Semiannual Remedy Selection Progress Report

for Compliance with the Coal Combustion Residuals (CCR) Rule

Valmont Station

Public Service Company of Colorado

July 31, 2023

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Certification

Semiannual Remedy Selection Progress Report for Valmont Station

I hereby certify to the best of my knowledge that this Semiannual Remedy Selection Progress Report is designed to meet the performance standard in 40 CFR Part 257 of the Federal Coal Combustion Residuals (CCR) Rule.

I am duly licensed Professional Engineer under the laws of the State of Colorado.

Sierra Schupp, PE
Colorado PE License 0062925
License renewal date October 31, 2025

1.0 Introduction

Valmont Station located in Boulder County, Colorado is owned and operated by Public Service Company of Colorado (PSCo), an Xcel Energy Company (**Figure 1**). Valmont Station has three CCR units subject to the U.S. Environmental Protection Agency's (EPA's) Coal Combustion Residuals (CCR) Rule specified in 40 CFR 257: the ash landfill and two former incised bottom ash impoundments. These CCR units have triggered assessment of corrective measures and therefore are the subject of this update on remedy selection. The bottom ash impoundments were physically closed by removal of CCR in 2018, with ongoing groundwater monitoring. The landfill is substantially closed; one cell is in an interim closed condition in anticipation of receiving additional waste during a beneficial use project to excavate and reuse certain ash currently placed in other portions of the landfill at Valmont Station. A fourth CCR unit at Valmont, the former ash settling pond, was clean closed pursuant to 40 CFR 257.102(c) and the Closure Certification was published in May 2022.

In accordance with the CCR Rule, PSCo initiated groundwater monitoring in the certified network around the CCR units in 2015. In October 2018, PSCo first reported that concentrations of Appendix IV constituents in monitoring wells at the landfill and at the bottom ash impoundments were observed at statistically significant levels (SSLs) above Groundwater Protection Standards (GPS) (HDR, 2018; HDR, 2019a). Subsequently, PSCo drilled additional wells, completed additional hydrogeologic investigation, and completed the *Conceptual Site Model and Assessment of Corrective Measures* Report (ACM Report) in June 2019 and posted to PSCo's public website (HDR, 2019b). Since the ACM Report, a phased program of feasibility level testing and evaluation has been diligently implemented to support remedy selection and progress updates have been made on a semiannual basis.

The purpose of this report is to provide an update describing progress in the first half of 2023 toward selecting a remedy for corrective action at the Valmont ash landfill and bottom ash impoundments, as required by 40 CFR 257.97(a) of the CCR Rule.

Figure 1. Valmont Station Vicinity Map

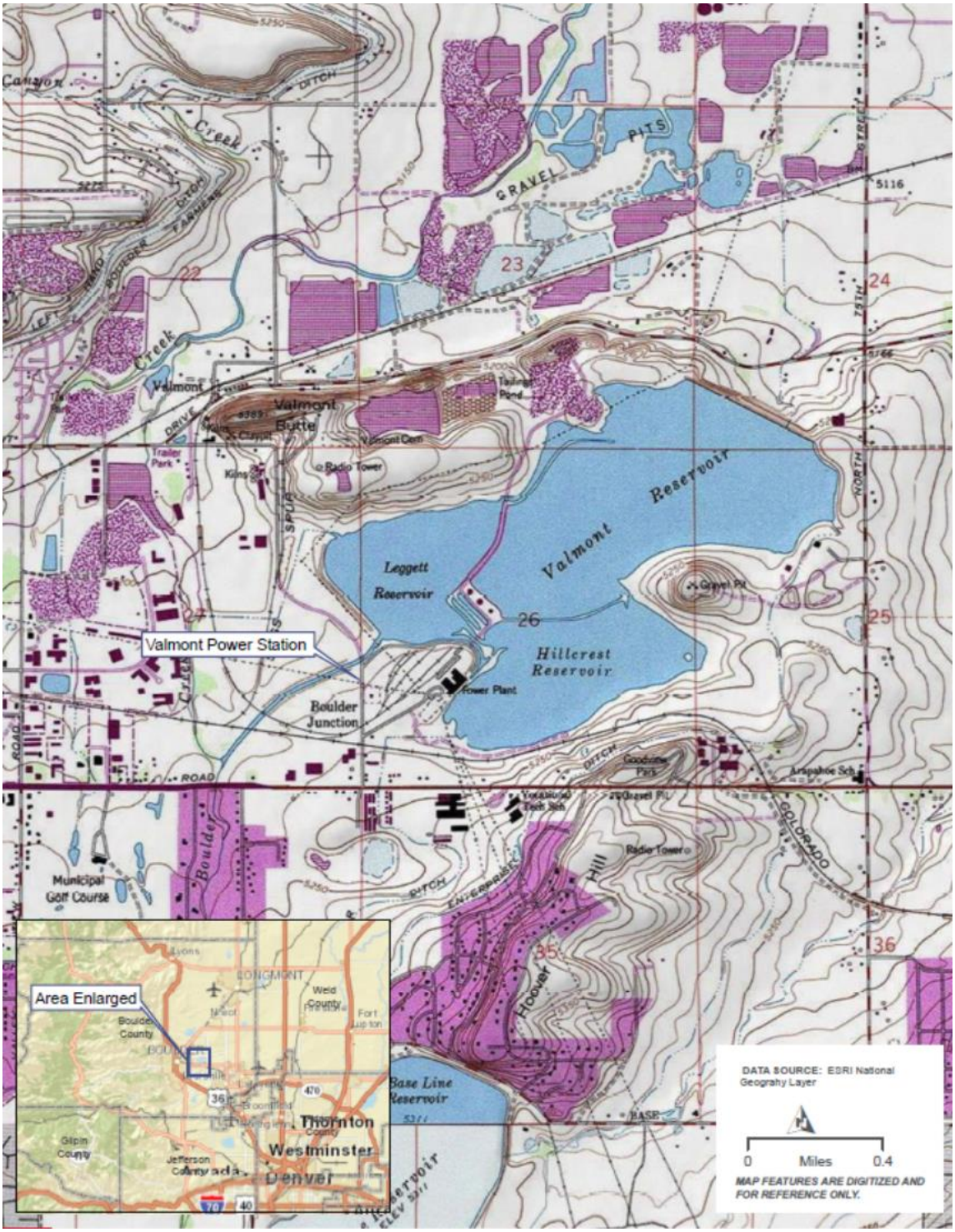
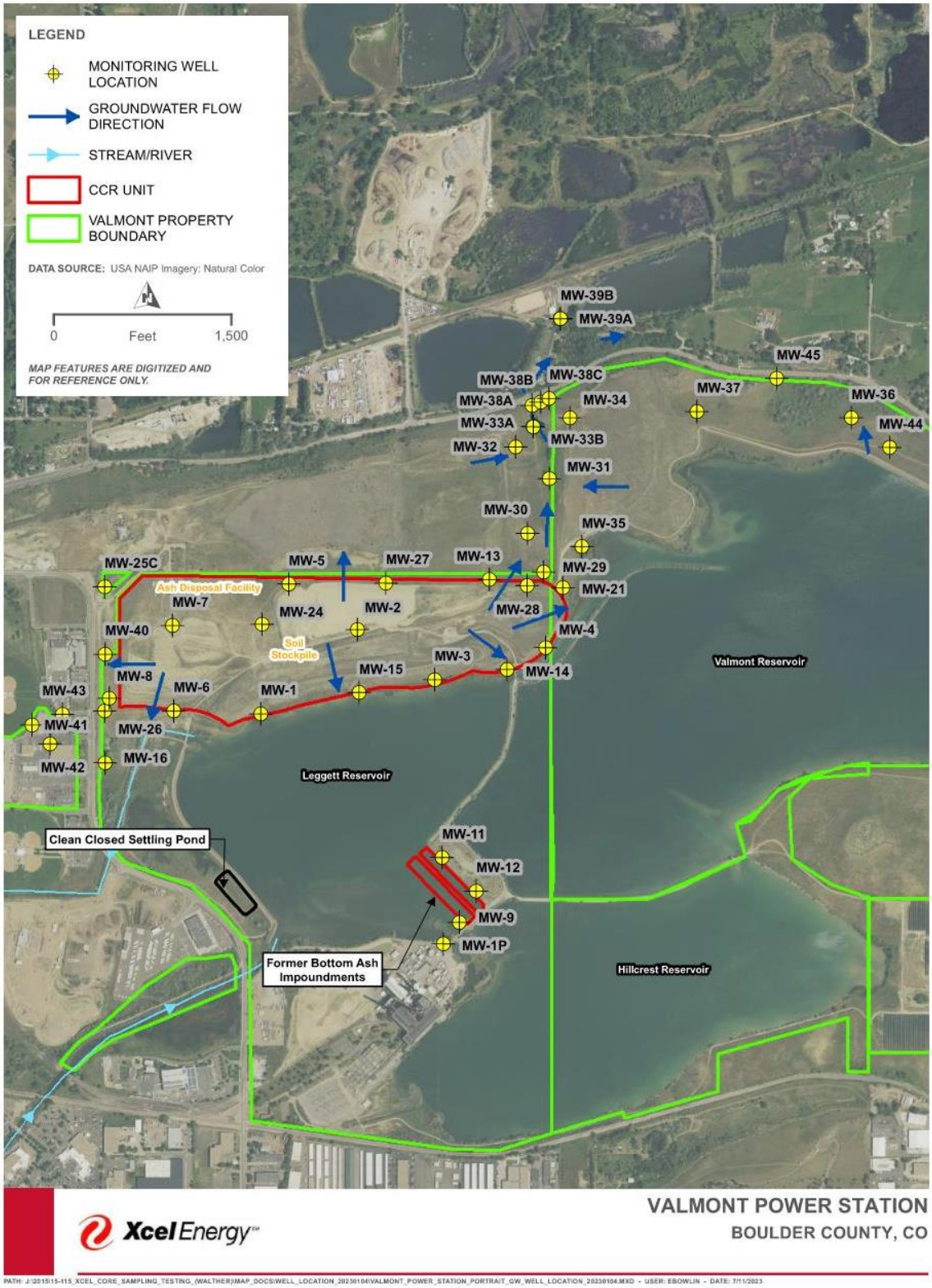


Figure 2. Valmont Station — CCR Units



2.0 Background

In accordance with the CCR Rule, PSCo initiated background groundwater monitoring around the landfill in 2015, conducted detection monitoring at the landfill in 2017, and initiated assessment monitoring in 2018. As described in the October 10, 2018 memorandum Groundwater Protection Standards and Determination of SSLs per 257.95(g), GPS were established for each detected Appendix IV constituent of interest (COI) and concentrations of arsenic, lithium and selenium were identified at SSLs above the GPS in several downgradient landfill monitoring wells (HDR, 2018; HDR, 2019a). Therefore, PSCo completed the *Conceptual Site Model* and *Assessment of Corrective Measures Report* ('ACM Report') on June 6, 2019 in accordance with CCR Rule 257.96 (HDR, 2019b). A groundwater flow and transport model was developed for the landfill in 2019 to support characterization of the nature and extent of the release per 257.95(g)(1) and to be used to simulate the effectiveness of alternative remedies identified in the assessment of corrective measures report in addressing groundwater impacts from the landfill. The original model has undergone a significant update to expand the model boundaries and to incorporate additional data generated from the phased drilling program that has been implemented as part of the release characterization investigation. The original groundwater model is described in the ACM Report and the updated model will be described as part of future reports where it is used to describe site conditions and evaluate the release and potential remedies.

For the two former bottom ash impoundments, detection monitoring in 2017 identified SSIs and assessment monitoring was initiated in 2018. In accordance with CCR Rule 257.95(h), GPS were established for each detected Appendix IV COI as documented in the October 10, 2018 memorandum Groundwater Protection Standards and Determination of SSLs per 257.95(g) (HDR, 2019a) and downgradient wells were found to have concentrations of cobalt and molybdenum at SSLs above the GPS. Closure of the two CCR impoundments was initiated in April 2018 prior to determining that there were any SSLs and the need for development of the Assessment of Corrective Measures. Removal of CCR, and all areas affected by releases of CCR was completed in September 2018 per 40 CFR 257.102(c) ('closure by removal'), thus effectively implementing source control corrective action. Completion of CCR removal was certified by a Professional Engineer. When final decontamination of the groundwater is completed by meeting GPS and the GPS in groundwater are met for three consecutive years per 40 CFR 257.98(c), it will be documented in the remedy completion report. All groundwater monitoring at the impoundments since September 2018 reflects post source removal conditions, and recent events reflect declining concentrations in most wells.

3.0 Evaluation of Potential Remedies

3.1 Landfill

Since the last semiannual selection of remedy update in January 2023, semi-annual assessment monitoring was completed in April 2023 and substantive progress has been made to evaluate feasibility of the remedies identified in the ACM Report, including:

- further defined the contaminant plume by drilling and sampling additional wells;
- continued discussions with adjacent landowners and private well sampling;
- completed an agreement with Charah LLC for ash removal for beneficial reuse;
- evaluated the bottom of ash elevations at Landfill Cell D and groundwater elevations in the vicinity of Cell D;
- reported on the feasibility evaluation of a permeable reactive barrier (PRB) to treat groundwater;
- installed two new wells on PSCo's property to evaluate lithium in groundwater east of the landfill to further define the contaminant plume and to provide lithologic and groundwater data for groundwater flow model expansion;
- developed a work plan and entered landowner access agreements for site specific data collection to support further evaluation of alternative corrective actions;
- the work plan activities are in progress and include:
    - installation of wells and completion of pump tests for advancing the groundwater extraction and treatment remedial design and;
    - collection of sediment and groundwater samples for and analysis for advancing a monitored natural attenuation (MNA) evaluation that will be an additional enhancement to the pump and treat remedy.

In addition to assessment monitoring, multiple groundwater sampling events have been conducted to help characterize the nature and extent of the release, including sampling private wells north of the Valmont Station and Valmont Butte properties.

3.1.1 Nature and Extent Characterization Progress

Two new wells have been installed on PSCo's property to further characterize the lithium. Specifically, wells MW-44 and MW-45 onsite to the northeast of the landfill to further evaluate the nature and extent of the lithium and the potential influence of the reservoir on groundwater in this area. Each of the existing and new well locations are shown in **Figure 2**. Well MW-44 is located on the north side of the Valmont Reservoir dam, where groundwater flows are not expected to be impacted by any CCR units. Well MW-45 is located to characterize the groundwater quality flowing offsite east of the landfill towards private wells.

Once developed, the two new wells will be sampled on a quarterly basis. There has been delay in development and sampling of these wells due to their location within a protected radius of an

occupied raptor nest which restricts access via vehicle and use of any motorized equipment between approximately mid-March to mid-August. Samples are being analyzed for all Appendix III and IV constituents.

PSCo increased assessment monitoring sampling frequency for the landfill to quarterly, which was initiated in April 2023. Between January and June 2023, the following monitoring events were conducted for the landfill:

- Assessment monitoring in April 2023
- Monitoring wells installed in September 2021 (wells MW-29 through MW-35) were sampled in January 2023 and have been sampled on a quarterly basis to collect background samples – 8 samples have been collected between October 2021 and January 2023
- Monitoring wells installed in April 2022 (wells MW-36 and MW-37) were sampled in January, February, April, May, and June 2023 to collect background samples – 8 samples have been collected between April 2022 and June 2023
- Monitoring wells installed in June 2022 (wells MW-38A, MW-38B, and MW-38C) were sampled in January, February, April, May, and June 2023 to collect background samples – 8 samples have been collected between July 2022 and June 2023
- Monitoring wells installed in August 2022 (wells MW-39A and MW-39B) were sampled in January, February, April, May, and June 2023 to collect background samples – 6 samples have been collected between October 2022 and June 2023
- Monitoring wells installed in December 2022 (wells MW-40 through MW-43) were sampled in January, March, April, and May 2023 to collect background samples – 4 samples have been collected between January and May 2023

One private well was sampled in June 2023, and a second private well was attempted but vegetation overgrowth made locating the well difficult and this will be completed later in the summer. As a result of installation of monitoring wells further north to evaluate if the plume extends north of Valmont Road, sampling of private wells will only continue at two private wells. The water quality data from the nature and extent wells indicates that the groundwater with lithium concentrations that exceed GPS extend from the northeast corner of the landfill north in the drainage area to the dike. The northern-most exceedance of lithium is at MW-33A/B and the western-most exceedance is MW-43. Monitoring wells further downgradient to the north and west are below the GPS; therefore, the lithium plume extents have been delineated. Similarly, the northern-most exceedance of selenium is at MW-38C and monitoring wells further downgradient to the north are below the GPS; therefore, the selenium plume extents have been delineated. No additional nature and extent wells are proposed at this time. From the current monitoring, there is no evidence that anyone is drinking water with lithium or selenium above the groundwater protection standard. One private well has exceeded the lithium GPS but testing inside the residence at the treated tap is below the GPS.

3.1.2 Groundwater Model Progress

A groundwater flow and transport model was initially developed for the landfill in Spring 2019 to support the corrective measures assessment. The objectives of the modeling are to simulate the potential extent of the COC plume beyond the monitoring well network, and to evaluate the effectiveness of each potential corrective measure to reduce groundwater concentrations over time with the goal of selecting the best remedy or combination of measures for implementation. For each corrective measure alternative simulated, the model evaluates:

- concentrations of COCs over time, transport directions and potential for movement offsite; and
- the time required for each alternative to "complete the remedy" (per 257.96(c)(2)).

The preliminary model was used to help identify potential plume migration; however, the modeling process is iterative, and given that the simulated plume was close to the preliminary model boundary, it was determined that a model expansion was necessary. The model has been significantly updated in 2021 and 2022 to expand the model boundaries and incorporate additional offsite data including the Valmont Butte property and within the Boulder Creek alluvial valley. With the installation of new monitoring wells north of the landfill and private well water level and water quality data in 2022, the model was updated and calibrated. The model has been successfully calibrated to hydraulic head and COC concentration target measurements. Figures 3 and 4 display the groundwater flow model simulated groundwater contours and observed lithium and selenium GPS exceedance areas. The simulated potentiometric map is important for the conceptual site model, because unlike potentiometric maps that solely use groundwater elevations from wells, these maps illustrate the impact of the Valmont Dike on groundwater flow directions north of the landfill. The low permeability dike serves as a barrier to groundwater flows from the landfill towards the north, which causes flows to turn east towards the drainage and eroded section of the dike, where groundwater flows north beneath Valmont Road. The model will be used to simulate the selected remedy effectiveness and potential timelines to achieve groundwater criteria.

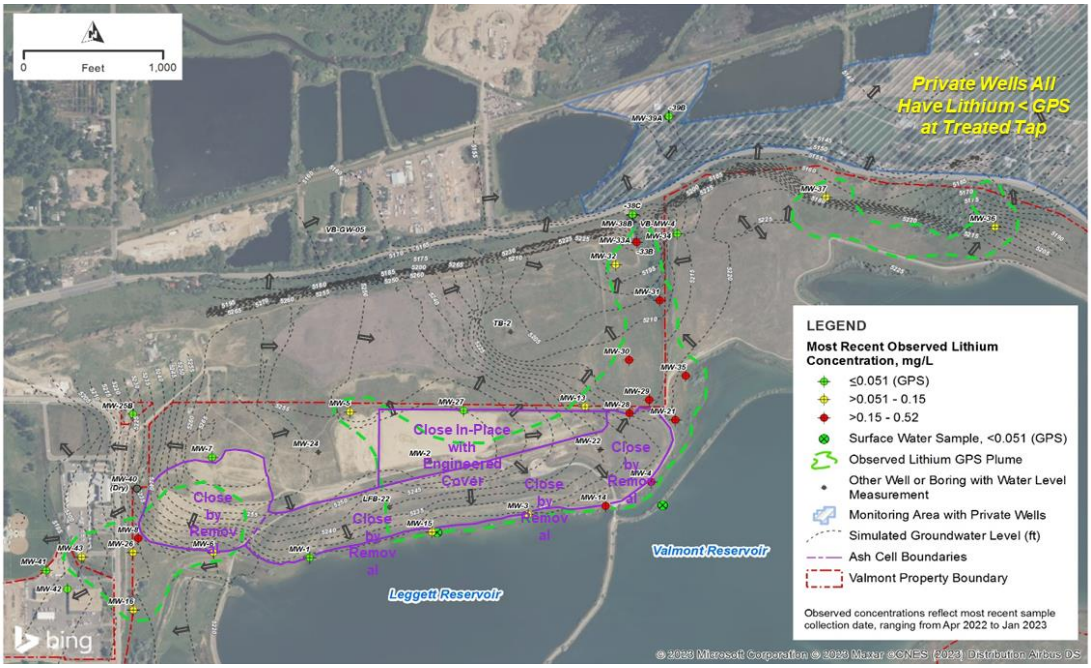


Figure 3. Groundwater flow and transport model groundwater contours and observed lithium GPS exceedances.

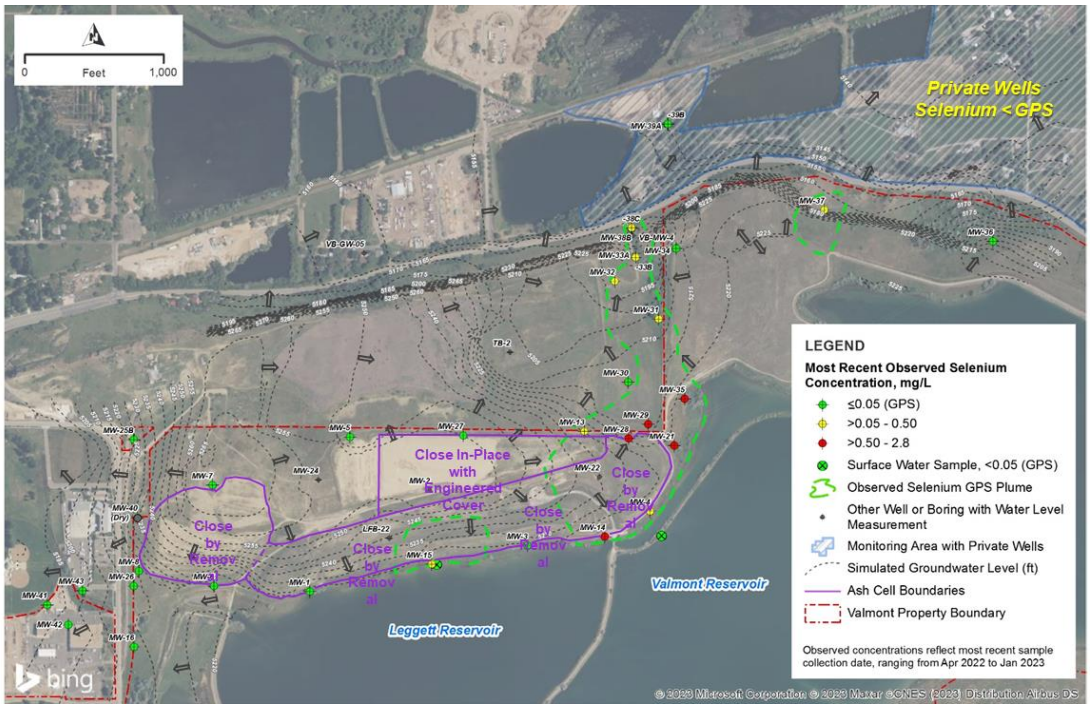


Figure 4. Groundwater flow and transport model groundwater contours and observed selenium GPS exceedances.

3.1.3 Source Removal

Through an agreement with Charah LLC, PSCo plans to permanently close most cells of the landfill at Valmont Station by removing the ash. Charah will set up operations to excavate and process approximately 85% of the coal ash from the landfill for processing and sale into the local ready-mix concrete market. Coal ash is used as a partial replacement for cement that would otherwise need to be manufactured from mined limestone. This would result in complete CCR removal from landfill cells A, B, C and Q (Figure 5). After the Charah project is complete, the ash located in Cell D would remain in place and a final cover system has been designed and will be installed in accordance with 40 CFR 257.102(d) of the CCR Rule. PSCo developed an ash removal design and a plan for phasing of operations in 2022.

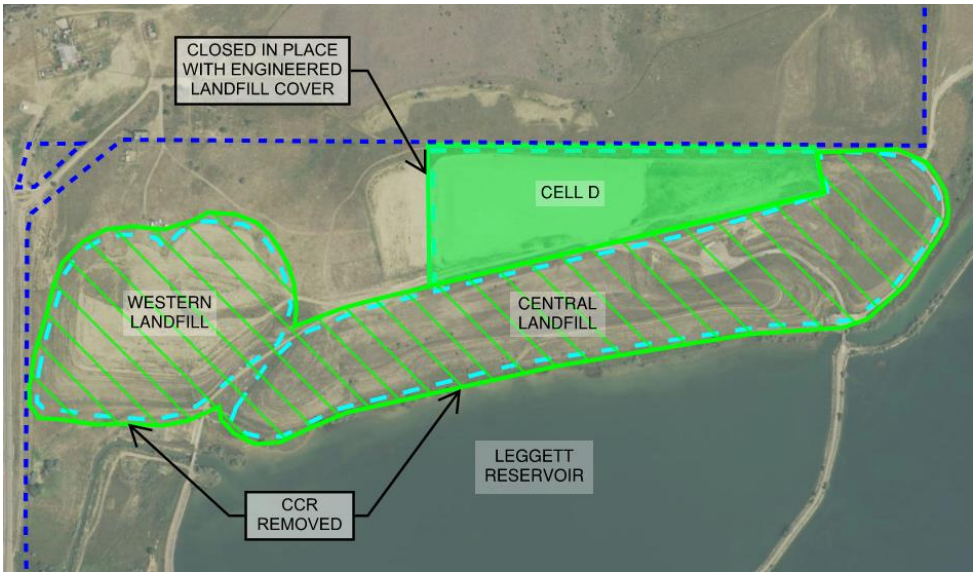


Figure 5. Complete ash removal will occur from cells A, B, C, and Q, and Cell D will remain in place with a final cover system.

Landfill ash removal is anticipated to result in a decrease of COC concentrations in groundwater over time. Completion of ash removal/source control is anticipated to take 10-12 years. However, areas of ash most likely to be contributing to COC concentrations in groundwater were designed to be removed first, and it is anticipated that groundwater concentrations will begin to decrease as the initial source areas are removed. Additional groundwater modeling scenarios will be used to evaluate the short- and long-term impacts of the source removal.

PSCo coordinated with Charah LLC between January and June 2023 to plan for minimizing noise, dust and traffic during landfill closure. Charah's processing equipment is fully contained to manage dust and is relatively quiet, with sound levels expected to be comparable to or lower than the sound levels of previous plant operations. Charah uses water and amendments, including on the working face of the excavation in order to meet dust control requirements. Truck traffic is expected to be about the same as traffic levels when the plant operated on coal.

Charah will set up operations at Valmont in 2024 and begin processing material as soon as summer 2025, with the entire CCR removal and beneficiation project lasting approximately 10-12 years, depending on the local concrete market.

3.1.4 Cell D Ash/Groundwater Contact Evaluation

PSCo evaluated the bottom of ash elevations and soil moisture content in Landfill Cell D in order to update the geologic model and compare the refined bottom of ash to water table elevations. In June 2021, five borings were drilled, and in October 2022, another ten borings were drilled for this purpose. In addition, in October 2022, PSCo installed piezometer PZ-1 on the south side of Cell D to evaluate the groundwater elevations under and surrounding Cell D. Piezometer PZ-1 is screened in the weathered shale immediately below the ash landfill and is located adjacent to well MW-2. Well MW-2 is screened deeper than PZ-1 and in competent shale.

The groundwater elevations in PZ-1 are at least three feet deeper than those measured in the deeper, adjacent MW-2 well. Because the PZ-1 is screened in the weathered shale, the PZ-1 data is a better representation of the uppermost water table elevations under the landfill. The water table from October 2022 does not intersect the bottom of ash in Cell D. Interpolation of the October 2022 water table from monitoring wells and PZ-1 measurements surrounding Cell D reveal that the water table is at depths of between 6 feet and 28 feet beneath the bottom of ash at the 15 borings in Cell D. The water table on October 2022 did not intersect ash. Seven Cell D ash borings (out of 15) had one limited interval of “wet” or “saturated” ash logged during drilling. These intervals were all found to be at elevations above the water table and therefore are not associated with groundwater. These wet ash “pockets” are in each case isolated horizontally (nearby borings did not also have wet ash at similar elevations) and isolated vertically (non-wet conditions were noted below the wet ash, except for boring D-14 where “dry to wet” ash exists above “saturated” clay). The isolated intervals are also thin (≤4 feet). Because the isolated pockets of “wet” ash are vertically separated from the water table they represent isolated and perched pockets of infiltrated stormwater that are not connected to the groundwater beneath the landfill. Based on the visual evaluation of the moisture content in combination with the limited extent, PSCo does not believe these pockets have sufficient pore water to allow for the pore water to be extracted by pumping. There is limited potential for the water in these “pockets” to move vertically and intercept the groundwater.

3.1.5 PRB Potential Remedy Progress

In 2022 PSCo advanced the engineering and geochemical feasibility study of a PRB as a potential remedy to address groundwater conditions at the landfill. PSCo developed a PRB study designed to evaluate the feasibility of a PRB via conventional trench, injection wells, or funnel and gate in a limited area of the landfill boundary where groundwater concentrations exceeded GPS. The study used a phased approach designed to evaluate geochemical bench testing of reagents with site-specific substrate and groundwater followed by the geotechnical characteristics of the substrate for hydraulic and construction feasibility.

The intention of the bench test program was to evaluate if geochemical treatment using targeted reagents (or other mechanisms) could be effective in reducing COC concentrations. Three phases of bench-scale laboratory testing were conducted using groundwater and sediment samples collected in 2021 for Phases I and II and groundwater samples collected in 2022 for Phase III. The first phase of testing focused on reductive precipitation and adsorption as a treatability mechanism. Four microcosm reagent treatments were tested and found to be largely ineffective. A second round of testing was then conducted using modified conditions employing adsorptive polishing with biochar and activated carbon. Adsorptive polishing with biochar yielded results that indicated significant reduction in some targeted metal concentrations but was unable to reduce all COC concentrations below GPS. A third round of testing was conducted employing only adsorptive polishing with biochar without initial reductive precipitation and adsorption. The testing yielded results that indicate initial reductions of boron; however, the ability of the biochar to remove boron declined considerably over the course of the testing. The biochar treatments had little to no impact on lithium and selenium and had negative effects on arsenic.

This testing that was performed in 2022 was last reported by the bench test laboratory December 20, 2022. Early 2023 was used to complete the final review of the PRB bench test results and compile the technical memorandum, *Summary of PRB Evaluation Bench Testing Results*. Based on the geochemical bench-scale testing, a PRB no longer appears to be an effective groundwater remedy option. Based on the testing, HDR does not recommend additional evaluation of a PRB as a potential remedy for groundwater cleanup at the Site due to the inability of the tested reagents to reduce all contaminants of concern concentrations below GPS and DWS. However, the results of these geochemical bench scale tests can be utilized if ex-situ treatment options are evaluated.

Upon that determination, PSCo has been evaluating alternative corrective measures. While the low permeability of the weathered shale can be a limitation to groundwater extraction, it does not rule it out and that alternative remains the most effective and timely remedy alternative for treating lithium and selenium in groundwater. PSCo is currently focused on the planning and site-specific data collection to support the design of an extraction and treatment system for the northeast and western plumes. In addition to an extraction and treatment system, PSCo is committed to majority ash removal to address source control and MNA to address any groundwater impacts that currently exist downgradient of the anticipated location of the proposed groundwater extraction and treatment system. This combination of corrective measures, along with other corrective measures alternatives considered but not selected, were presented to the public in a Public Meeting with interested and affected parties, described below.

3.1.6 Groundwater Extraction and Treatment and MNA Potential Remedy Progress

Between January and June 2023, a remedial investigation work plan was developed to support design of an extraction and treatment system and evaluation of MNA as part of overall remedy selection. Implementation of the work plan required coordination with drilling companies and off-

site landowners including landowner access agreements. The work plan included the following procedures and tasks to perform onsite testing and data collection for the extraction and treatment system:

- Sampling and analysis from additional wells within the plume for increased spatial concentration data to maximize on extraction effectiveness,
- Aquifer testing procedures to evaluate potential pumping rates and capture zones, which included:
    - Extraction well siting and design and monitoring well siting and design.
    - Pump tests at three locations within the plume area in the vicinity of existing monitoring wells MW-29, MW-33A/B, and MW-38B/C. Three locations are proposed due to varied fracture density in the weathered shale, potential hydraulic connectivity between the weathered and consolidated shale, the estimated size of the plume, and that there may be different objectives with extraction throughout the plume during remedial implementation. For example, hydraulic control/containment may be the primary objective with extraction near the leading edge of the plume (north of MW-33A/B) and removing more contaminant mass may be the primary objective where there are higher concentrations of contaminants (near MW-29). Additionally, the thickness of the water bearing unit decreases as groundwater flows from south to north, and the hydraulic connectivity between weathered and consolidated shale will be tested. Step drawdown and constant rate tests are planned, and drawdown and recovery will be measured and analyzed.

As MNA will potentially be an additional enhancement to the pump and treat remedy for the site, the work plan also included data collection to assess potential performance and reliability of MNA. Soil property data and additional groundwater monitoring parameters are needed to identify attenuation mechanisms at the site, the capacity for attenuation, and to support estimating the time required to achieve remediation objectives. The work plan included the following procedures and tasks to perform onsite testing and data collection for the MNA study:

- Sediment sampling and analysis at up to eight borings to collect core samples
    - Samples will be analyzed for contaminant concentrations in aquifer solids (COCs include boron, chloride, lithium, selenium, sulfate). Mineralogy of the weathered shale will be identified (clay mineralogy, Fe-Mn-Al oxides, carbonate minerals, sulfides), as well as cation exchange capacity (CEC). Batch attenuation testing for COCs will be completed at a laboratory, which include chemical extractions to determine probable range of partition coefficient values (K_d) that suggest attenuation is taking place.
- Groundwater sampling and analysis procedures specific to MNA evaluation.

The EPA's tiered approach to MNA requires that information is collected as necessary to identify attenuation mechanisms at the site, the capacity for attenuation, and the estimated time

to achieve corrective action objectives. Demonstrating attenuation mechanisms and capacity can be time consuming and take up to 24 months, especially given offsite access limitations.

The drilling for both the pump test and the MNA sample collection began in July 2023. Following data collection, the pump test analysis will advance the groundwater extraction design, and the sediment chemical characterization, mineralogy, and attenuation testing will advance the evaluation of MNA. Ex-situ treatment testing will be completed in early fall 2023 to complete the conceptual design for extraction and treatment. PSCo plans to complete the remedial design and install the extraction and treatment in 2024.

3.1.7 Public Meeting

In accordance with 257.96(e), PSCo discussed the results of the corrective measures assessment in a public meeting with interested and affected parties on May 24, 2023. The meeting was held at Via Mobility in Boulder, Colorado across the street from the Valmont Station. The meeting was advertised via direct mail invites and notifications in the Boulder Daily Camera. At the public meeting, PSCo provided information on plans to remove a significant portion of the ash from the regulated landfill for recycling/beneficial use in concrete and the status of the groundwater monitoring as well as remedy alternatives considered and recommended. PSCo sought public comment and received one written comment concerning other sources of increased traffic on Arapahoe Rd. and the lack of a traffic light east of 63rd St. between about 0.5 to 1.5 miles east of 63rd St. Truck traffic from the proposed corrective action is expected to be about the same as traffic levels when the plant operated on coal, and less during peak commuting hours. PSCo also received one written inquiry from a member of the public about how the meeting was noticed and we provided information in response about the methods of notification and directed the interested party to PSCo's website where all information from the meeting is also posted (website available at: https://www.xcelenergy.com/coal%20ash%20management/valmont%20action%20plan).

3.2 Bottom Ash Impoundments

As discussed in the ACM Report, concentrations of CCR constituents with statistically significant levels above GPS (cobalt and molybdenum) are relatively low at the impoundment monitoring wells. The former impoundments are completely surrounded by the Leggett, Valmont, and Hillcrest reservoirs, which represent a constant hydraulic head that is expected to effectively limit the extent of impacts to groundwater immediately adjacent to the impoundments. Closure by CCR removal, completed in 2018, was the most significant corrective action that could be taken to mitigate impacts to groundwater. As discussed in the ACM Report, based on the impoundment site characteristics and space constraints, source removal in combination with natural attenuation may be the most appropriate alternative to address groundwater conditions at this site surrounded by the reservoirs. In addition, there is a two- to four-foot reservoir level increase between May and September each year due to seasonal management of the reservoir. The impoundment monitoring wells are located at the reservoir edge and the groundwater levels fluctuate in these wells the same amount as the reservoir. This seasonal water table fluctuation in the island would act as a passive flushing for any contaminants in the island sediments below

the high-water elevation. There is no threat to offsite groundwater contamination due to the former impoundments being surrounded by reservoirs.

PSCo continues assessment monitoring at the former impoundments to evaluate concentration trends of these constituents of concern (COC) since source removal was completed in 2018. The groundwater chemistry from 2019 through the first half of 2023 has shown decreasing concentrations of molybdenum in all three downgradient wells and concentrations of molybdenum are now well below the GPS concentration in all downgradient wells for the last five sample events. The groundwater chemistry from 2019 through the first half of 2022 has also shown decreasing concentrations in cobalt in two of the three downgradient wells. Only one downgradient well has cobalt concentrations that have not appeared to consistently decrease (MW-11); this well's cobalt concentration decreased by 50 percent between April and October 2022, and has the same concentration in April 2023 as in October 2022 (0.012 mg/L), which remains greater than the cobalt GPS of 0.006 mg/L. Therefore, cobalt at MW-11 remains the only well with any exceedance of GPS and the cobalt concentrations since CCR removal have a downward trend.

By continuing assessment monitoring, PSCo will continue to evaluate the potential for groundwater around the impoundments to meet clean closure criteria in groundwater or if additional measures will be needed. Source removal, passive flushing via reservoir level fluctuations, and natural attenuation have already resulted in meeting the GPS for molybdenum in all wells and cobalt in all but one well and cobalt will likely continue to decrease in MW-11. However, the location of MW-11 at the boundary of the former impoundments and adjacent to open reservoir waters does not allow for evaluation of specific attenuation mechanisms. In accordance with 40 CFR 257.98(a)(3) no interim measures are necessary to reduce the contaminants leaching from the CCR unit or potential exposures to human or ecological receptors.

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4.0 Next Steps

PSCo continues to proceed diligently through the process of evaluating specific remedial design data gaps prior to remedy selection, consistent with best practices and professional judgment. The selected remedy and remedy alternatives considered but not selected were presented at a Public Meeting on May 24, 2023.

The following activities are anticipated to be completed or initiated in the next 6-month period for the landfill, but are subject to change based upon the iterative nature of the design process and uncertainty about the results of each step:

- Implement the work plan to fill the data gaps for remedial design, including pump testing and MNA sampling and analysis.
- Perform ex-situ treatment testing for treatment design.
- Coordinate with State, County, and City regarding the remedial plans for permit approvals.
- Continue semi-annual groundwater assessment monitoring at each CCR unit.
- Continued evaluation of COC concentrations relative to GPS and background and general trends.
- Complete the Remedy Selection Report.
- Initiate RFP process for contractor selection for the performance of final remedy design and remedy implementation.
- In accordance with 257.97(a), PSCo will complete semiannual progress reporting to document additional work completed towards remedy selection and design.

The following activities are anticipated to be completed or initiated in the next 6-month period for the bottom ash impoundments, but are subject to change based upon the iterative nature of the process, uncertainty about the results of each step, and interim findings:

- Complete the Remedy Selection Report.
- Continued semiannual groundwater assessment monitoring.
- Continued evaluation of COC concentrations relative to GPS and background and general trends.

5.0 References

HDR, 2018. Groundwater Protection Standards and Determination of SSLs per 257.95(g). October 10, 2018.

HDR, 2019a. Groundwater Protection Standards and Determination of SSLs per 257.95(g) Revision 1. June 7, 2019.

HDR, 2019b. Conceptual Site Model and Assessment of Corrective Measures - Compliance with the Coal Combustion Residuals Rule Valmont Station. June 6, 2019.

HDR, 2020. Annual Groundwater Monitoring and Corrective Action Annual Report and Semi-Annual Remedy Selection and Design Progress Report - Compliance with the Coal Combustion Residuals Rule. January 31, 2020.

HDR, 2021. Annual Groundwater Monitoring and Corrective Action Annual Report and Semi-Annual Remedy Selection and Design Progress Report - Compliance with the Coal Combustion Residuals Rule. January 29, 2021.

HDR, 2022. Annual Groundwater Monitoring and Corrective Action Annual Report and Semi-Annual Remedy Selection and Design Progress Report - Compliance with the Coal Combustion Residuals Rule. January 31, 2022.