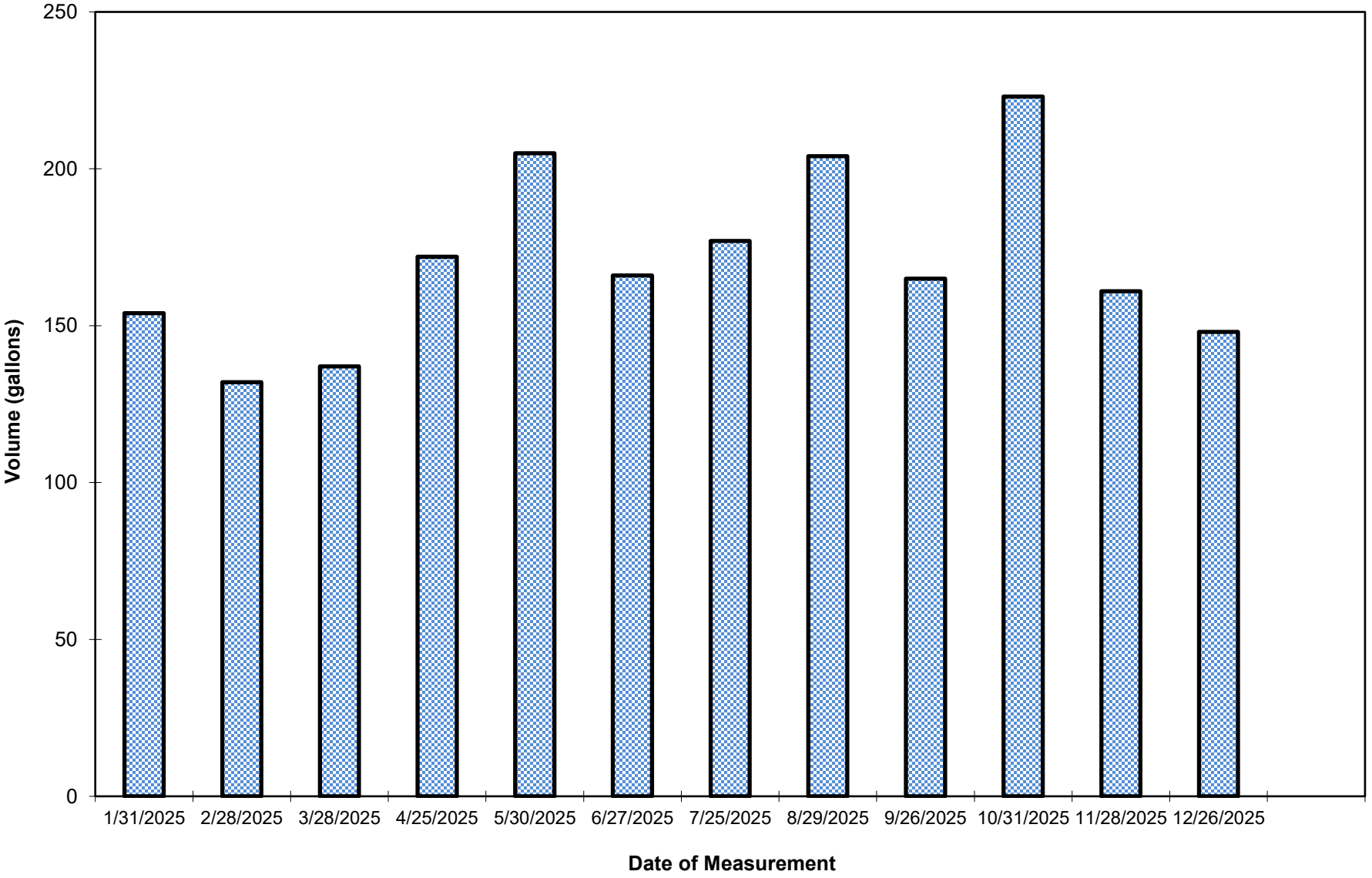


Figure 9. Monthly LDCRS Volumes - Cell VI-AN - 2025

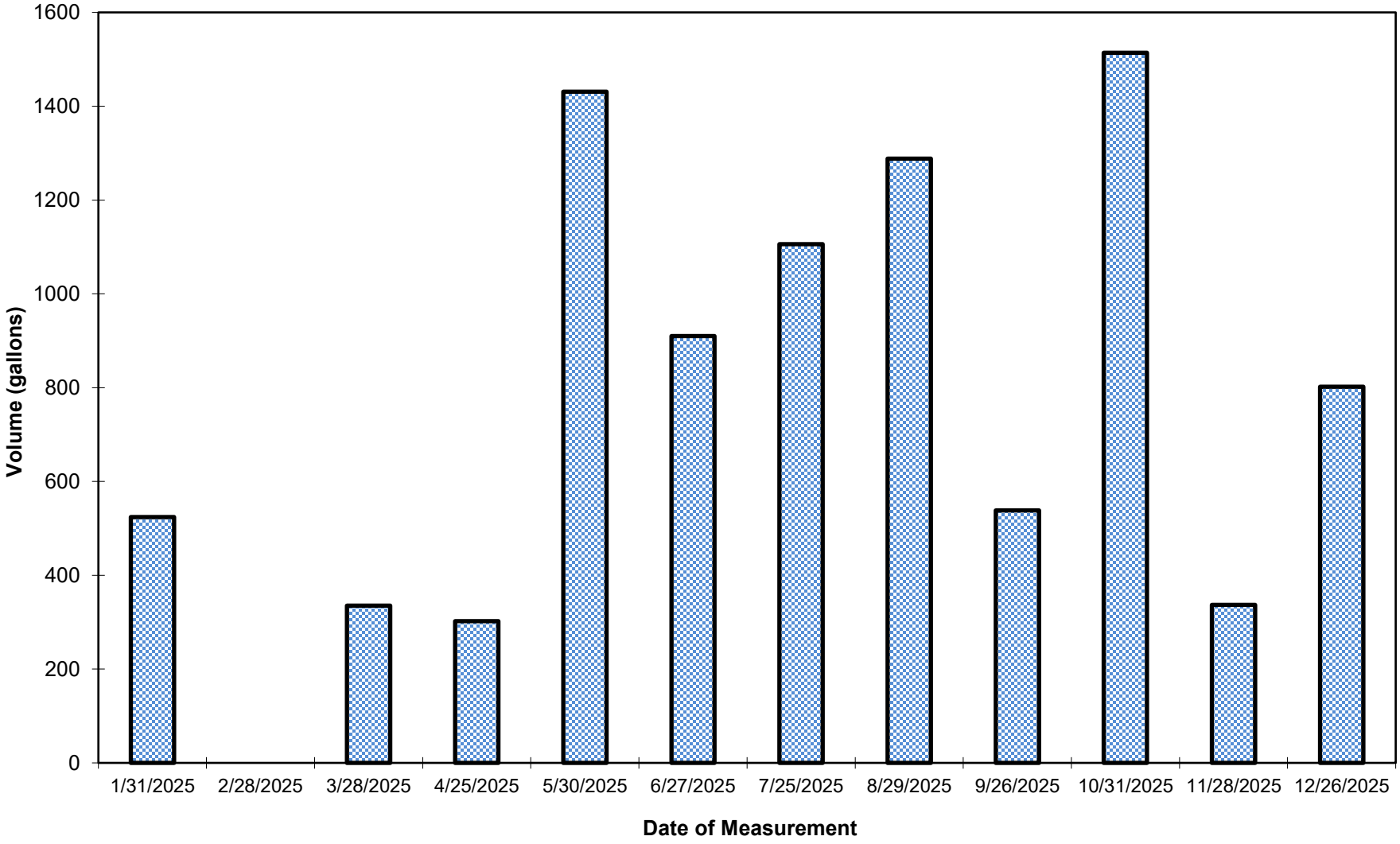


Figure 10. Monthly LDCRS Volume for Cell VI-B - 2025

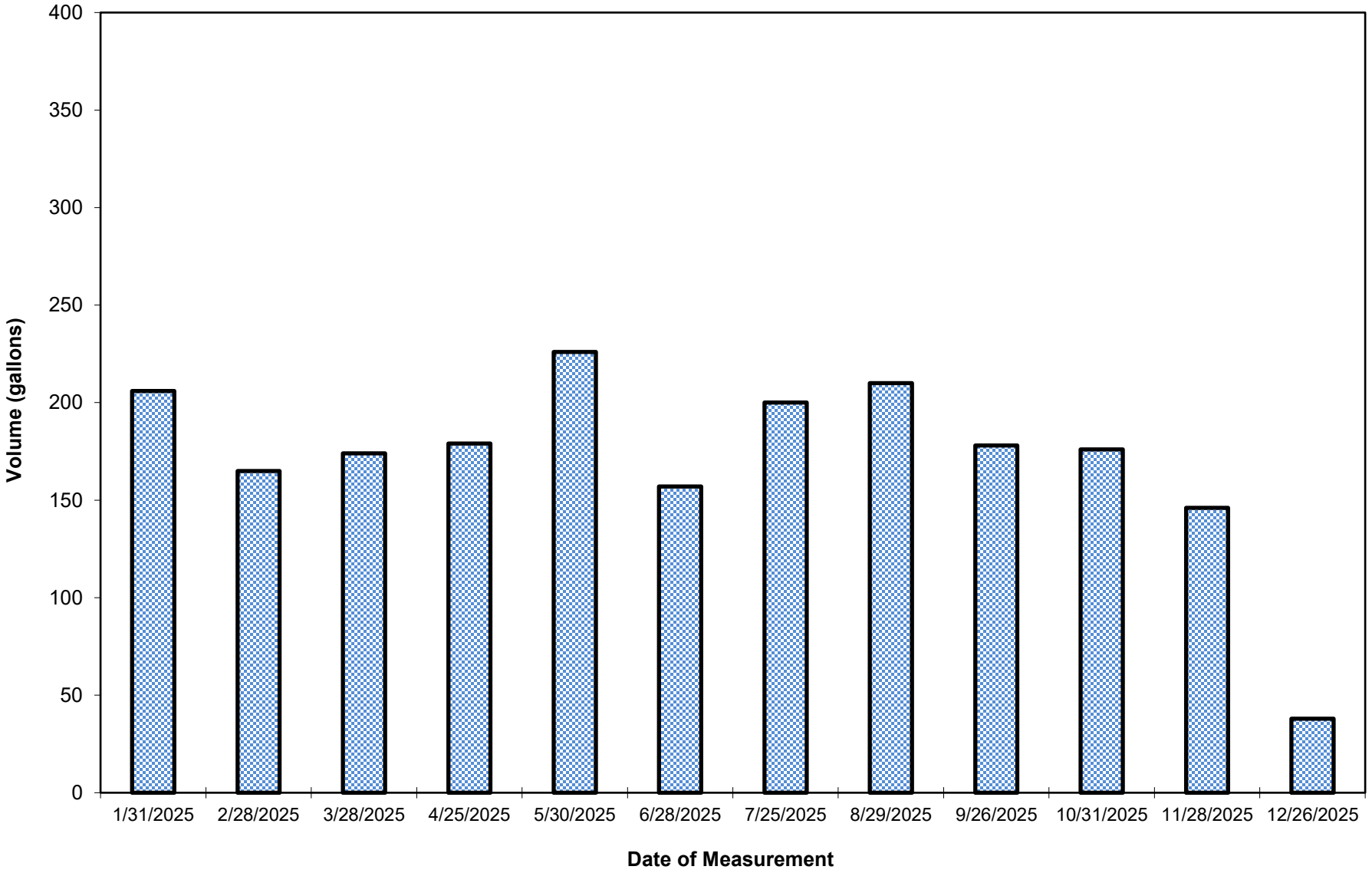


Figure 11. Monthly LDCRS Volumes - Cell VI-C - 2025

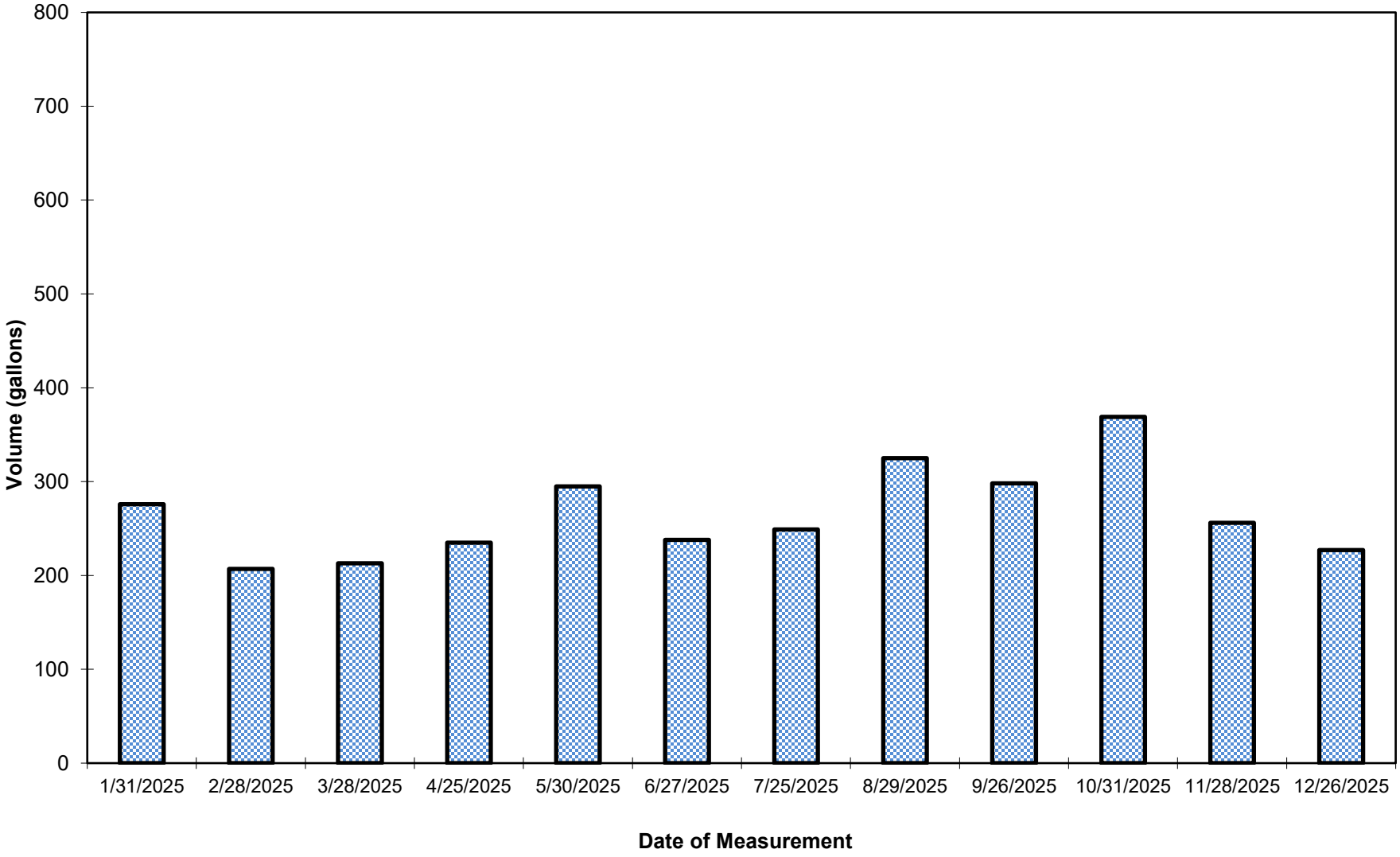


Figure 12. Monthly LDCRS Volumes - Cell VI-D - 2025

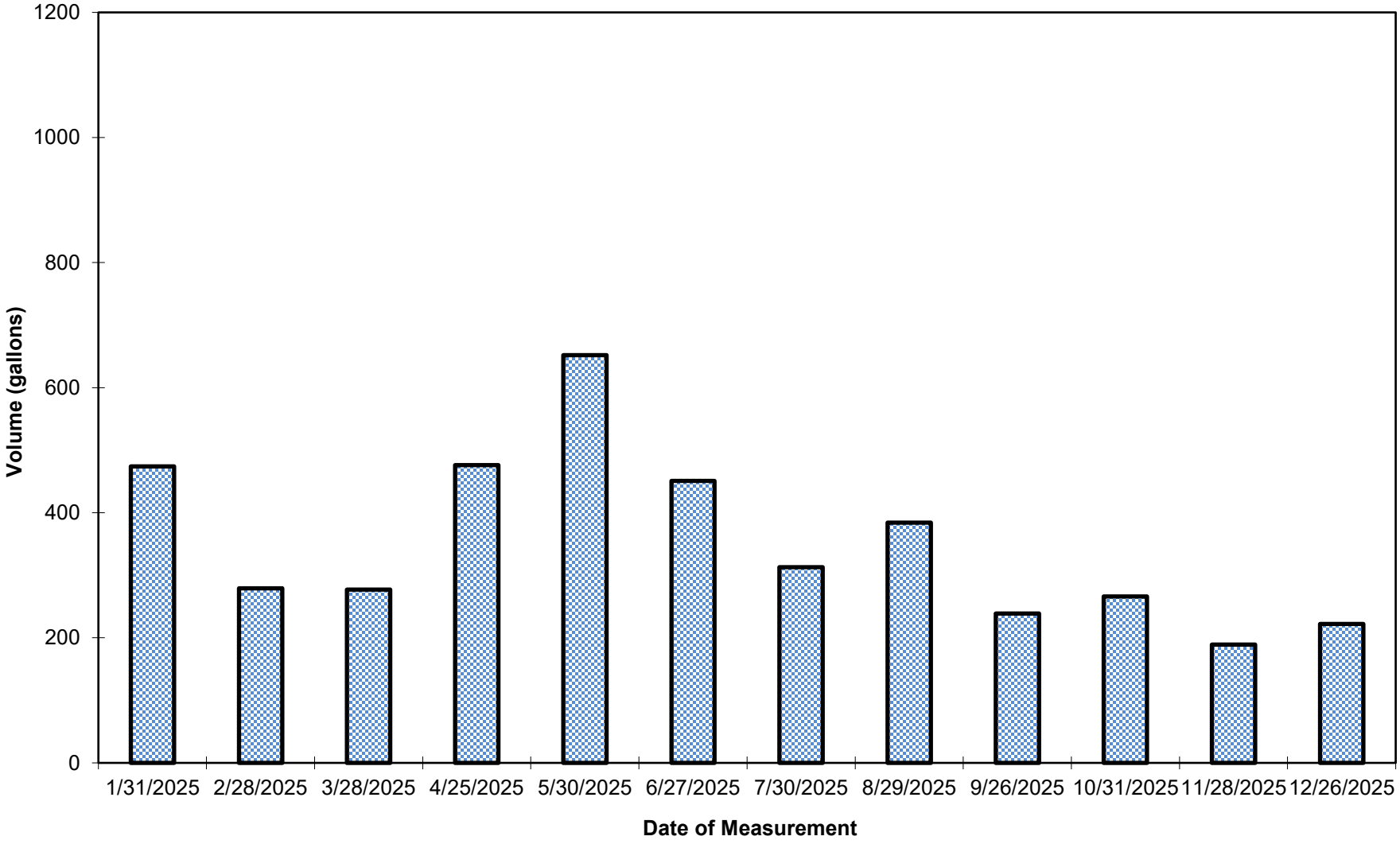


Figure 13. Monthly LDCRS Volumes - Cell VI-E-SW - 2025

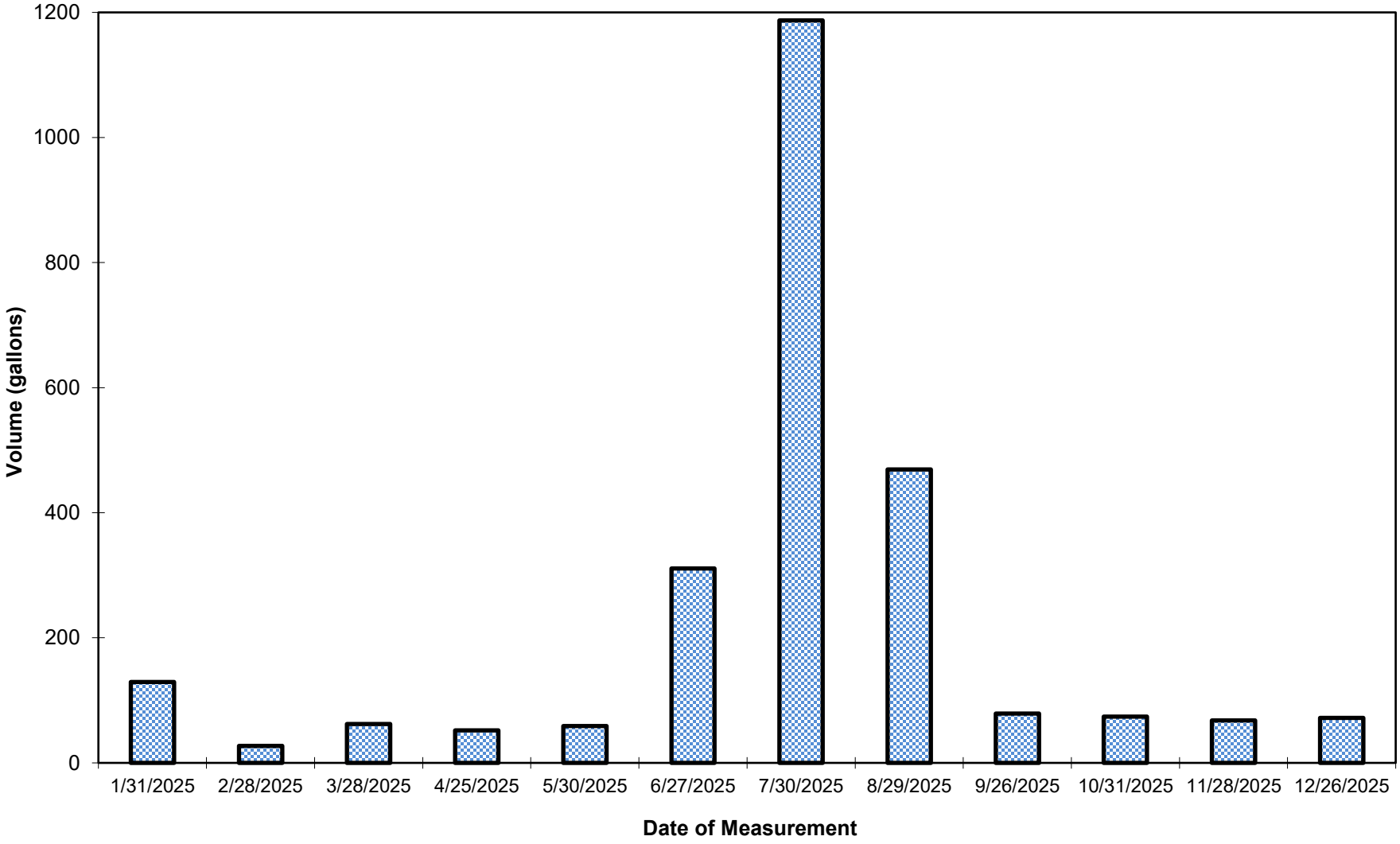


Figure 14. Monthly LDCRS Volumes - Cell VI-E-SE - 2025

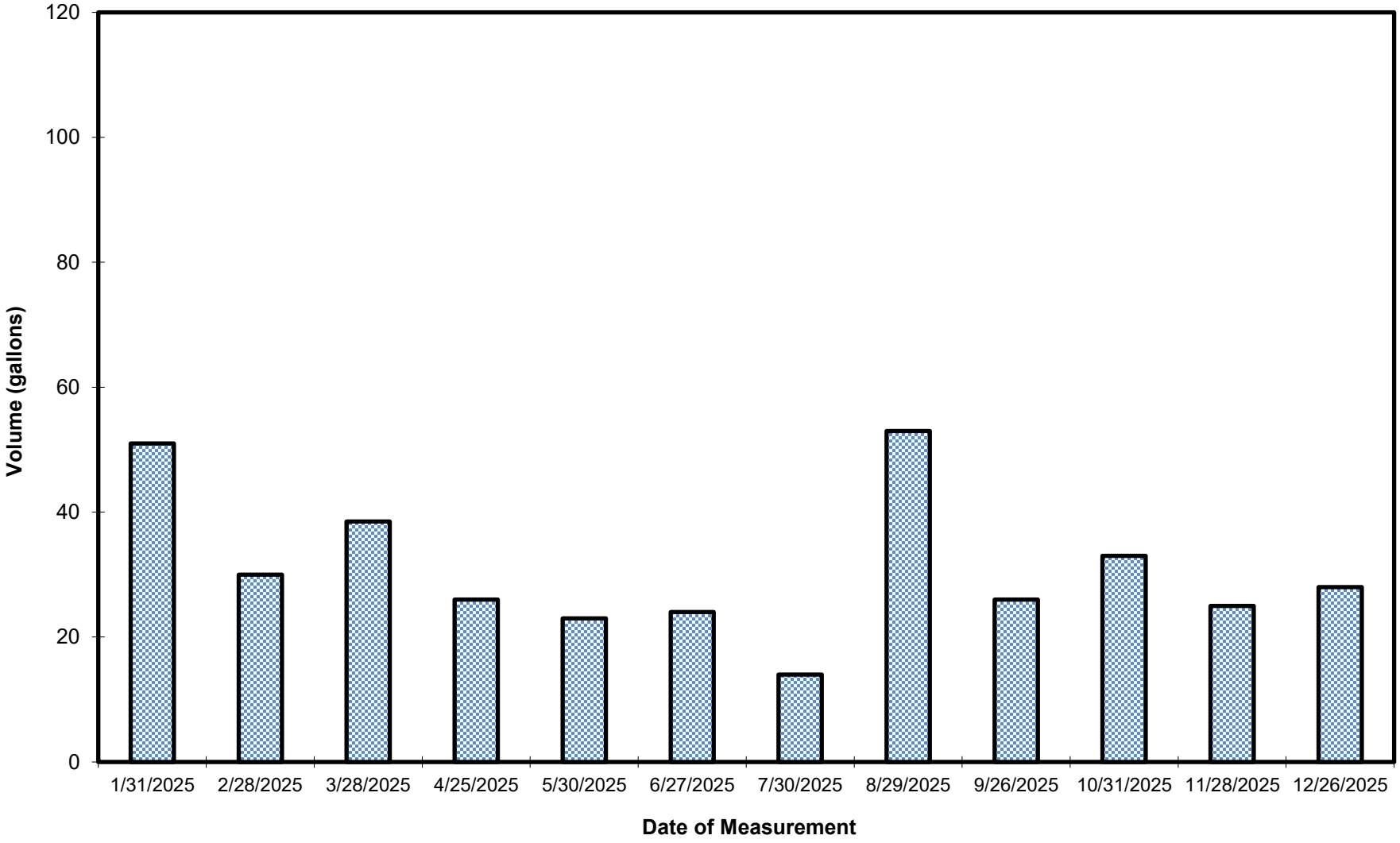


Figure 15. Monthly LDCRS Volumes - Cell VI-E-NW - 2025

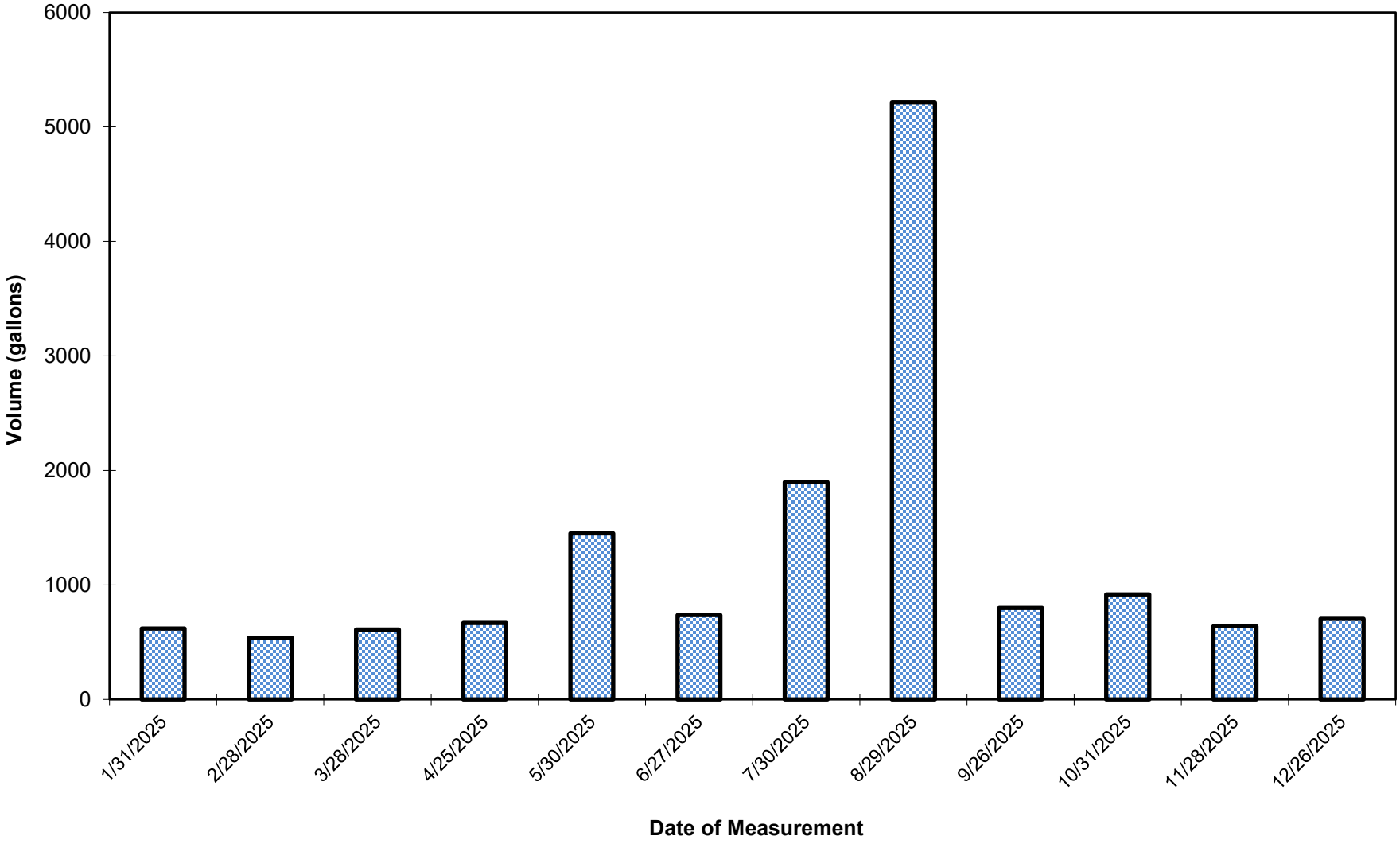


Figure 16. Monthly LDCRS Volumes - Cell VI-E-NE - 2025

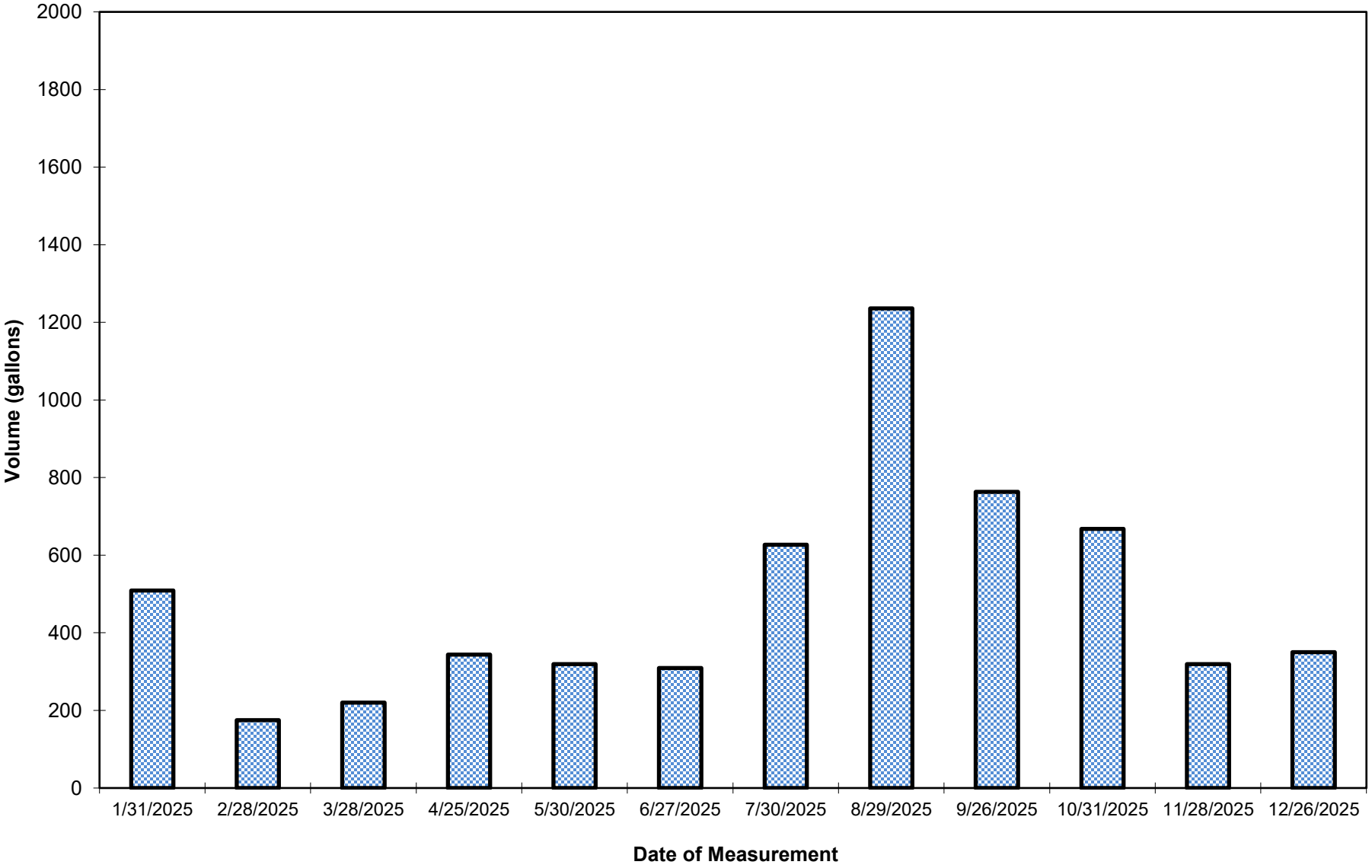


Figure 17. Monthly LDCRS Volumes - Cell VI-G - 2025

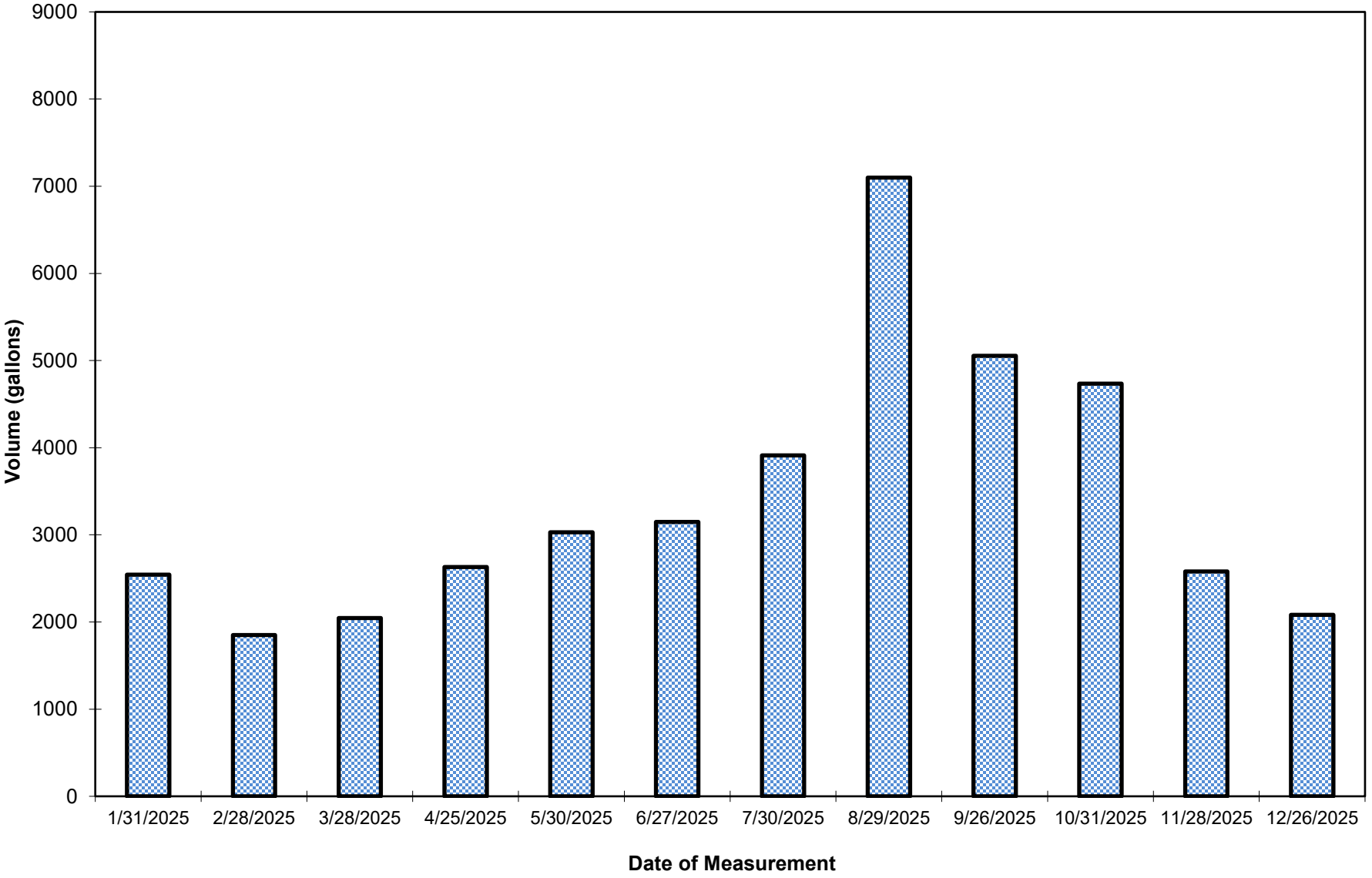


Figure 18. Monthly LDCRS Volumes - Cell VI-F-1 - 2025

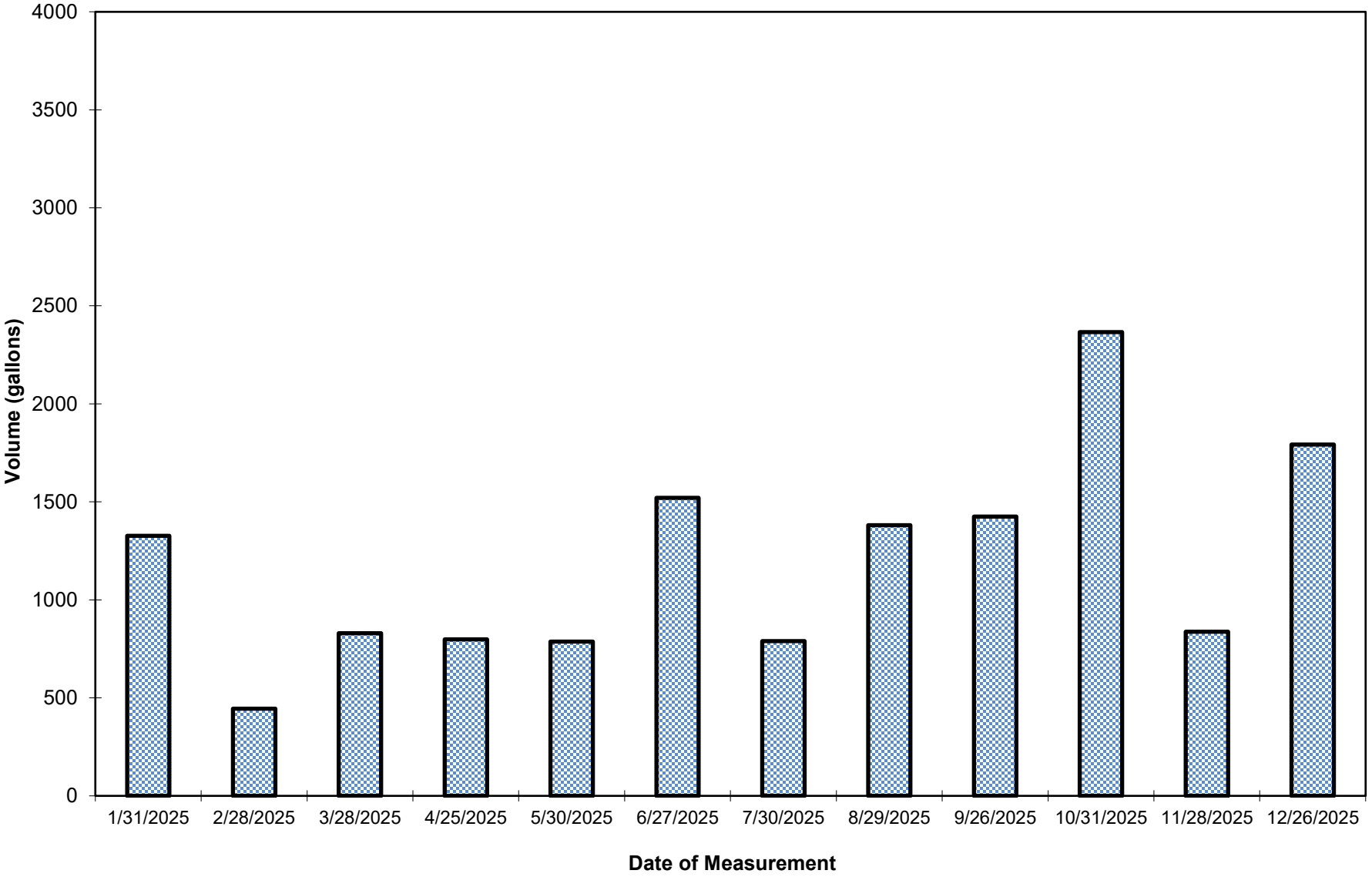


Figure 19. Monthly LDCRS Volumes - Cell VI-F-2 2025

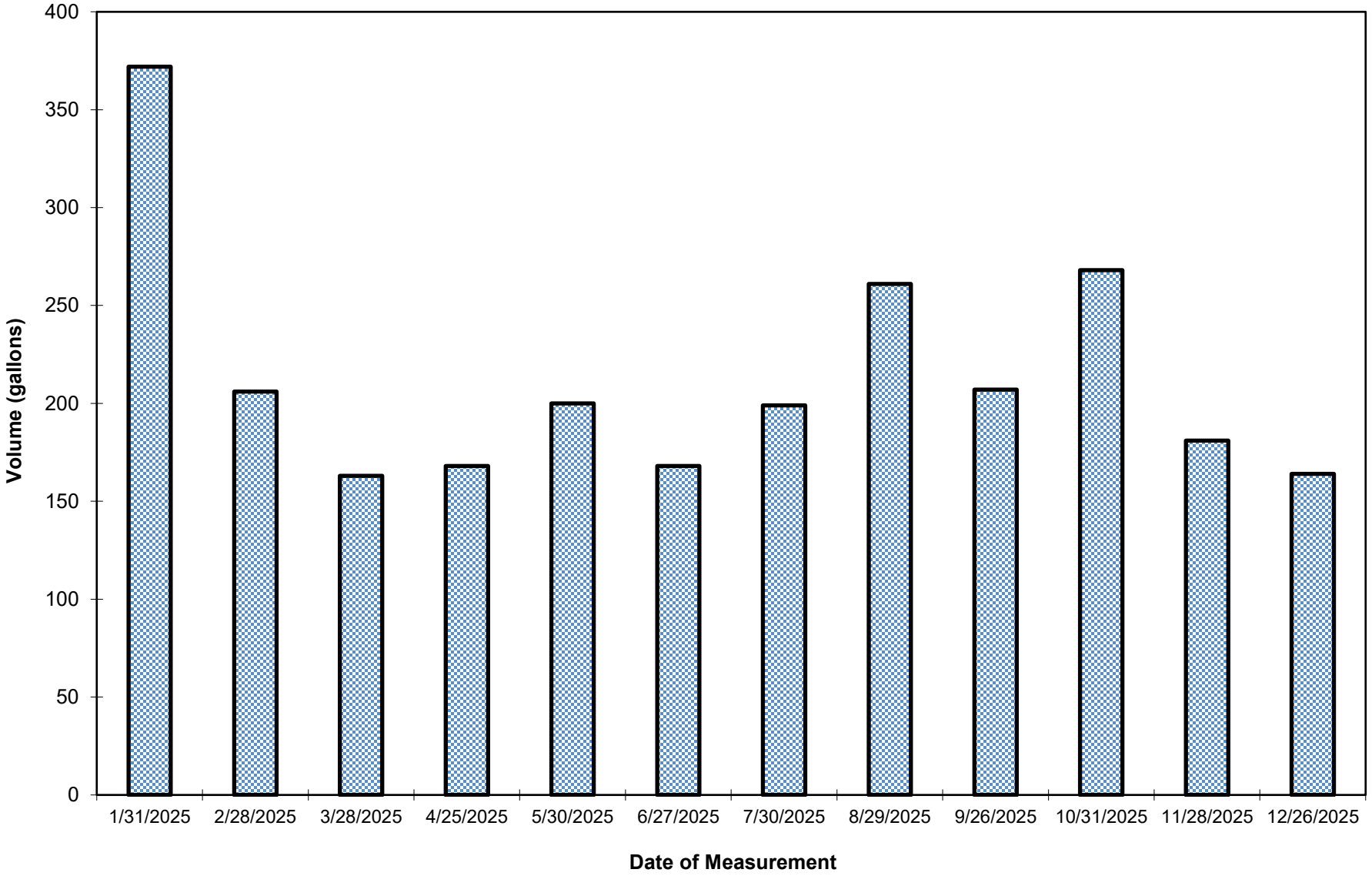


Figure 20. Monthly LDCRS Volumes Cell VI-F-3 2025

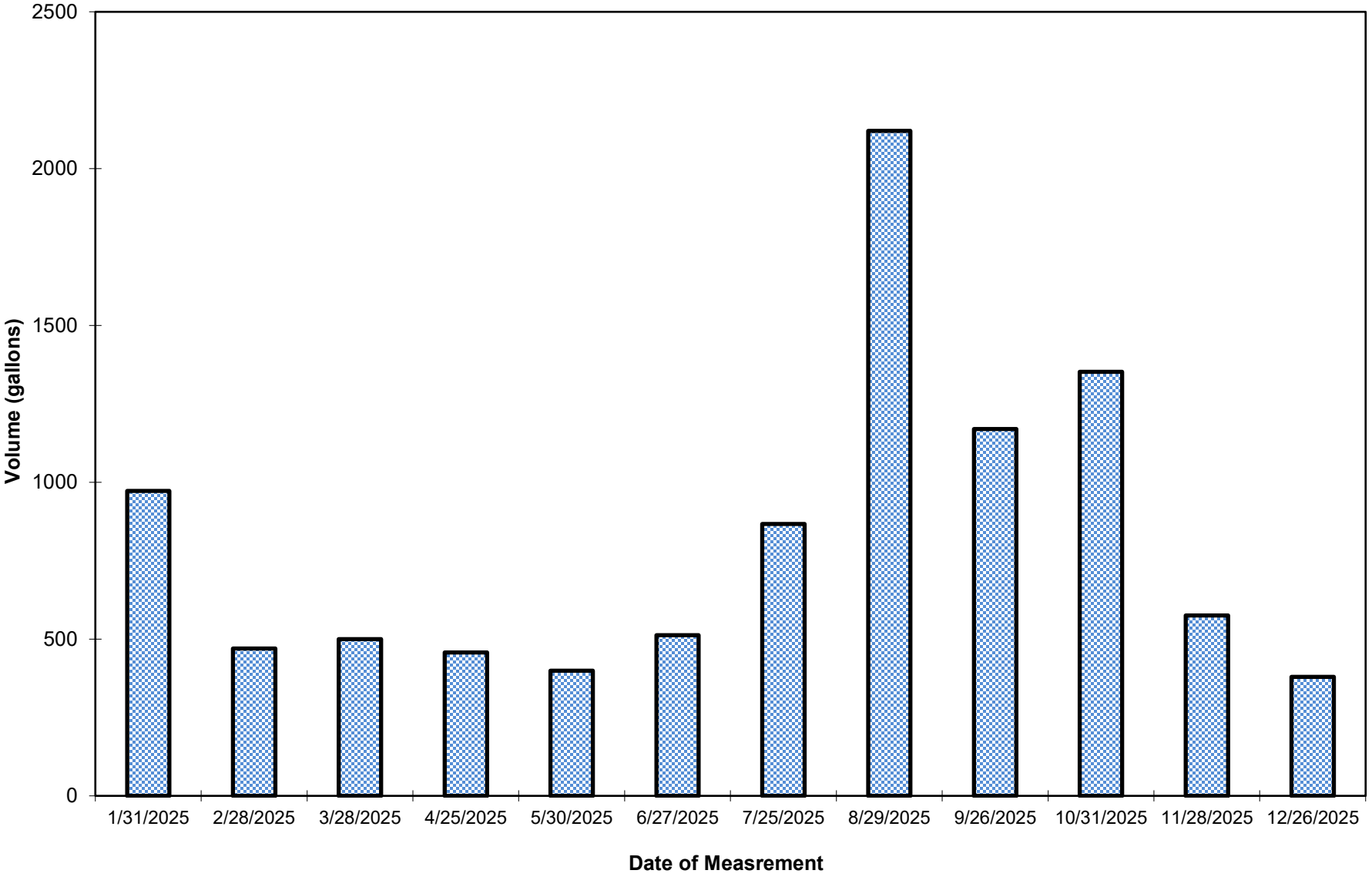


Figure 21. Leachate and LDCRS Volumes - VI-AS - 2025

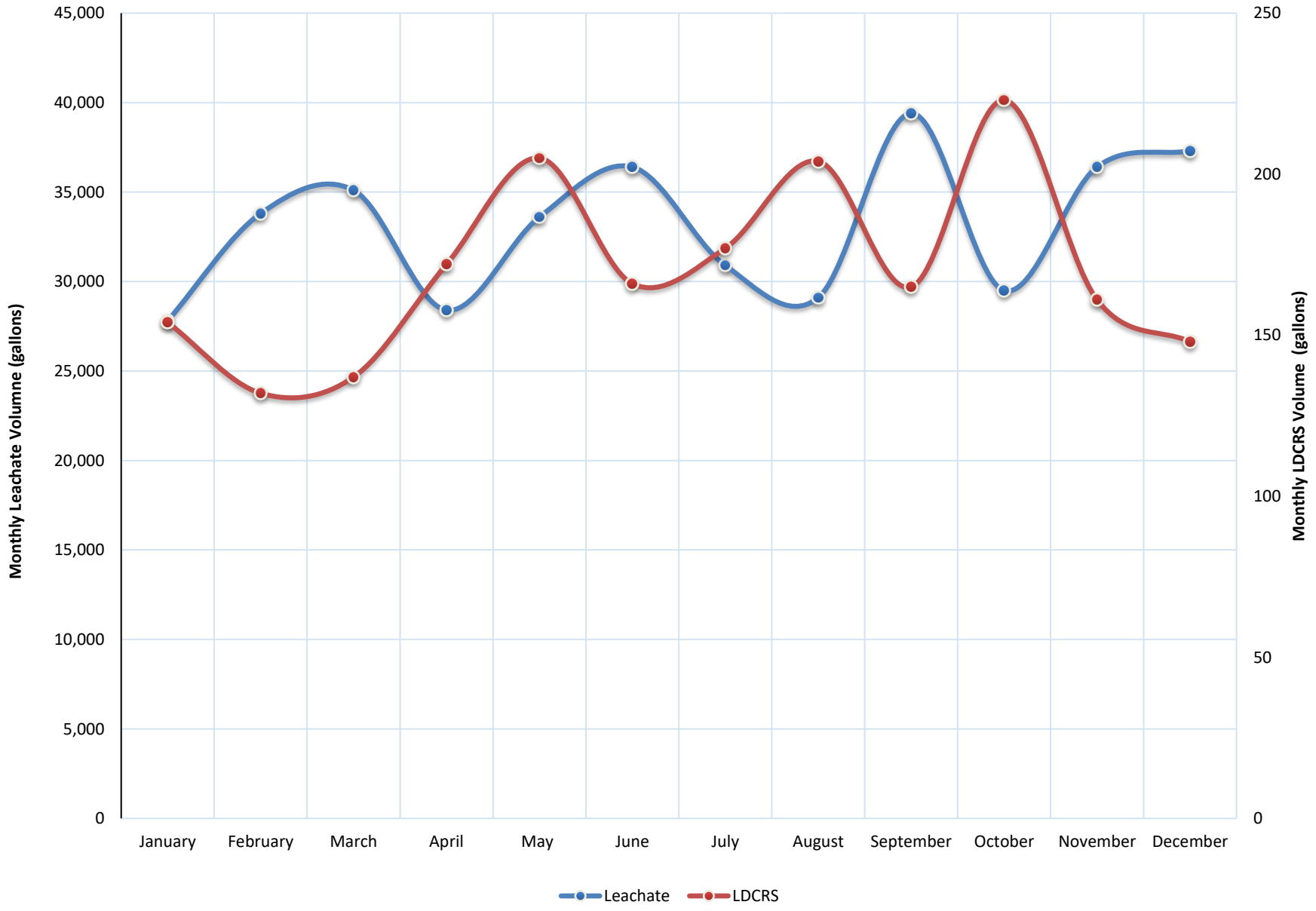


Figure 22. Leachate and LDCRS Volume VI-AN - 2025

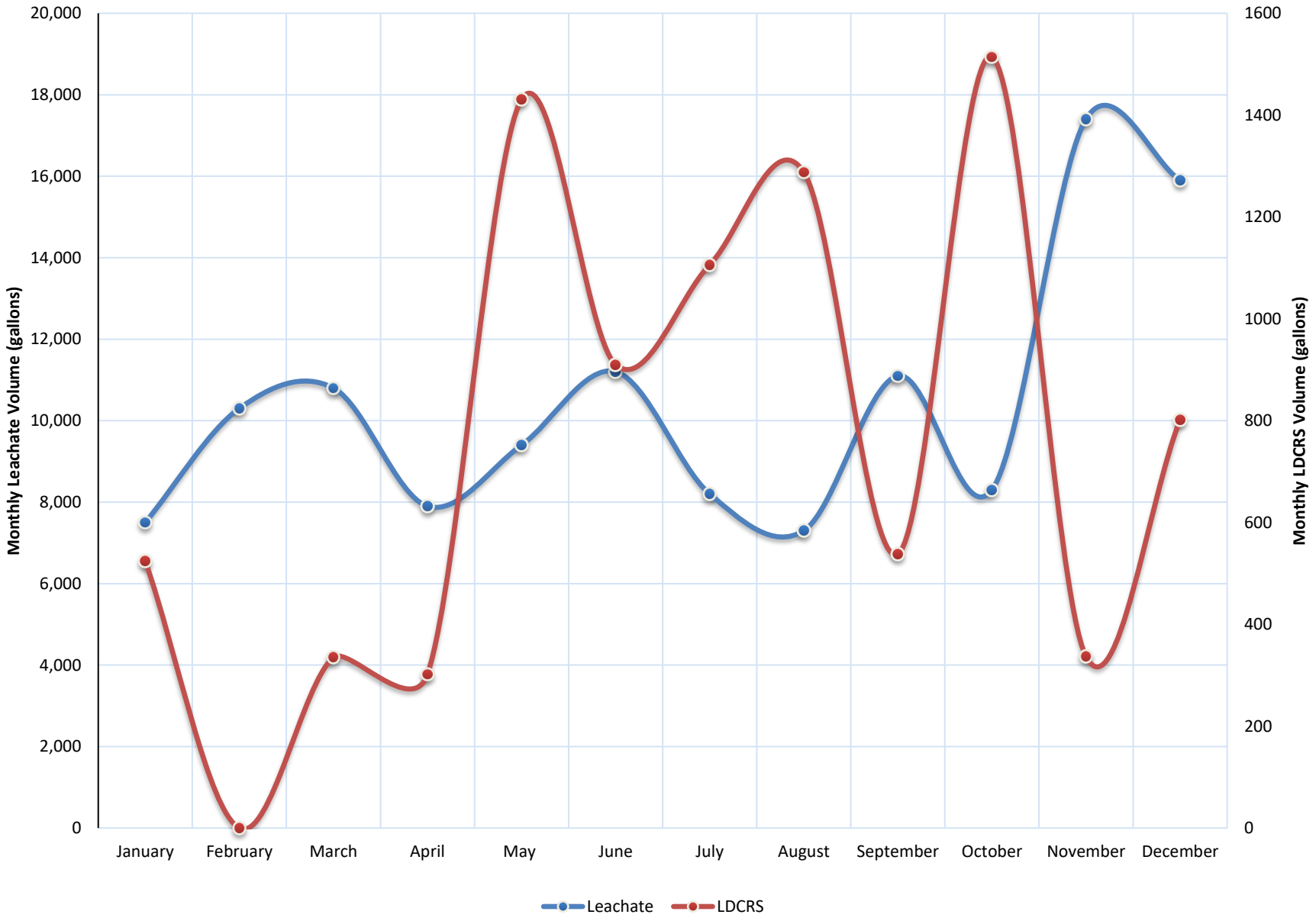


Figure 23. Leachate and LDCRS Volumes - VI-B - 2025

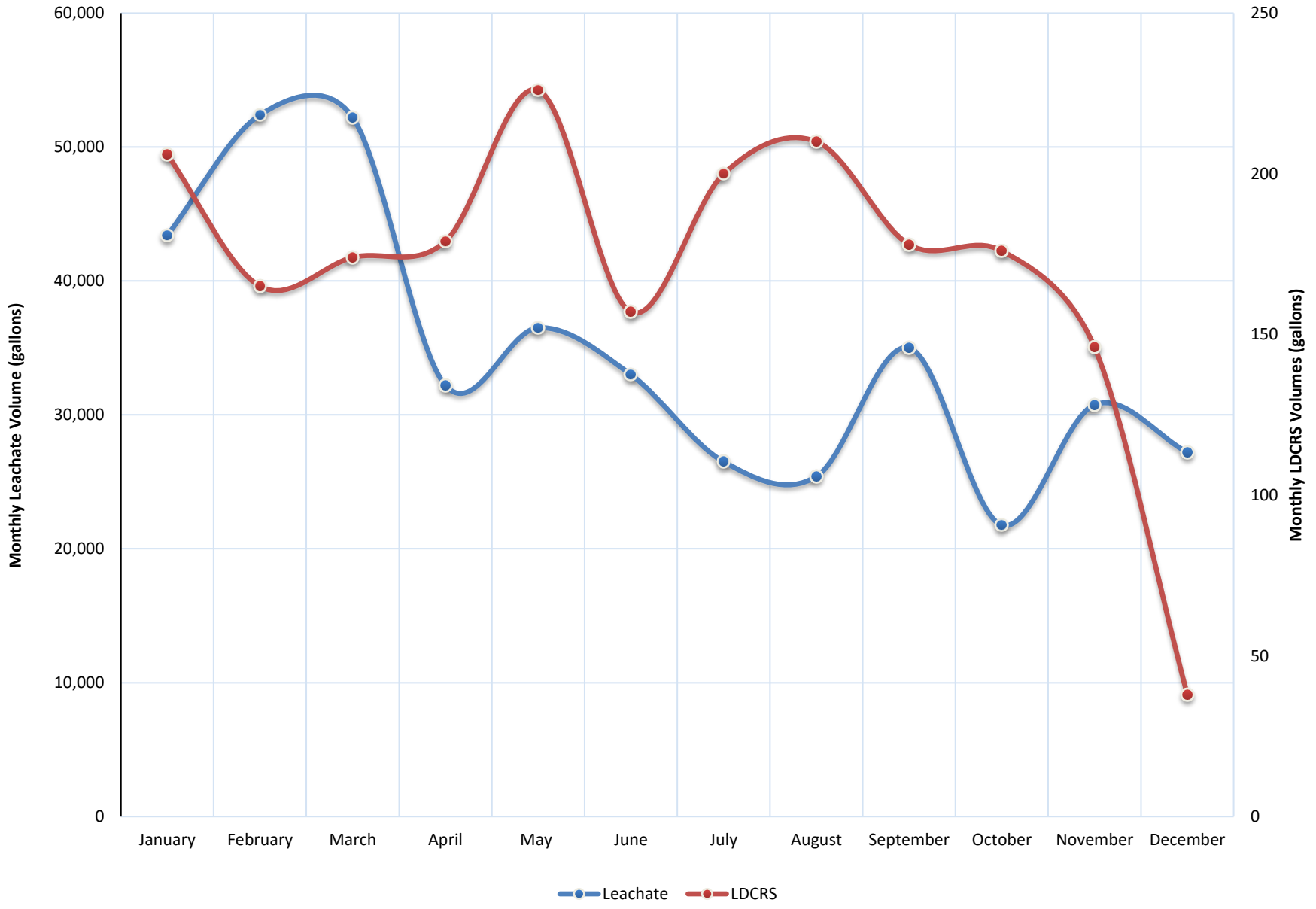


Figure 24. Leachate and LDCRS Volumes - VI-C - 2025

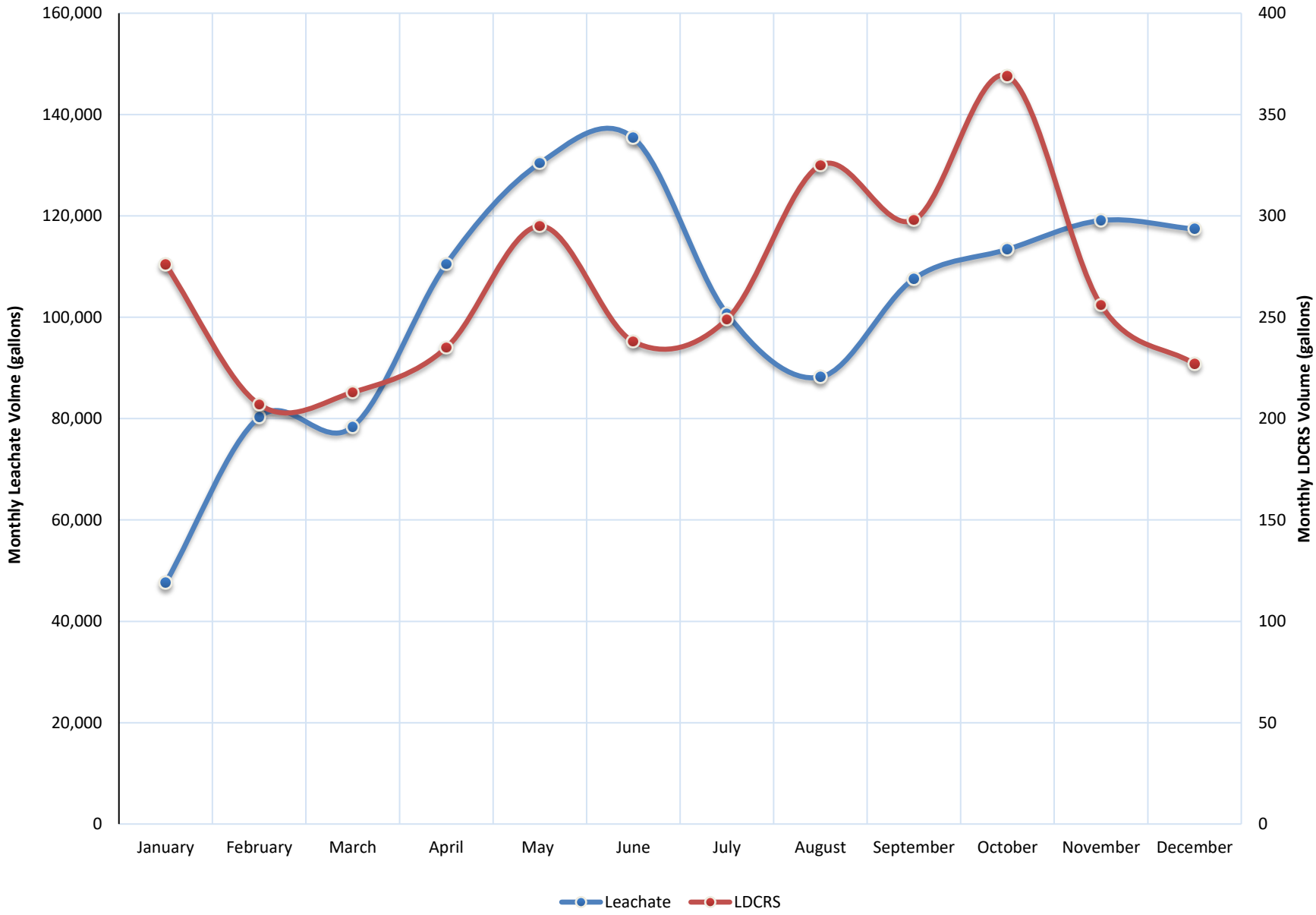


Figure 25. Leachate and LDCRS Volumes - VI-D - 2025

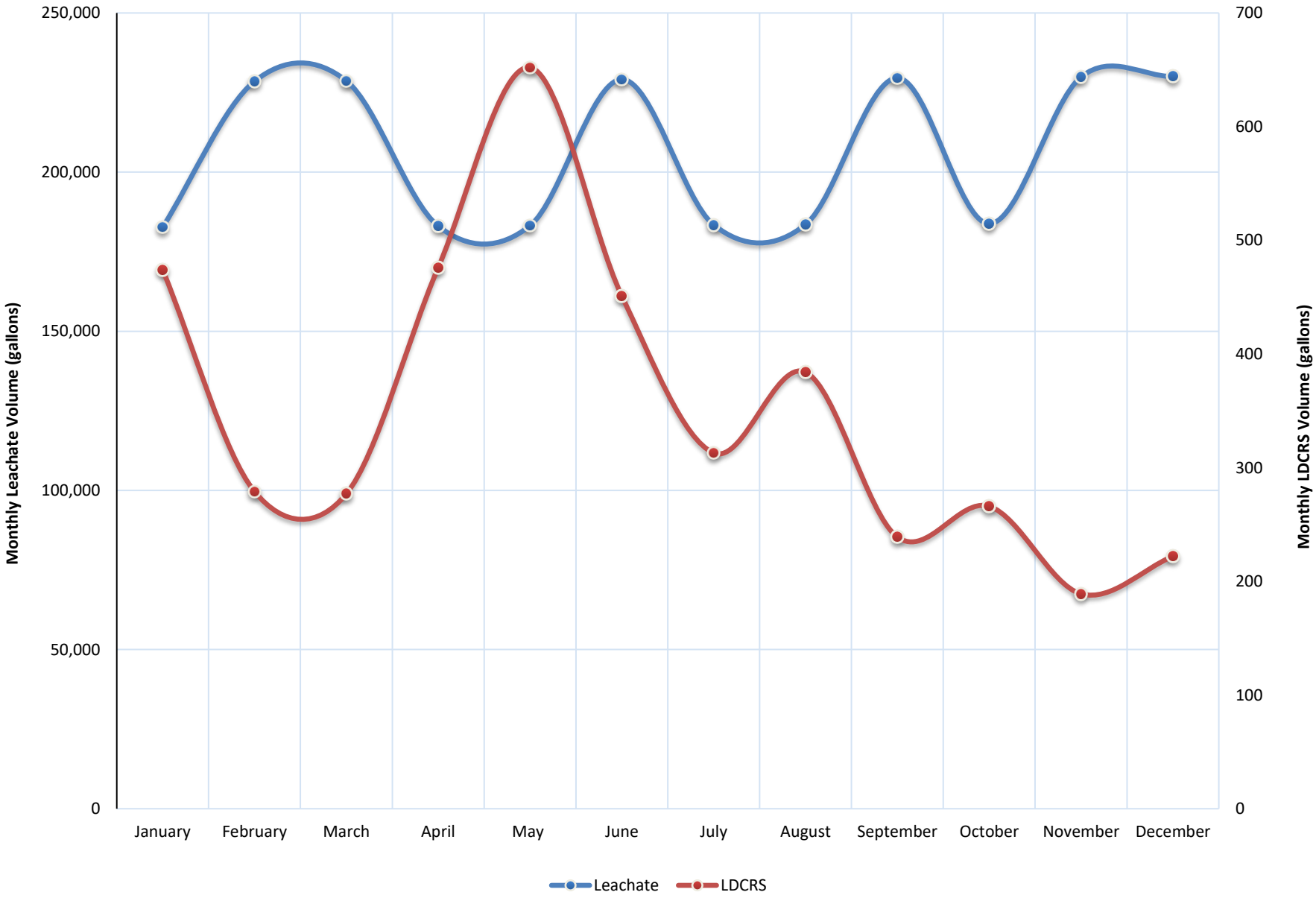


Figure 26. Leachate and LDCRS Volumes - VI-ESW - 2025

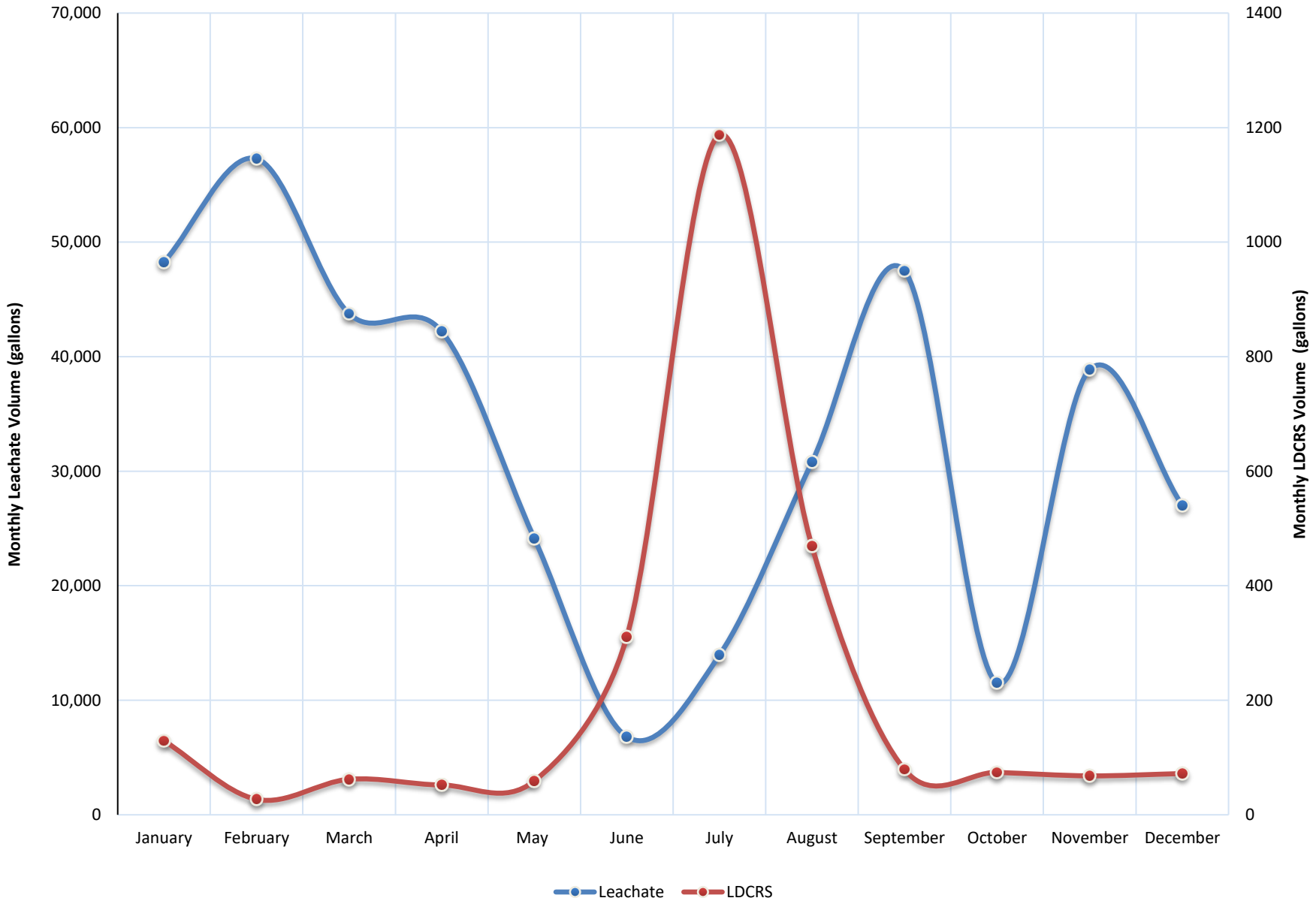


Figure 27. Leachate and LDCRS Volumes - VI-ESE - 2025

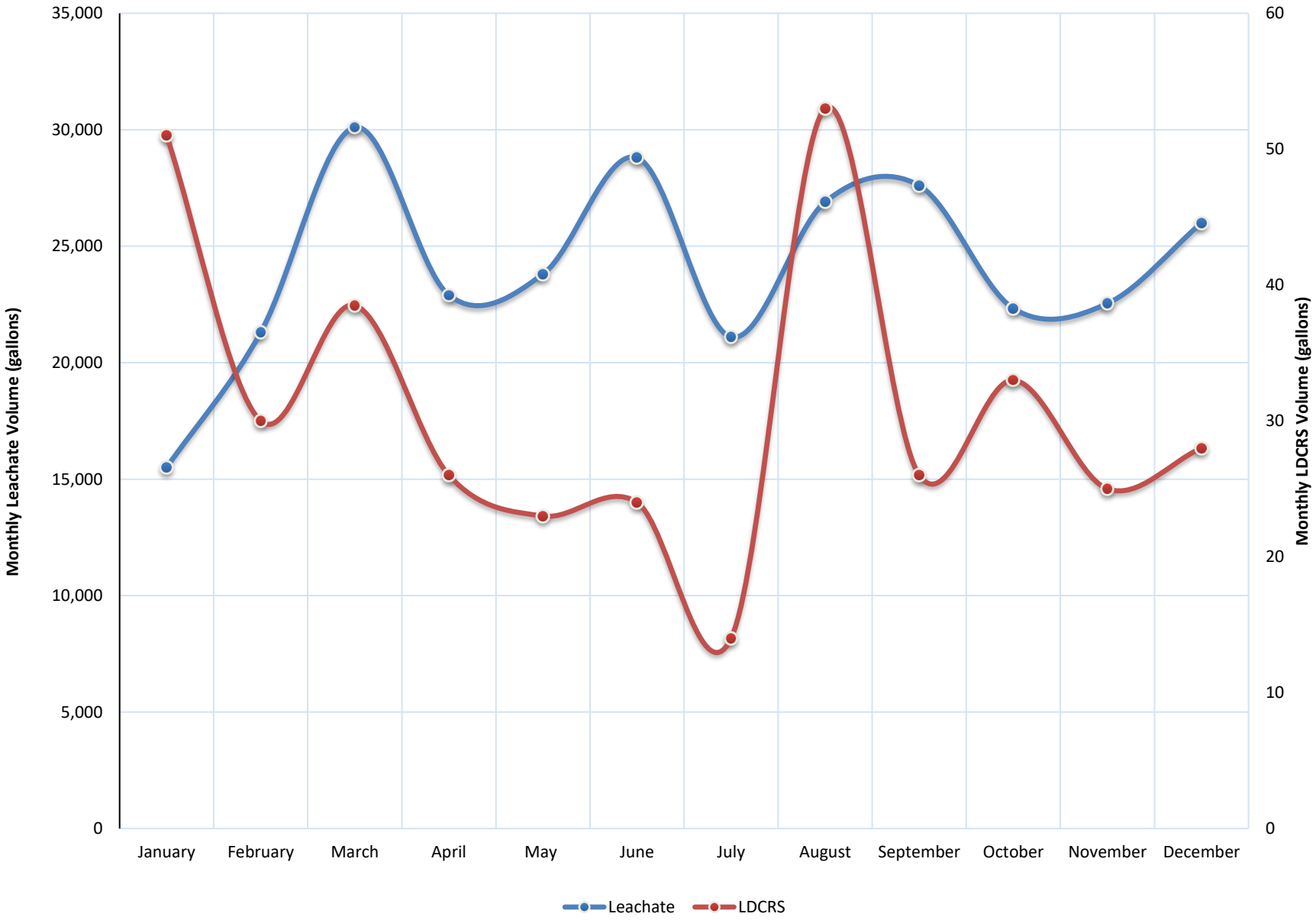


Figure 28. Leachate and LDCRS Volumes - VI-ENW - 2025

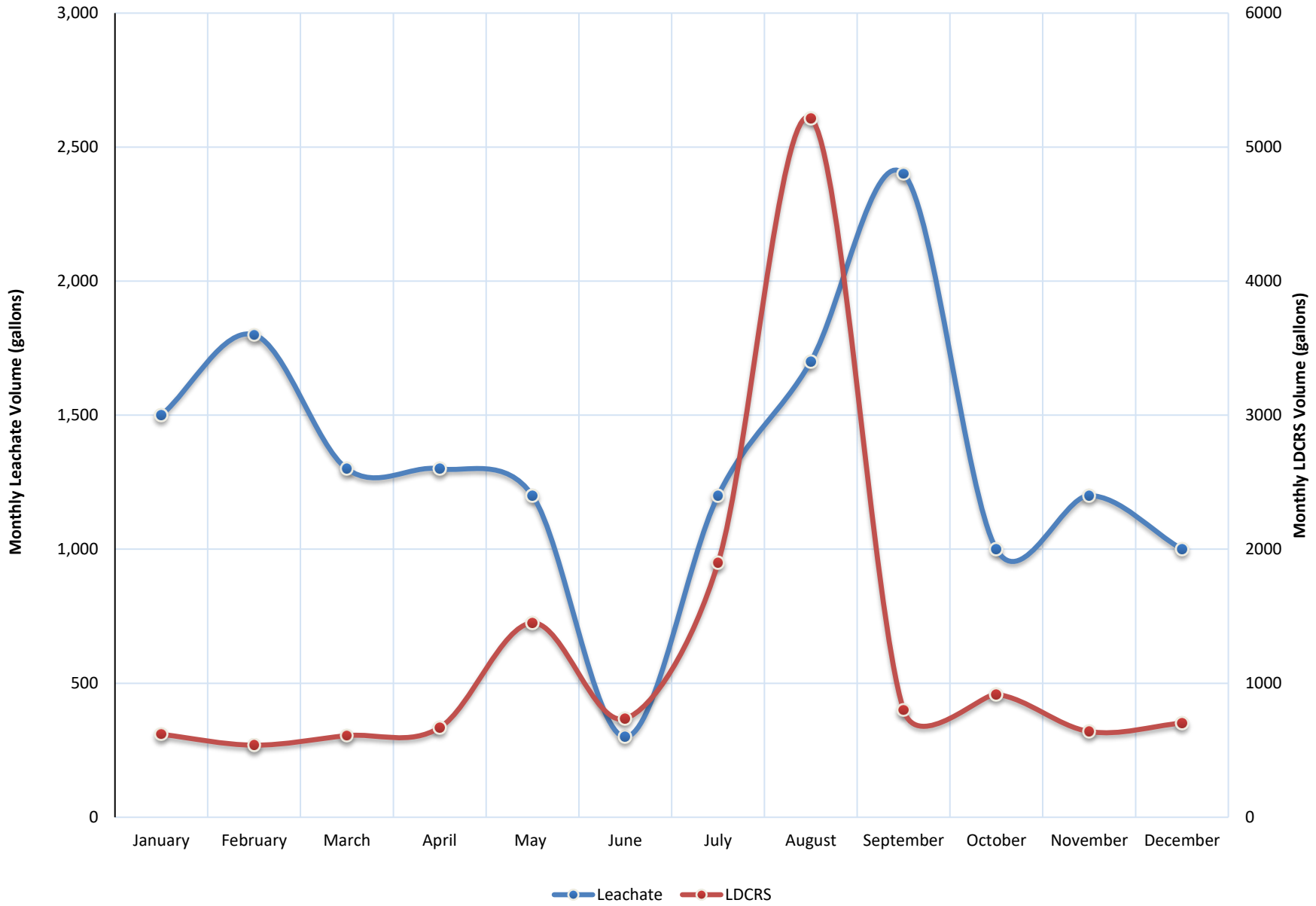


Figure 29. Leachate and LDCRS Volumes - VI-ENE - 2025

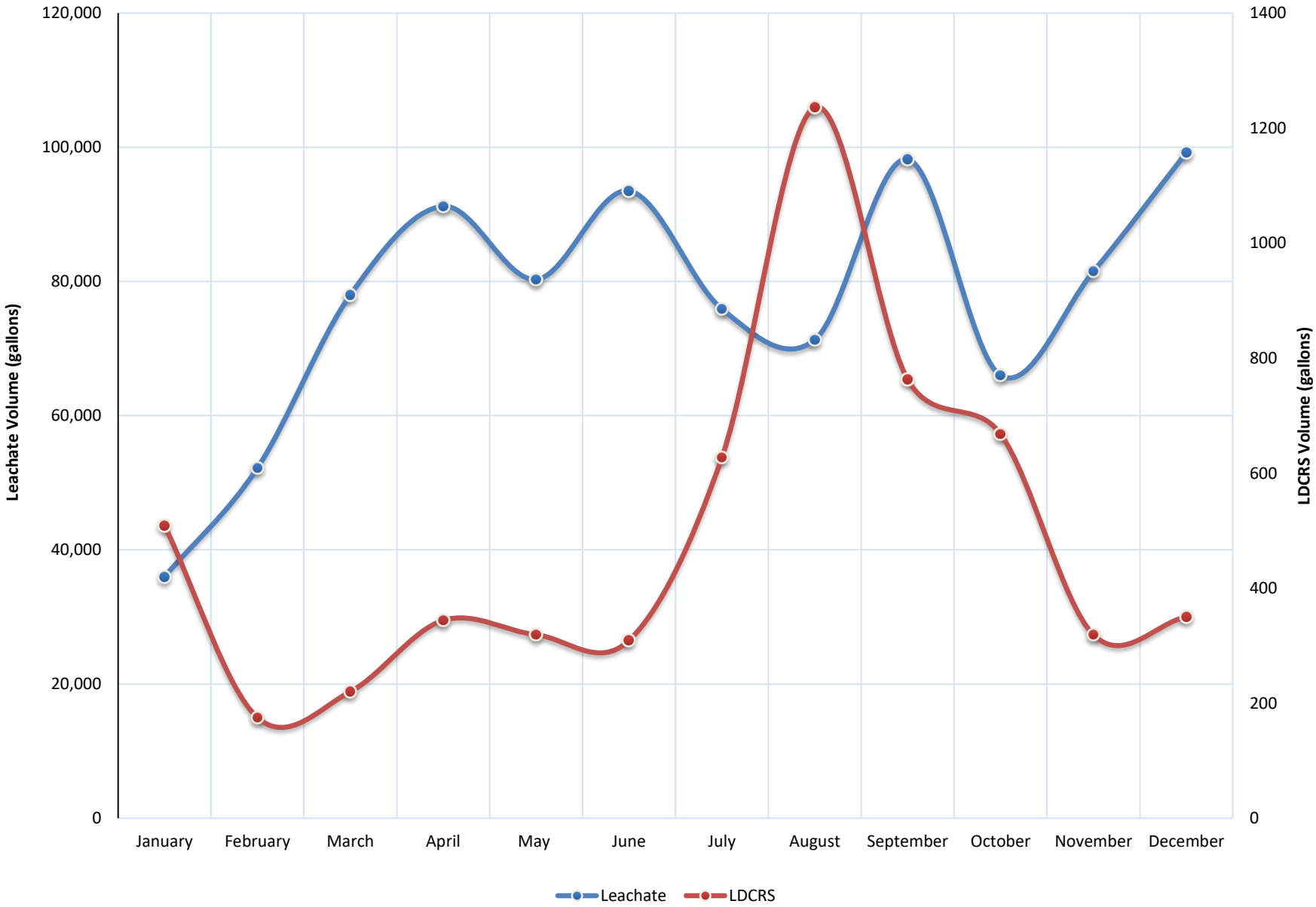


Figure 30. Leachate and LDCRS Volumes - VI-G-1 - 2025

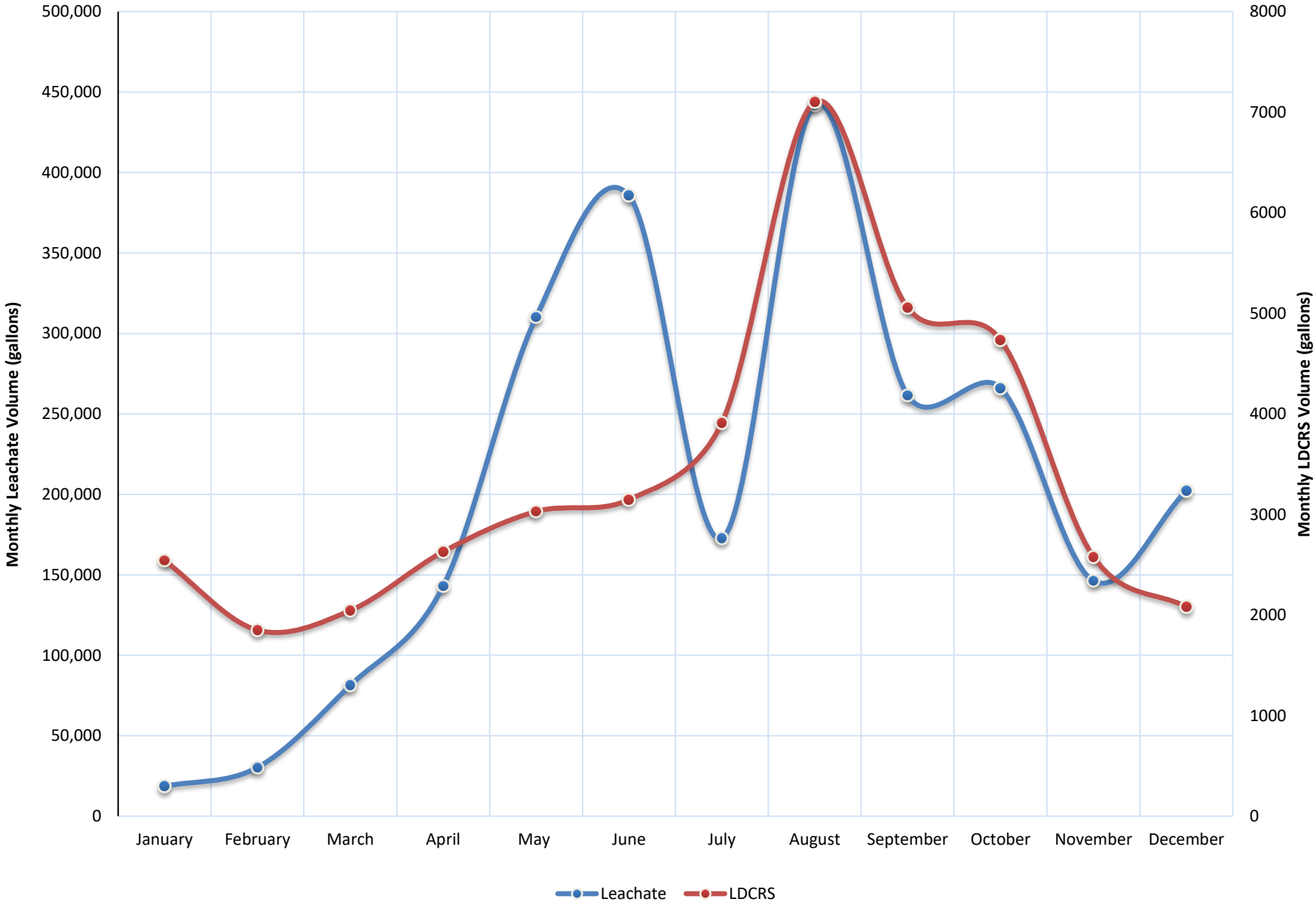


Figure 31. Leachate and LDCRS Volumes - VI-F-1 - 2025

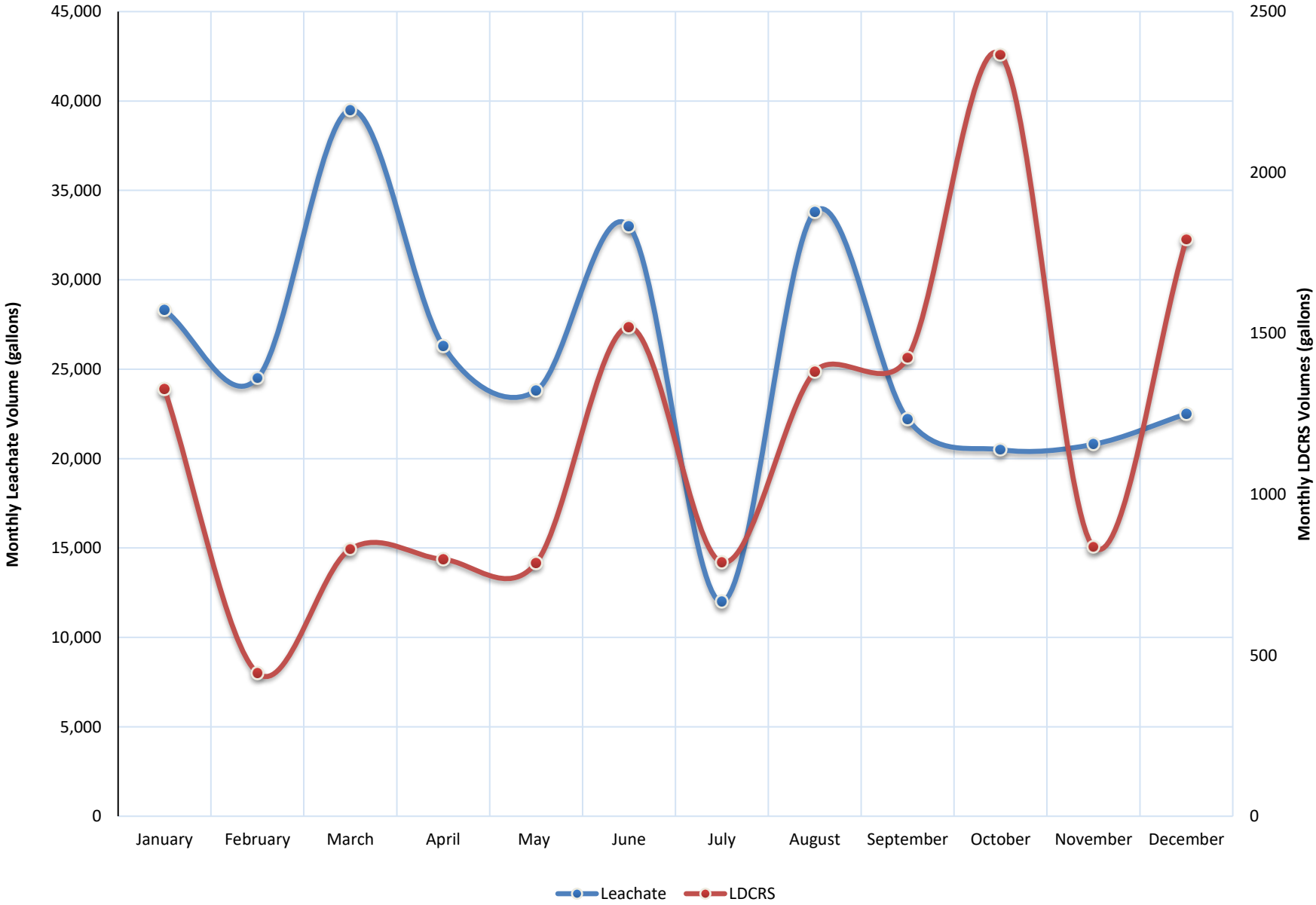


Figure 32. Leachate and LDCRS Volumes VI-F-2 - 2025

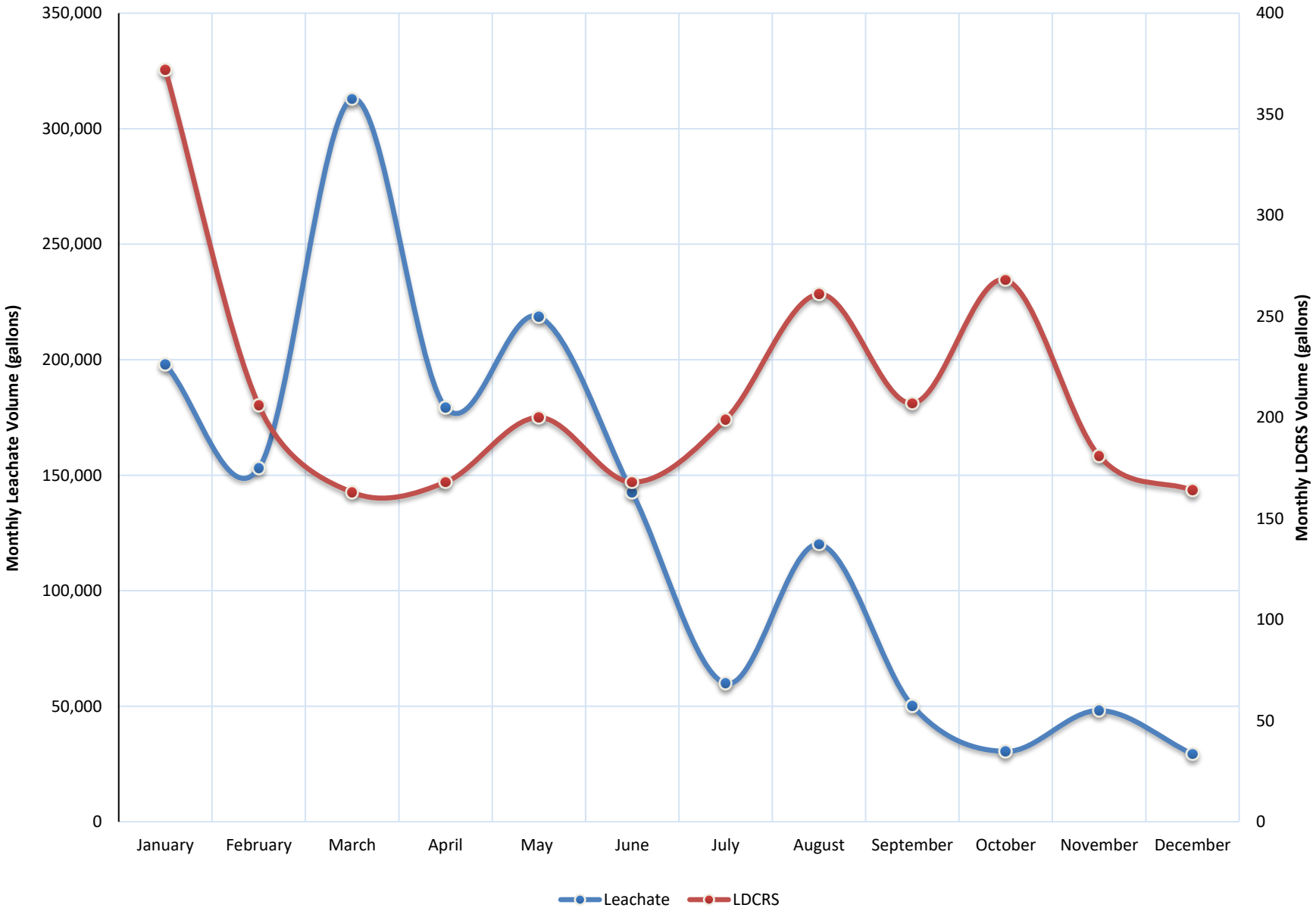
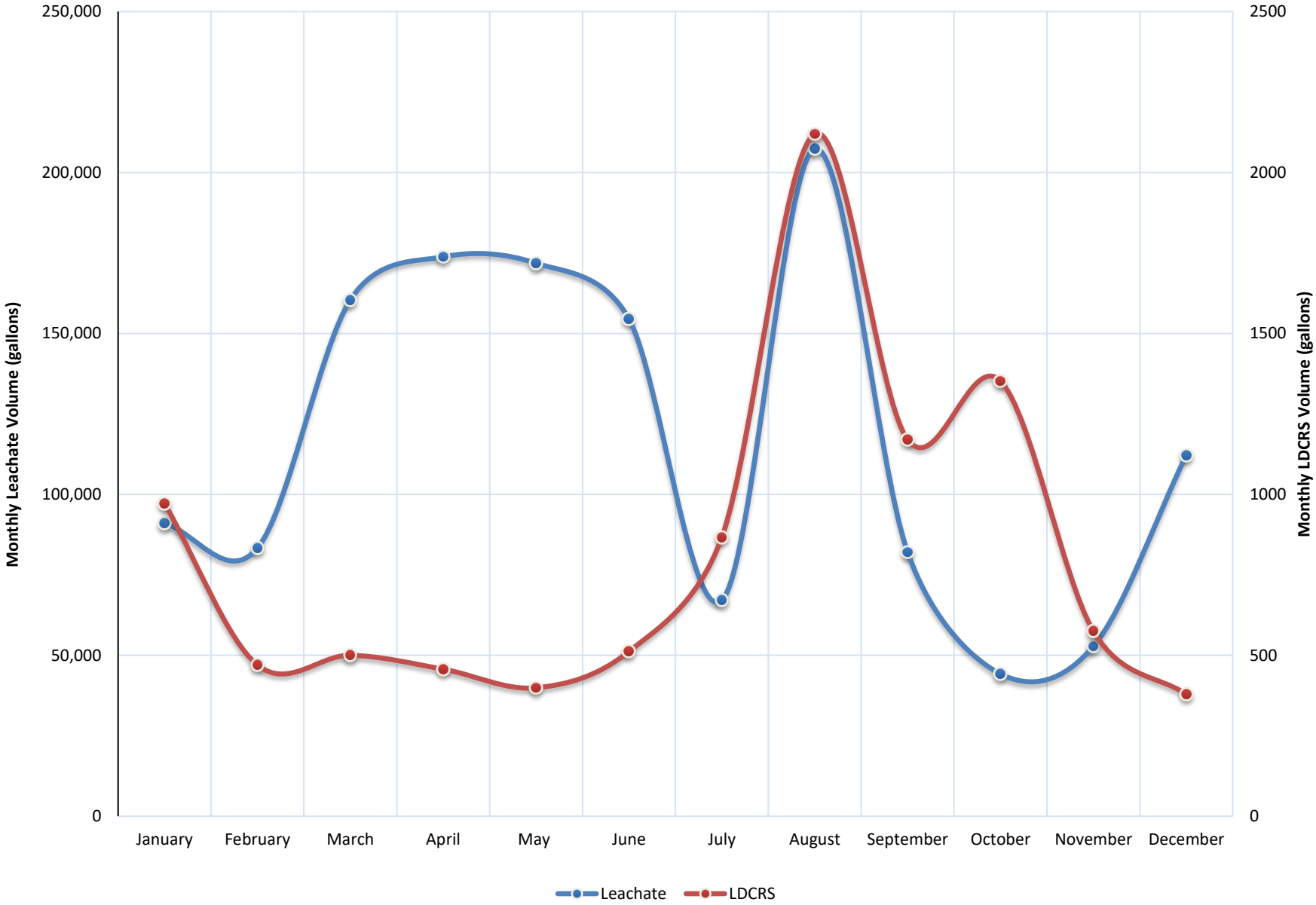



Figure 33. Leachate and LDCRS Volumes VI-F-3 2025