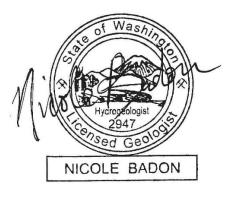
2024 Annual Groundwater Monitoring Report for the Limited Purpose Landfill at the TransAlta Centralia Mine, near Centralia, Washington

Prepared for TransAlta Centralia Mining LLC

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Acronyms and Abbreviations

C°	degrees Celsius
CCR	coal combustion residuals
CCR SAP	Groundwater Monitoring Sampling and Analysis Plan for the Limited Purpose Landfill at the TransAlta Centralia Mine
CFR	Code of Federal Regulations
DQR	Double Quantification Rule
EPA	U.S. Environmental Protection Agency
HNO ₃	nitric acid
LPLF	Limited Purpose Landfill
mg/L	milligram per liter
SSI	statistically significant increase
SWFPR	sitewide false positive rate
TCM	TransAlta Centralia Mine
UPL	Upper Prediction Limit
WAC	Washington Administrative Code

section 1 Introduction

This section summarizes the 2024 annual report's purpose and objectives, the document organization, and provides the site description and the status of the monitoring program.

1.1 Purpose and Objectives

This document is the 2024 annual report for the Limited Purpose Landfill at the TransAlta Centralia Mine (TCM), as required per *CCR Groundwater Monitoring and Corrective Action* of 40 Code of Federal Regulations (CFR), 257.90(e), *Annual Groundwater Monitoring and Corrective Action Report*. Per the CCR Rule, the minimum requirements for each annual report submittal must include the following (as itemized per 40 CFR 257.90(e) [items 1 through 5]):

- 1. A map showing the Coal Combustion Residuals (CCR) unit (landfill) and the designated CCR groundwater monitoring network, including upgradient and downgradient wells with well identification numbers.
- 2. The identification of monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description, and the reasons those actions were taken.
- 3. A summary of the groundwater samples that were collected for analysis for each upgradient (or background) and downgradient well, the dates the samples were collected, and whether the sample was required by the detection or assessment monitoring program.
- 4. A narrative discussion of transition between monitoring programs (the date and circumstances of transitioning from detection phase to assessment monitoring), if applicable
- 5. Other information required per 40 CFR 257.90 through 257.94, interpreted to include the following:
 - A map showing groundwater elevations, inferred groundwater elevation contours, and inferred groundwater flow direction from the sampling events conducted during the year.
 - A groundwater elevation hydrograph, including data over the period of record.
 - Groundwater flow rates for the semiannual events conducted during the preceding year.
 - Results from data quality review and data validation
 - A summary of the statistical method and the respective background (compliance) limits for Detection Monitoring (Appendix III) constituents
 - A summary of any Appendix III constituents that are identified as a statistically significant increase (SSI) greater than background levels.

In addition to this technical information, the annual report must also include a narrative of the following items:

- Documentation of the status of the monitoring program (that is, detection or assessment phase)
- Key actions completed for the preceding calendar year including alternative source demonstrations
- A description of problems encountered, and actions taken to resolve the problems (if needed)
- Key activities anticipated for the upcoming year

The annual reports are due by January 31 and summarize monitoring results from the preceding year. The CCR Rule requires specific reports and notifications throughout the monitoring process, with up to three forms of submittals:

- The site's operating record (40 CFR 257.105)
- Notifications to the State Director (40 CFR 257.106)
- The publicly accessible internet site (40 CFR 257.107)

1.2 Document Organization

The document is organized into the following sections:

- Section 1. Introduction. Presents the document purpose and objectives, site description, and status of monitoring program.
- Section 2. Monitoring Program Description. Summarizes the groundwater monitoring system design (well network) and the sampling program for the Limited Purpose Landfill.
- Section 3. Groundwater Monitoring Results. Summarizes the groundwater monitoring information related to background data collection and the initial compliance event and provides a map showing groundwater elevations and inferred flow direction, estimates of groundwater seepage velocity, and a summary of groundwater quality results for the initial compliance event.
- Section 4. Statistical Evaluation. Summarizes the statistical method and the compliance limits and compares the initial compliance results to the compliance limits to determine whether there is an SSI greater than background conditions for the Appendix III constituents.
- Section 5. Alternative Source Demonstration. Summarizes statistically significant exceedances, the detection monitoring results, retesting, confirmation, and documentation of an alternative source demonstration for the confirmed values.
- Section 6. Summary. Summarizes the key points of the initial annual report per the CCR regulatory requirements.
- Section 7. References. Lists the documents referenced to develop this report.

1.3 Site Description

TCM manages the Limited Purpose Landfill, which is approximately 7 miles east of Centralia, Washington (Figure 1). The Limited Purpose Landfill is north of Pit 7 in the Centralia Mine. The site is in the southern half of Section 33, Township 15N, Range 1W; Latitude 46°44′23″ North, Longitude 122°49′55″. The site address is 913 Big Hanaford Road, and the Property Tax Parcel (Account) Number is 023387001000. The permitted area encompassing the Limited Purpose Landfill is 57 acres, and the actual footprint of the waste disposal area is 18 acres (Figure 2). The Limited Purpose Landfill consists of the waste disposal area, and the surface impoundments immediately south of the waste disposal area to manage leachate generated at the disposal cell.

TransAlta Centralia Generation LLC operates a coal-burning power plant that is located adjacent to TCM and generates residual ash waste; the residual ash waste is disposed of into the Limited Purpose Landfill. The construction of Stage 1 began during the summer of 2009, and the Lewis County Environmental Health Department authorized TCM to begin waste disposal operations effective October 31, 2009. On December 21, 2009, the Lewis County Environmental Health Department amended the facility permit to approve the disposal of residual ash waste in Stage 1 Area A3a, in addition to Areas A1 and A2, which had been approved for disposal in the original permit. The Stage 2 Area of the Limited Purpose Landfill

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was constructed in three phases from 2011 through 2014 and was subsequently approved for the receipt of ash waste material.

1.4 Status of the Groundwater Monitoring Program

The groundwater monitoring program is currently in the detection phase, as described under 40 CFR 257.94, *Detection Monitoring Program*.

In 2019, the background levels for the Appendix III constituents listed for detection monitoring were updated. The resultant Upper Prediction Limits (UPLs) represent a longer period of monitoring providing an additional 5 monitoring events. Due to the complex behavior of groundwater and need for sufficiently large sample sizes, the EPA Unified Guidance recommends that background levels should be evaluated and possibly updated every four to eight measurements.

Groundwater monitoring was conducted May 8, 2024 and October 8 and 9, 2024 for biannual monitoring. Resampling was conducted after the May 8, 2024 event on June 24, 2024 for an exceedance for boron in wells LPLF-2R and LPLF-8, and TDS in LPLF-2R. Resampling was conducted after the October 8 and 9, 2024 sampling event on November 26, 2024 for boron in wells LPLF-2R and LPLF-8, and TDS in LPLF-2R. The resampling results were used in an alternative source demonstration, as documented in Section 5 of this report. Based on the demonstrations, the SSI are determined as a result of natural variation in groundwater concentrations from the resaturated spoils beneath the facility.

SECTION 2 Monitoring Program Description

This section summarizes the CCR groundwater monitoring program for the Limited Purpose Landfill.

2.1 Monitoring Program

Groundwater is monitored in accordance with the CCR SAP (CH2M, 2016). Details regarding the site hydrogeology, the stratigraphic sequence, the uppermost aquifer, and the lower aquitard/confining unit are presented in the groundwater monitoring system design document (CH2M, 2017a) posted to the publicly available website and are not reiterated herein. Details regarding the monitoring network, sampling, and field/laboratory quality control are described in the following sections.

2.2 Monitoring Network

Effective April 17, 2015, the CCR regulations (specifically, 40 CFR 257.91, *Groundwater Monitoring Systems*) require a facility to install a detection groundwater monitoring system at appropriate locations and depths to yield groundwater samples from the uppermost aquifer and monitoring of all potential contamination pathways. At least one upgradient well must accurately represent the quality of background groundwater unaffected by potential leakage from the CCR unit. The regulations also state that at least three downgradient wells must accurately represent the quality of groundwater passing the waste boundary for the detection of potential groundwater contamination in the uppermost aquifer.

Table 1 summarizes the groundwater monitoring well network and construction details for the Limited Purpose Landfill. Figure 2 shows the designated CCR groundwater monitoring network, which consists of five wells screened in the uppermost aquifer and located around the perimeter of the ash disposal area. Monitoring wells LPLF-1 and LPLF-5 are effectively upgradient of the landfill and used to characterize background conditions unaffected by the landfill, and wells LPLF-2R, LPLF-7R, and LPLF-8 are downgradient and designated as compliance wells. As noted in Section 1.4, documentation of the CCR *Groundwater Monitoring Systems* design was submitted to the publicly available website in October 2017, as described in the *Coal Combustion Residual Groundwater Monitoring System Certification for the Limited Purpose Landfill at the Centralia Mine near Centralia, Washington* (CH2M, 2017a).

2.3 Groundwater Level Measurement

Static groundwater level measurements are collected during each monitoring event to calculate groundwater elevations, estimate groundwater flow direction, and calculate the groundwater seepage velocity. Groundwater elevations are calculated by subtracting the field measured static depth to water from the surveyed top-of-casing elevations relative to the local vertical datum (NAD 27, Washington State Plane, North 3601, Feet Intl). Field-measured groundwater levels are recorded on field forms (provided in Appendix A) and the groundwater level data are presented in Section 3.

2.4 Groundwater Sampling

Each well is equipped with dedicated tubing to facilitate low-flow sampling methods, except for LPLF-1, which is bailed to collect the sample. A peristaltic pump is used to support sampling methods required for low-flow (minimal drawdown) groundwater sampling procedures as described under *Groundwater Sampling Guidelines for Superfund and RCRA Project Managers* (EPA, 2002). In accordance with the low-flow method, purging continues until field parameters have stabilized to acceptable tolerances as outlined in the CCR SAP (CH2M, 2016b). Field parameters are measured using factory-calibrated multiparameter probe. Appendix A includes copies of field sampling forms for sampling events conducted in 2024.

Groundwater samples were collected in laboratory-provided sample containers. Below are the test methods, reporting limits, and preservatives to collect groundwater samples for the Appendix III constituents for detection monitoring.

Constituent	Analytical Test Method	Reporting Limit (mg/L)	Preservative
Boron	EPA 6010C	0.01	HNO ₃
Calcium	EPA 6010C	0.05	HNO ₃
Chloride	E300	2.5	Chill to 4°C
Fluoride	E300	0.5	Chill to 4°C
рН	SM 4500H B	0.1	Chill to 4°C
Sulfate	E300	10	Chill to 4°C
Total Dissolved Solids	A2540C	1	Chill to 4°C

°C = degrees Celsius

 $HNO_3 = nitric acid$

mg/L = milligram per liter

Laboratory analyses were performed by an accredited and certified testing laboratory (ALS, in Kelso, Washington).

2.5 Field and Laboratory Quality Control

As described in the CCR SAP (CH2M, 2016b), field and laboratory quality control are guided by the field quality control procedures that included sample labeling, chain-of-custody documentation, and sealing of sample containers following sample collection. Field duplicate and matrix spike (with duplicates) samples are collected during each sampling event. Temperature and method blanks are included with each shipment.

Laboratory quality control procedures included analysis of method blanks, surrogates, duplicates, and matrix spike/matrix spike duplicates. Results from the laboratory quality control procedures are included in the analytical data packages and are included in Appendix B.

Groundwater Monitoring Results

This section summarizes the groundwater monitoring results related to the dates of sampling for the monitoring events, groundwater elevations, groundwater flow direction, the estimates of groundwater seepage velocity, and the groundwater quality results from the monitoring events.

3.1 Compliance Monitoring Events

The CCR Rule requires at least eight background groundwater monitoring events before the October 17, 2017, deadline to establish background conditions. Monitoring events after the eighth background event are considered initial detection-phase compliance monitoring to determine whether there is an SSI greater than background conditions. Below is a summary of the compliance and resampling events and the respective constituent suites for the sampling events. In 2024 an additional 2 monitoring events were included in the re-evaluation and determination of groundwater conditions.

Monitoring Event Type/Purpose	Date Completed	Appendix III, Detection Monitoring Constituents	Resampled Wells
Detection/Compliance	May 8, 2024	Yes	NA
Resampling/Confirmation	June 24, 2024	2 Constituents (boron, and TDS)	LPLF-2R, LPLF-8
Detection/Compliance	October 8 and 9, 2024	Yes	NA
Resampling/Confirmation	November 26, 2024	2 Constituents (boron, and TDS)	LPLF-2R, LPLF-8

3.2 Groundwater Levels and Hydrographs

Table 2 summarizes the groundwater measurements from the 2024 groundwater monitoring program. Figure 3 shows the groundwater elevation hydrograph from the CCR network wells from the initial monitoring events conducted from November 2016 through November 2024. In general, groundwater elevations are relatively similar to historical levels. Continued monitoring will be used to assess the need to evaluate seasonal patterns, characteristics, or apparent trends in the site hydrograph.

3.3 Groundwater Flow Direction

Figures 4 and 5 show the elevation contours and inferred flow direction for the groundwater conditions at the site for May and October 2024, respectively. The groundwater in the uppermost aquifer beneath the Limited Purpose Landfill generally flows to the southwest. Well, LPLF-5 was dry during the October 8, 2024 sampling event (the elevation of the lowest measured groundwater level in LPLF-5 was used for contouring). A flow direction to the southwest is consistent with historical groundwater monitoring results.

3.4 Groundwater Flow Velocity Estimates

The estimated groundwater seepage velocity is 5 feet per year, which is based on the following equation and hydraulic assumptions and groundwater elevations in the uppermost aquifer:

$$v = \frac{K_a i}{n_e}$$
 Equation from Fetter, 1994

where:

v=groundwater velocity (seepage velocity) K_a =average horizontal hydraulic conductivityi=horizontal hydraulic gradient n_e =effective porosity

- An average hydraulic conductivity estimate of 0.11 to 0.17 feet per day (equivalent to 3.88 x 10⁻⁵ to 5.82x 10⁻⁵ centimeters per second), which is based on slug test analyses and as summarized in the *Coal Combustion Residual Groundwater Monitoring System Certification for the Limited Purpose Landfill at the Centralia Mine Site near Centralia, Washington* (CH2M, 2017a).
- Hydraulic gradient was consistently 0.02 to 0.03 feet per foot, as measured from Figures 4 and 5. This value is considered a typical but lower value based on previous monitoring performed under the pre-existing WAC program since 2007.
- Effective porosity of 0.15 (assumed value generally representative of mine spoils)

3.5 Groundwater Quality Results

Table 3 presents the groundwater quality results for the Appendix III constituents from the 2024 groundwater monitoring and resampling events. Groundwater data from the monitoring events are compared to the background conditions per the selected statistical method to determine whether the initial compliance values exceed background concentrations, as presented in Section 4. Resampling was conducted to confirm parameters that represented statistically significant exceedances for those wells and parameters identified.

3.6 Data Quality Assessment

The groundwater quality data were reviewed to assess the representativeness and usability of data before performing statistical evaluations as presented in Section 4. The method for performing the data quality review is documented in the CCR SAP (CH2M, 2016b) and follows procedures in the U.S. Environmental Protection Agency (EPA) *National Functional Guidelines for Inorganic Superfund Methods Data Review* (EPA, 2016).

Table 4 is a summary of the data validation that was conducted for each sampling and analysis event. The summary includes review of laboratory analysis, receipt, qualifiers, laboratory method blanks, replicant sample results, and matrix spike recovery. Additionally, a field duplicate was collected for each detection monitoring event and relative percentage difference calculated for the duplicate sample. Laboratory and field duplicate values were within the data validation limits.

The data quality assessment is that analysis was consistent with the CCR SAP for the site. Based on this review, the field and laboratory methods followed the procedures specified in the CCR SAP, the completeness target/goal of 100 percent was achieved, none of the data were rejected, and data were found to satisfy the data quality objectives to be included for statistical evaluation as presented in Section 4.

Statistical Evaluation

This section summarizes the CCR regulatory requirements for statistical evaluation under the detection phase, as well as the selected statistical method, and compares the 2024 monitoring data to determine if monitoring values exceed compliance limits.

4.1 Statistical Evaluation Regulatory Requirements

The CCR Rule specifically lists four methods acceptable for statistical analysis (40 CFR 257.93[f]):

- 1. Parametric or nonparametric analysis of variance
- 2. Tolerance intervals
- 3. Prediction intervals (limits)
- 4. Control charts

Another statistical test method also may be considered if it meets the performance standards listed in 40 CFR 297.93(g). Per the CCR Rule, the selected statistical method was posted to the publicly available website by the October 17, 2017, deadline.

4.2 Statistical Evaluation Methods and Compliance Limits

Based on the site-specific groundwater conditions and results from an exploratory evaluation of the background data, the selected statistical method for evaluating groundwater detection monitoring data is a prediction interval (limit) method, which is a statistical method option, per 40 CFR 257.93(f)(3). The prediction interval method will be used separately for each well-constituent pair and was selected because the Appendix III constituents exhibited significant spatial variability, making an upgradient versus downgradient, also known as interwell, comparison infeasible. The method for six of the seven Appendix III constituents (including boron, calcium, chloride, pH, sulfate, and TDS) is an intra-well Prediction Limit; the seventh constituent, fluoride, is handled separately via the Double Quantification Rule (DQR). Per EPA *Unified Guidance* (2009), the DQR is applicable to constituents that exhibit 100 percent no-detect characteristics, and fluoride is 100 percent nondetect during the background period. The DQR method, which is applicable to fluoride only, assumes that a SSI is confirmed if both the original and retest values are confirmed to be detected values. Supplemental details and rationale for method selection are presented in *Coal Combustion Residual Statistical Method for the Limited Purpose Landfill at the Centralia Mine near Centralia, Washington* (CH2M, 2017b), which has been posted to the CCR public website prior to the October 17, 2017, deadline.

EPA's Unified Guidance (2009) recommends that prediction limits be combined with retesting for maintaining a low sitewide false positive rate (SWFPR) while providing high statistical power. The exploratory analysis confirmed a "1-of-2" retesting strategy is acceptable and will be used to verify an apparent SSI (that is, an initial SSI for Appendix III constituents). Retesting is an integral part of the statistical methodology for controlling the SWFPR when multiple monitoring locations and parameters are being evaluated. Assuming the "1-of-2" retesting approach, an apparent SSI cannot be confirmed or denied until the results of the resampling event have been obtained.

Following the prediction interval method, the compliance limits were calculated on the CCR Appendix III constituents for the three downgradient compliance wells (LPLF-2R, LPLF-8, and LPLF-7R). The calculation of intra-well prediction limits is used for six of the seven CCR constituents, including boron, calcium, chloride, pH, sulfate, and TDS; fluoride is evaluated separately via the DQR as a result of the 100 percent nondetects during background period. Assuming that sample background data are normally

distributed, or assuming that they can be transformed to fit a normal distribution, then the parametric upper prediction limit (UPL) is based on equation (1) as follows:

$$UPL = \overline{x} + Ks \tag{1}$$

where:

 \overline{x} is the sample mean,

s is the sample standard deviation, and

K is a multiplier factor that is chosen based on the evaluation schedule (nE), number of constituents (nc), number of wells (nw), number of background observations (n), overall SWFPR, and the specific retesting scheme selected.

For constituents such as pH, which require both lower and upper prediction limits, equation (2) is used:

$$LPL, UPL = \overline{x} \pm Ks \tag{2}$$

Table 5 presents the background (compliance) limits for each Appendix-III constituent derived from the equations above. For selected constituents exhibiting trends during background period, the background data were detrended before determining the background levels. As shown in Table 5, the constituents in which trends will be accounted for include boron, calcium, and TDS at well LPLF-2R; chloride, sulfate, and TDS at well LPLF-7R; and calcium, sulfate, and TDS at well LPLF-8. For the cases listed as 'no' for trend removal, the UPLs and lower prediction levels are the fixed compliance values to directly compare against future detection monitoring data to determine a SSI above compliance, and will be the levels to use until background is updated in the future. However, for cases listed as 'yes' for trend removal, the UPL is a calculated value dependent on time of sampling using equation (3) as follows:

Note that the trendline equations and variables for intercept, slope, time, and residual values are shown in Table 5; these UPLs are listed as 'calculated' as they are dependent upon the time when the compliance data were obtained. The time (in days) is assumed as the number of days starting from the initial background event (which was collected on November 14, 2016) to when the compliance data in question were collected (example May 8, 2024, which is 2732 days following the initial event on November 14, 2016). For TDS at well LPLF-2R, transformation was performed using the Tukey power transformation to convert it into a normal distribution before applying the simple regression to determine an appropriate relationship for trend removal.

4.3 Statistical Evaluation Results

Table 6 summarizes the monitoring results determined to be confirmed SSI after retesting and therefore identified for further evaluation. The 2024 groundwater monitoring results were less than or within the respective compliance limits, except for the following six cases, boron in LPLF-2R (spring and fall) and LPLF-8 (spring and fall), and total dissolved solids (TDS) in LPLF-2R (spring and fall).

Resampling and confirmation testing were conducted within 90 days after validation of monitoring results and evaluated for potential detection or applicability of an alternative source demonstration. Resampling confirmed the values for boron in LPLF-2R and LPLF-8, and TDS in LPLF-2R. Therefore, resulting in a total of six SSIs.

The remaining detections were determined that an alternative source demonstration was appropriate for the six results. Section 5 discusses the alternative source demonstration and applicability to these confirmed SSI results. It is anticipated that these results will be included in a review of site conditions and groundwater quality variability under changing groundwater elevations.

Alternative Source Demonstration

This section presents an alternative source demonstration in response to the confirmed SSIs in accordance with 40 CFR Part 257.94(e)(2).

5.1 CCR Rule Regulatory Applicability

In accordance with 40 CFR Part 257.94(e)(2), the site owner has the option to demonstrate that a source other than the regulated unit (ash waste in the LPLF) caused the SSI exceeding background levels before automatically shifting into the assessment phase requirements. The CCR regulations cite examples of alternative sources causing SSIs (for example, error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality).

The CCR regulations require alternative source demonstrations to be completed within 90 days following the determination of a valid SSI. The retesting results for the Spring and Fall events were validated for the six SSI and conditions were reviewed within the 90-day period to complete the alternative source demonstration (or the need to shift into assessment monitoring if a successful demonstration is not made). Both demonstrations are included in this section of the 2024 annual report for documentation purposes.

5.2 Alternative Source Demonstration

This section presents the technical basis and documentation to support that natural variation in groundwater quality is the reason for the SSIs observed in monitoring wells LPLF-2R and LPLF-8 as shown in Table 6 at the LPLF site. Additional evaluation was conducted looking at the time series for each of these wells and parameters and a statistical trend evaluation to aid in the demonstration evaluation.

5.2.1 Site History

The hydrogeological setting of the LPLF is unique in that present-day subsurface conditions were constructed such that surface overburden soils (mine spoils) were excavated during active mining operations in 2006 to expose coal seams within the relatively fine-grained Skookumchuck formation. As part of reclamation efforts following coal mining activities, the mine spoils were backfilled into a pit that includes the present-day footprint of the LPLF. Recharge via precipitation created a shallow zone of saturation within the mine spoils immediately overlying the fine-grained Skookumchuck formation, which is the target groundwater monitoring zone as described in the *Coal Combustion Residual Groundwater Monitoring System Certification for the Limited Purpose Landfill at the Centralia Mine Site near Centralia, Washington* (CH2M, 2017b). The mine spoils are generally characterized as light tan to brown silty loam to silty clay with sand lenses; the underlying Skookumchuck is characterized as a sequence of siltstones, claystones, coal seams, and occasional carbonaceous shales. The stratigraphic sequence beneath the center of the LPLF consists of approximately 80 feet of mine spoils, underlain by relatively thick sequence of fine-grained Skookumchuck, estimated at over 500 feet thick in the area.

The mine spoils were generated by removal of coal seam interburdens and placed back into the mined pit. The interburden comprised silt and claystones with stringers of sub-economical coal. The backfill placement resulted in a highly heterogeneous spoil of pulverized silt and claystone with discrete and localized coal and pyritic debris mixed laterally and vertically. These gravel to cobble sized materials can be acid forming and generate localized suppressed pH in the otherwise alkaline silt and clay spoils, and secondary mobilization of calcium, sulfate and other constituents, subsequently increasing TDS in groundwater. The primary mechanisms required for suppressed pH and changes in groundwater

chemistry are presence of acid forming material, water, and oxygen. Fluctuations in groundwater can influence these as fluctuations allow great oxygen access to moist, acid forming materials.

The presence of acid-forming materials in the spoils can result in elevated TDS and associated dissolved constituents in groundwater with localized increases closer to the material. As groundwater fluctuates, this can either submerge previously unsaturated material or expose saturated material to aerobic conditions in the unsaturated zone. The vertical heterogeneity of these materials results in groundwater conditions that can be highly variable for constituents susceptible to mobilization under suppressed pH conditions within localized areas, within a specific monitoring location.

Prior to the CCR regulations that were enacted in April 2015, TCM characterized the hydrogeological conditions for the LPLF as documented in Section 2 of TransAlta Centralia Mining LLC, Limited Purpose Landfill Solid Waste Permit Application, dated October 2008 (CH2M, 2008). To satisfy Chapter 173-350-500 (Limited Purpose Landfill) Washington Administrative Code (WAC) regulations, TCM initiated background monitoring prior to waste placement from 2007 to present, as described in the Washington State Department of Ecology (Ecology) and Lewis County Environmental Health District-approved Groundwater Monitoring Plan for TransAlta Centralia Mining LLC Limited Purpose Landfill, Amendment 1, July 2011 (CH2M, 2011a). Since 2010, TCM has prepared quarterly and annual groundwater monitoring – Data Analysis, Notification, and Reporting. To date, the WAC program remains under detection-phase monitoring status. The existing WAC data collected from 2007 to 2009 pre-date waste placement into the LPLF and were used to document the heterogenous nature of background conditions.

5.2.2 Background Monitoring Results

The background monitoring period may not have fully captured the actual natural variation that might be expected to occur in the spoils and under natural groundwater recharge and fluctuations, especially under conditions where groundwater elevations are lower or higher than have been previously observed. Background monitoring events conducted over several years or multiple hydrological cycles would better characterize the natural variability in groundwater and yield more data to strengthen statistical power of detection monitoring analyses. These conditions are the basis for the updated background evaluation conducted in 2019 and used in this evaluation (Jacobs, 2019).

Reviewing the site hydrographs in Figure 3 for both wells LPLF-2R and LPLF-8, groundwater elevations have decreased since the initial installation and monitoring. In LPLF-2R boron has increased to a slightly lower and consistent concentration just above the UPL calculated using the initial, 8 months of background sampling. For TDS, it shows the value decreasing, but decreasing at a lower slope that was initially calculated for TDS in well LPLF-2R (both values are calculated values, using a decreasing slope for calculation of UPL values). These results support that the exceedances for boron and TDS in LPLF-2R is a result of continued change in saturated spoils geochemistry, and not associated with release from the landfill, and primarily with stabilization of the groundwater constituents while the calculated UPL uses an ongoing downward trend.

The exceedance for boron in well LPLF-8 is based on the UPL of 0.99 mg/L. The exceedance was 1.17 mg/L and 1.09 for spring and fall respectively. LPLF-8 has always been historically much higher than the other downgradient wells, suggesting that there is an alternative source within the backfilled spoils for the boron in groundwater detected at this location. Boron concentrations have increased, and using the full set of data, shows a statistically significant trend at 95 percent confidence level.

Given that LPLF-8 has always exhibited higher concentrations of boron than other downgradient wells, while higher these concentrations are still relatively low, that the change is within about 0.2 mg/L of change, and that groundwater at this location continues to fluctuate and is at historically low levels,

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demonstrates that the continued change in boron is due to the nature of the saturated backfill spoils as the alternative source for these results.

As noted in the statistical method certification (CH2M, 2017a) and in accordance with Unified Guidance (EPA, 2009), it is recommended to update background conditions following four to eight sampling events because of the complex behavior of groundwater and the need for sufficiently large sample sizes. Using this principle with semiannual sampling as prescribed under the CCR program, the background values should be reviewed and updated using statistical analysis every 2 to 4 years, assuming no confirmed statistically significant increase is identified. In addition, if hydrogeologic conditions change, then background should be updated to match the latest conditions. Based on this analysis, excluding the initial 8 months of sampling should be considered in future background UPL calculations.

5.3 Alternative Source Demonstration Results

Key findings as provided in this alternative source demonstration are summarized as follows:

- 2024 Monitoring and Retesting was conducted in compliance with the CCR program and resulted in confirmed SSI values based on the current CCR program statistical method.
- These values were evaluated and qualified as unrelated to the LPLF waste materials and related to natural variation in groundwater quality within the saturated backfilled spoils.
- These findings are consistent with similar demonstration for the CCR program in previous groundwater monitoring results at the site.
- The CCR program remains under the detection-phase monitoring status per 40 CFR 257.94, *Detection Monitoring Program.*

Summary

Key findings developed and/or confirmed from the 2024 annual groundwater report are summarized as follows:

- The groundwater elevations measured during the compliance monitoring events were used to develop a site hydrograph, potentiometric surface, inferred groundwater flow direction, and calculated groundwater flow velocity for the spring and fall monitoring events in 2024.
- Groundwater flow directions, gradients, and flow velocities were consistent with historical measurements.
- Groundwater monitoring results for compliance constituents met the compliance limits except for two parameters, boron in monitoring well LPLF- 8, and boron and TDS in monitoring well LPLF-2R,
- The confirmed SSIs were evaluated and demonstrated to be a source other than the regulated unit (ash landfill) and remains in detection phase monitoring.
- Based on groundwater site conditions, the additional groundwater monitoring results will be reviewed and evaluated for the compliance limits using the selected statistical methodology.

References

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Tables

		Coordinate	s in NAD27 ¹	Top of Casing	Reference Point Top of Ground	Well Scree	n Elevation ²	Sand Pack	Elevation ²	Well		
Well	Installation Date	Northing	Easting	Elevation ²	Elevation ²	Тор	Bottom	Тор	Bottom	Depth ³	Aquifer Unit	Hydraulic Designation
LPLF-1	October 2007	520,881.45	1,420,272.06	347.80	344.58	305.58	285.58	309.58	282.58	59	Mine Spoils	Up or Cross-Gradient
LPLF-5	August 2008	521,931.70	1,419,921.73	359.90	357.88	349.88	344.88	351.38	343.38	13	Mine Spoils	Upgradient
LPLF-8	August 2008	521,235.37	1,419,233.53	298.75	296.93	279.93	274.93	282.93	273.93	22	Mine Spoils	Downgradient
LPLF-2R	July 2016	521,561.20	1,419,130.52	296.04	293.86	10.0	263.9	275.86	262.36	31	Mine Spoils	Downgradient
LPLF-7R	July 2016	521,180.82	1,419,531.95	299.00	297.04	279.7	269.7	282.04	269.04	28	Mine Spoils	Downgradient

 Table 1. Groundwater Monitoring Well Network

 2024 Annual Groundwater Monitoring Report for Limited Purpose Landfill - TransAlta Centralia Mine LLC

General Notes:

1. Well LPLF-1 is low yield and sampled via bailer.

Column Header Footnotes:

¹Washington State Plane Coordinates (NAD27).

²All elevations in feet above mean sea level (NGVD29).

³Well depth is feet below ground surface (rounded to nearest foot).

Table 2. Groundwater Elevations and Field Parameters

2024 Annual Groundwater Monitoring Report for Limited Purpose Landfill - TransAlta Centralia Mine LLC

2021711110		Reference		neu Fuipose Lain				Oxidation					
		Point	Depth to	Groundwater			Dissolved	Reduction	Specific				
	Date	Elevation	Water	Elevation	Temp		Oxygen	Potential	Conductivity	,			
Well	Sampled	(ft)	(ft btc)	(ft)	(°C)	рН	(mg/L)	(mV)	(uS/cm)	(NTU)	Hydraulic Designation	Hydrostratigraphic Unit	Comments
LPLF-1	5/8/24	347.80	56.42	291.38	14.1	6.5	5.70	55	3,514		Up or Cross Gradient	Backfill/Mine Spoils	Cloudy/Orangish
LPLF-1	10/8/24	347.80	56.51	291.29	15.7	6.4	8.53	173.5	3,505		Up or Cross Gradient	Backfill/Mine Spoils	Murky Brown
LPLF-5	5/8/24	359.90	12.42	347.48	11.0	6.7	5.00	217	1,293		Upgradient	Backfill/Mine Spoils	Clear
LPLF-5	10/9/24	359.90									Upgradient	Backfill/Mine Spoils	Dry/no water in well. Not sampled.
LPLF-8	5/8/24	298.75	9.00	289.75	12.3	5.7	3.66	56	3,851		Downgradient	Backfill/Mine Spoils	Clear
LPLF-8	6/24/24	298.75	10.51	288.24	14.1	5.7	3.51	46	4,255		Downgradient	Backfill/Mine Spoils	Clear
LPLF-8	10/8/24	298.75	10.83	287.92	16.0	5.7	4.51	44	4,446		Downgradient	Backfill/Mine Spoils	Clearish
LPLF-8	11/26/24	298.75	12.93	285.82	13.0	5.7	6.25	32	4,205		Downgradient	Backfill/Mine Spoils	Clear
LPLF-2R	5/8/24	296.04	2.96	293.08	12.5	6.2	3.78	48	3,695		Downgradient	Backfill/Mine Spoils	
LPLF-2R	6/24/24	296.04	4.04	292.00	14.0	6.3	3.89	41	4,126		Downgradient	Backfill/Mine Spoils	Clear
LPLF-2R	10/9/24	296.04	5.60	290.44	13.7	6.1	5.57	52	4,228		Downgradient	Backfill/Mine Spoils	Clear
LPLF-2R	11/26/24	296.04	5.34	290.70	11.8	6.2	5.33	32	4,206		Downgradient	Backfill/Mine Spoils	Clear
LPLF-7R	5/8/24	299.00	19.32	279.68	13.9	6.2	3.55	74	3,555		Downgradient	Backfill/Mine Spoils	Clear
LPLF-7R	10/8/24	299.00	18.56	280.44	16.5	6.1	5.62	98.8	3,828		Downgradient	Backfill/Mine Spoils	Clear
								Water Le	vels Only				
LPLF-2	5/8/24	302.26	7.51	294.75							Cross-Gradient	Backfill/Mine Spoils	
LPLF-2	10/9/24	302.26	10.83	291.43							Cross-Gradient	Backfill/Mine Spoils	
LPLF-3	5/8/24	295.64	4.70	290.94							Cross-Gradient	Backfill/Mine Spoils	
LPLF-3	10/9/24	295.64	9.15	286.49							Cross-Gradient	Backfill/Mine Spoils	
LPLF-4	5/8/24	303.12	2.19	300.93							Cross-Gradient	Backfill/Mine Spoils	
LPLF-4	10/9/24	303.12	8.20	294.92							Cross-Gradient	Backfill/Mine Spoils	

Notes: "-- " = Not applicable, not available, and/or not measured.

Reference point elevation is top of PVC casing; all elevations are in feet above mean sea level (NAVD88).

Field parameter readings represent final stabilized readings obtained during low-flow purge immediately prior to collection of water-quality sample.

ft = feet

ft btc = feet below top of casing

C = degrees celcius

mg/L = milligrams per liter

mV = millivolts

uS/cm = microsiemens per centimeter NTU = Nephelometric Turbidity Units

Table 3. Groundwater Analytical Summary

2024 Annual Groundwater Monitoring Report for the Limited Purpose Landfill - TransAlta Centralia Mine LLC

Spring Sampling Event

Well			LPLF-1	LPLF-2R	LPLF-5	LPLF-7R	LPLF-8	LPLF-2R (FD)	LPLF-2R	LPLF-2R (FD)	LPLF-8
Sample ID			050824-CCR-LPLF1	050824-CCR-LPLF2R	050824-CCR-LPLF5	050824-CCR-LPLF7R	050824-CCR-LPLF8	050824-CCR-LPLF2R FD	062724-CCR-LPLF2R	062724-CCR-LPLF2R FD	062724-CCR-LPLF8
Sample Date			5/8/2024	5/8/2024	5/8/2024	5/8/2024	5/8/2024	5/8/2024	6/27/2024	6/27/2024	6/27/2024
Hydraulic Designation			Up or Cross Gradient	Downgradient	Up Gradient	Downgradient	Downgradient	Downgradient	Downgradient	Downgradient	Downgradient
Analyte	Method	Units									
Boron	SW6010C	mg/L	0.662	0.416	0.11	3.82	1.17	0.428	0.397	0.41	0.115
Calcium	SW6010C	mg/L	206	435	314	250	404	432	437	437	400
Chloride	E300	mg/L	3	7.2	3	9.4	6.5	7.2	7.3	7.3	7
Fluoride	E300	mg/L	2 U	2 U	2 U	2 U	2 U	2 U		-	
Sulfate	E300	mg/L	1,250	1,480	682	1,340	2,230	1,470	1,470	1470	2310
Total Dissolved Solids	A2540C	mg/L	2,570	3,360	1470	2,750	3,820	3,360	3,280	3320	3850

Well			LPLF-1	LPLF-2R	LPLF-7R	LPLF-8	LPLF-8 (FD)	LPLF 2R	LPLF 8	LPLF 8 (FD)
Sample ID			100824-CCR-LPLF1	100924-CCR-LPLF2R	100824-CCR-LPLF7R	100824-CCR-LPLF8	100824-CCR-LPLF8 FD	112624-CCR-LPLF2R	112624-CCR-LPLF8	112624-CCR-LPLF8 FD
Sample Date			10/8/2024	10/9/2024	10/8/2024	10/8/2024	10/8/2024	11/26/2024	11/26/2024	11/26/2024
Hydraulic Designation			Up or Cross Gradient	Downgradient	Downgradient	Downgradient	Downgradient	Downgradient	Downgradient	Downgradient
Analyte	Method	Units								
Boron	SW6010C	mg/L	0.617	0.411	0.376	1.09	1.09	0.368	1.17	1.12
Calcium	SW6010C	mg/L	221	470	239	398	395		-	
Chloride	E300	mg/L	3.7	4.3	9.5	6.8	6.8			
Fluoride	E300	mg/L	2 U	2 U	2 U	2 U	2 U		-	
Sulfate	E300	mg/L	1,380	1,530	1,340	2,230	2,230			
Total Dissolved Solids	A2540C	mg/L	2,900	3,450	2,760	3,840	3,830	3,440	-	-

Notes:

Field parameters represent final stabilized readings obtained during sampling immediately prior to sample collection. Non-detect values reported as "U" with the laboratory method detection limit; "J" is estimated value as determined from data validation. F is for field measurement.

(H) for outside holding time for sample

(MS) for matrix spike recovery outside range (FD) Field Duplicate outside relative percentage difference

Acronyms: Data qualifiers: U = non-detect value, J = estimated value. C = degrees celcius

mg/L = milligrams per liter

mV = millivolts

uS/cm = microsiemens per centimeter

NTU = Nephelometric Turbidity Units

Table 4 Data Validation Summary

2024 Annual Groundwater Monitoring Report for the Limited Purpose Landfill - TransAlta Centralia Mine LLC

Validation Summary 5/8/2024

J qualifier noted in the analysis result for fluoride at LPLF-5, with very low values near the MDL Method blank was non-detect

Method blank was non-detect

Replicate samples within RPD limits

Matrix Spike recovery values were within recovery limits, except calcium in matrix spike KQ2407300-05 Field Duplicate for LPLF-2R, FD RPD within limits

		5/8/2024		
Parameter	FD RPD Limit	LPLF-2R	LPLF-2R FD	FD RPD
TDS	20	3360	3360	0.0%
Chloride	20	7.2	7.2	0.0%
Sulfate	20	1480	1470	-0.7%
Boron	20	0.416	0.428	2.8%
Calcium	20	435	432	-0.7%

Validation Summary 6/24/2024

Sample receipt noted that pH-preserved bottles received for CCR-LPLF-2RFD were not received at the

appropriate pH, additional preservative added at lab

No data qualifiers noted in the analysis results

Method blanks were non-detect except chloride (0.007 J mg/L) and sulfate (0.02 J mg/L) in method blank K2406681-MB1

Replicate samples within RPD limits

Matrix Spike recovery within the % recovery limits

Laboratory replicate sample within RPD

Validation Summary 10/8/2024 and 10/9/2024

No discrepancies noted in sample receipt or analysis

No qualifiers noted in the analysis results

Method blanks were non-detect except method blank K2410826-MB3 with chloride detection of 0.006 J mg/L

Replicate samples within RPD limits

Lab control sample recovery values were within recovery limits

Matrix Spike recovery values were within recovery limits, except Boron and Calcium in LFPF7R MS Field Duplicate for LPLF-8, FD RPD within limits

		10/8/2024	10/8/2024	
Parameter	FD RPD Limit	LPLF-8	FD	FD RPD
TDS	20	3840	3830	-0.3%
Chloride	20	6.8	6.8	0.0%
Sulfate	20	2230	2230	0.0%
Boron	20	1.09	1.09	0.0%
Calcium	20	398	395	-0.8%

Validation Summary 11/26/2024

Sample receipt noted that bottles received for CCR-LPLF8 and CCR-LPLF8FD were received unpreserved and not at the proper pH. The laboratory added preservative to both sample bottles.

No discrepancies noted in sample analysis

No qualifiers noted in the analysis results

Method blanks were non-detect

Lab control sample recovery values were within recovery limits

Table 5 Statistical Method for TransAlta Limited Purpose Landfill 2024 Annual Report for the Limited Purpose Landfill at the TransAlta Centralia Mine LLC

024 Ani	nual Report f	for the Lin	nited Purpose Landf	ill at the TransAlta Cent	ralia Mine LLC				Updated 2019 Lower	Upper							
				Trending Calculated UPL	(if needed) = { Interco	ept + [Slope* Time(c	days)] + Residual }		Prediction Levels	Prediction Levels				ulated Upper Prediction Limits (compliance values)			
Well	Constituent	Units	Method	Trend Removal	Intercept	Slope	Residual	K-Value	(LPL)	(UPL)		5/8/2024	6/24/2024	10/8/2024	10/9/2024	11/26/2024	
LPLF-2R	Boron	mg/L	Parametric UPL	Yes	0.35	-2.21E-05	0.0297	2.4		Calculated		0.319	0.318	0.316	0.316	0.315	
.PLF-2R	Calcium	mg/L	Parametric UPL	Yes				2.4		545							
LPLF-2R	Chloride	mg/L	Parametric UPL	No				2.4		9.59							
PLF-2R	Fluoride	mg/L	DQR	No						DQR							
LPLF-2R	рН	pH units	Parametric UPL	No				2.79	5.98	7.07							
LPLF-2R	Sulfate	mg/L	Parametric UPL	No				2.4		2163							
LPLF-2R	TDS	mg/L	Non-Parametric UPL	Yes	3631	-0.359	201	2.4		Calculated		2852	2835	2797	2796	2779	
.PLF-7R	Boron	mg/L	Parametric UPL	No				2.4		0.421							
LPLF-7R	Calcium	mg/L	Parametric UPL	No				2.4		263							
LPLF-7R	Chloride	mg/L	Parametric UPL	No				2.4		9.99							
LPLF-7R	Fluoride	mg/L	DQR	No						DQR							
PLF-7R	рН	pH units	Parametric UPL	No				2.79	6.09	6.99							
LPLF-7R	Sulfate	mg/L	Parametric UPL	Yes	944	0.758	509	2.4		Calculated		3523	3558	3638	3639	3676	
LPLF-7R	TDS	mg/L	Parametric UPL	Yes	1890	0.892	607	2.4		Calculated		4933	4975	5069	5070	5113	
LPLF-8	Boron	mg/L	Parametric UPL	No				2.4		0.99							
LPLF-8	Calcium	mg/L	Parametric UPL	Yes				2.4		441							
LPLF-8	Chloride	mg/L	Parametric UPL	No				2.4		7.84							
LPLF-8	Fluoride	mg/L	DQR	No						DQR							
PLF-8	рН	pH units	Parametric UPL	No				2.79	5.66	6.36							
PLF-8	Sulfate	mg/L	Parametric UPL	Yes	2124	1.14	357	2.4		Calculated		5596	5650	5771	5772	5827	
LPLF-8	TDS	mg/L	Parametric UPL	Yes	3429	0.49	445	2.4		Calculated		5214	5237	5289	5290	5313	
											start date	da	ys since start				

TIME (days) is the period from Nov. 14, 2016 to time of compliance event.

5344						
5214	5237	5289	5290	5313		
	days since start					
2732	2779	2885	2886	2934		
	-	days since start				

Table 6 Summary of Compliance Value Exceedance

2024 Annual Groundwater Monitoring Report for the Limited Purpose Landfill - TransAlta Centralia Mine LLC

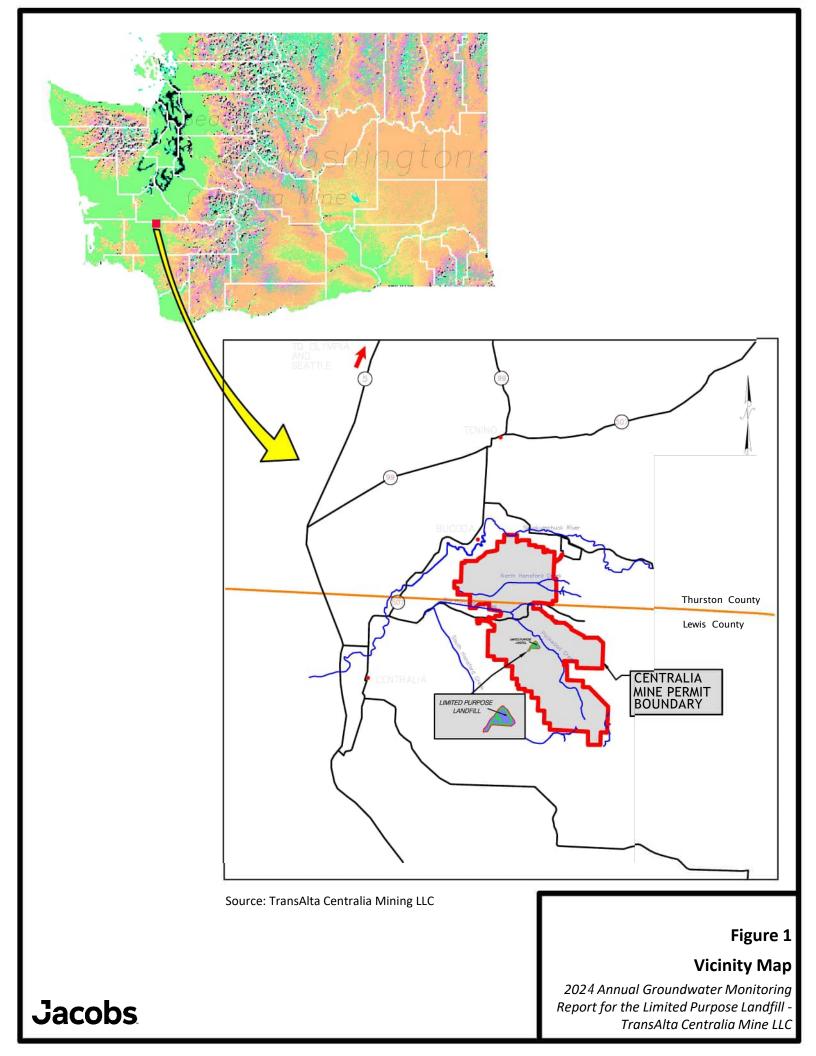
Well	Sample Date Parameter	Upper Limit (mg/L)	Sample Result (mg/L)	Resample Date	Upper Limit (mg/L)	ReTest Result (mg/L)	Percent Over UL for Compliance Event	Percent Over UL for the Retesting Event	Percent Change between Compliance and Retesting Event
LPLF-2R	5/8/2024 Boron	0.319	0.416	6/24/2024	0.318	0.397	30%	24.8%	-4.6%
LPLF-2R	5/8/2024 TDS	2,852	3,360	6/24/2024	2,835	3,280	18%	15.7%	-2.4%
LPLF-8	5/8/2024 Boron	0.99	1.17	6/24/2024	0.99	1.15	18%	16.2%	-1.7%
LPLF-2R	10/9/2024 Boron	0.316	0.411	11/26/2024	0.315	0.368	30%	16.8%	-10.5%
LPLF-2R	10/9/2024 TDS	2796	3,450	11/26/2024	2,779	3,440	23%	23.8%	-0.3%
LPLF-8	10/8/2024 Boron	0.99	1.09	11/26/2024	0.99	1.17	10%	18.2%	7.3%

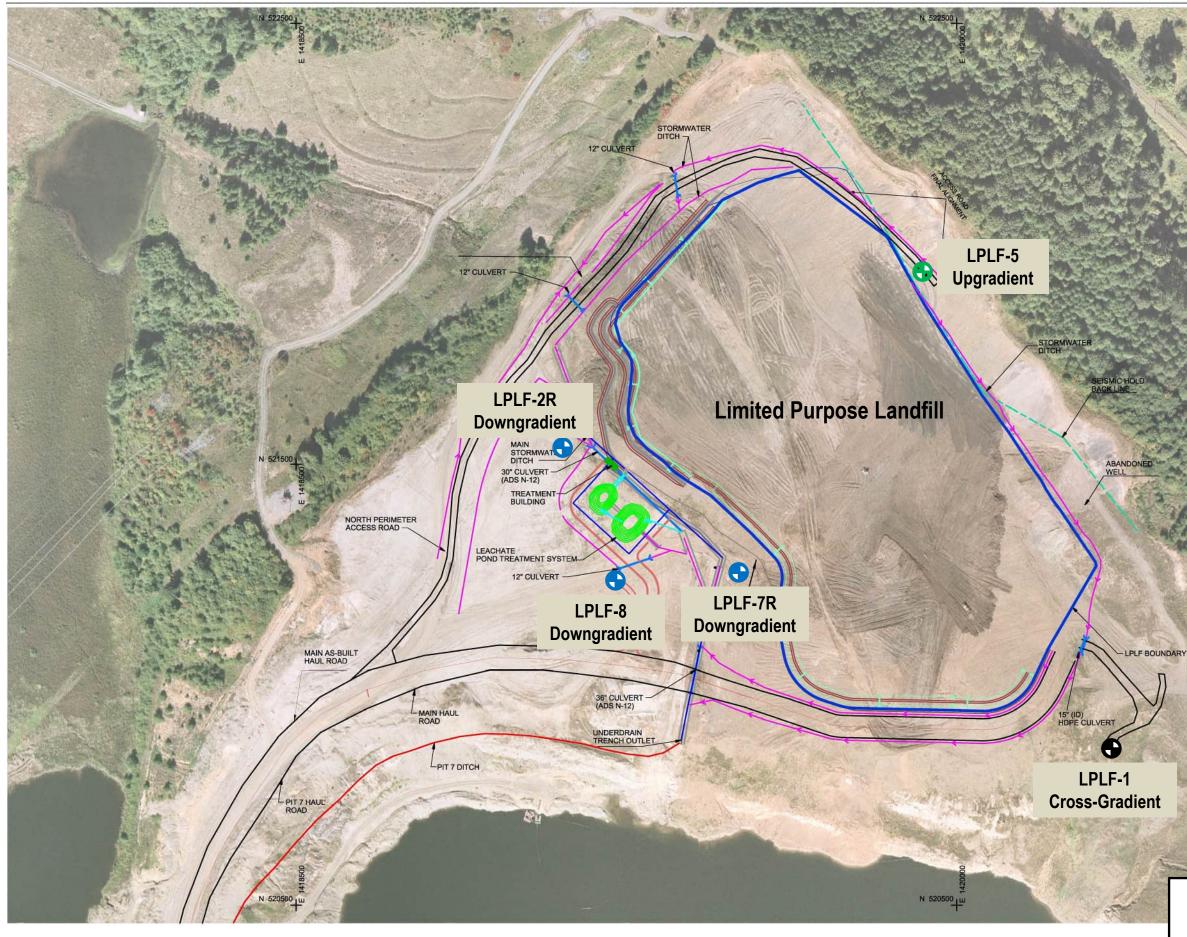
Notes:

Bold parameters indicate calculated limits

Six results (highlighted yellow) were confirmed as statistically-significant exceedances for evaluation.

Figures





Source: TransAlta Centralia Mining LLC

Jacobs



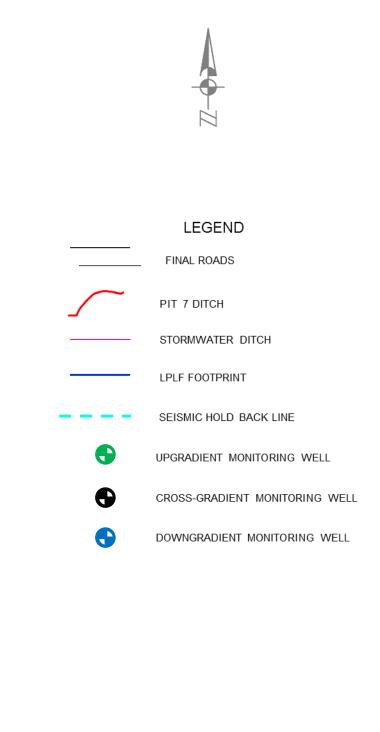
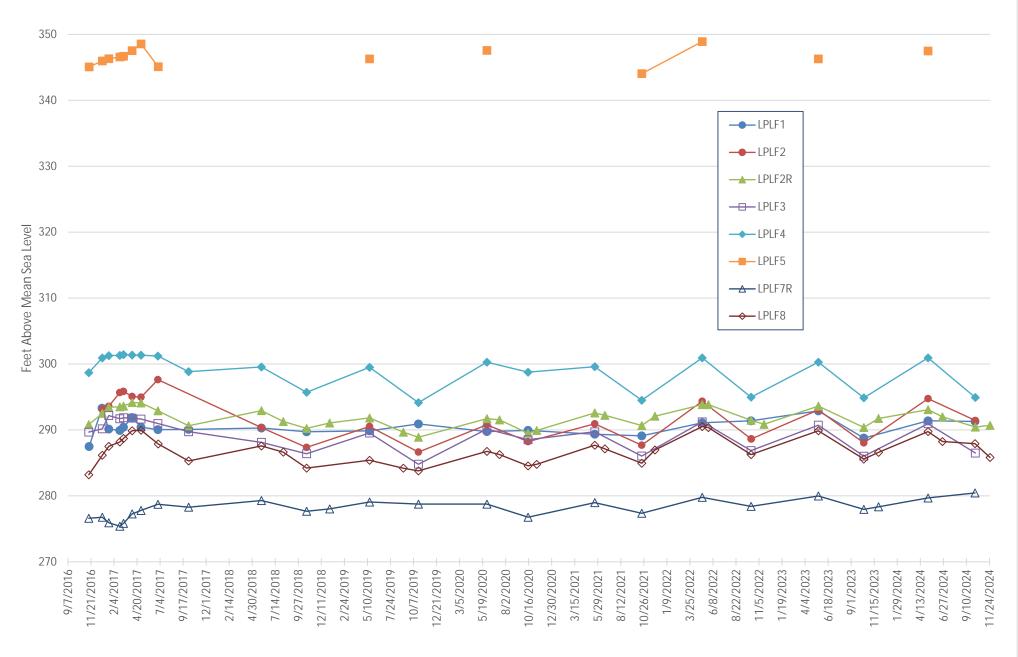


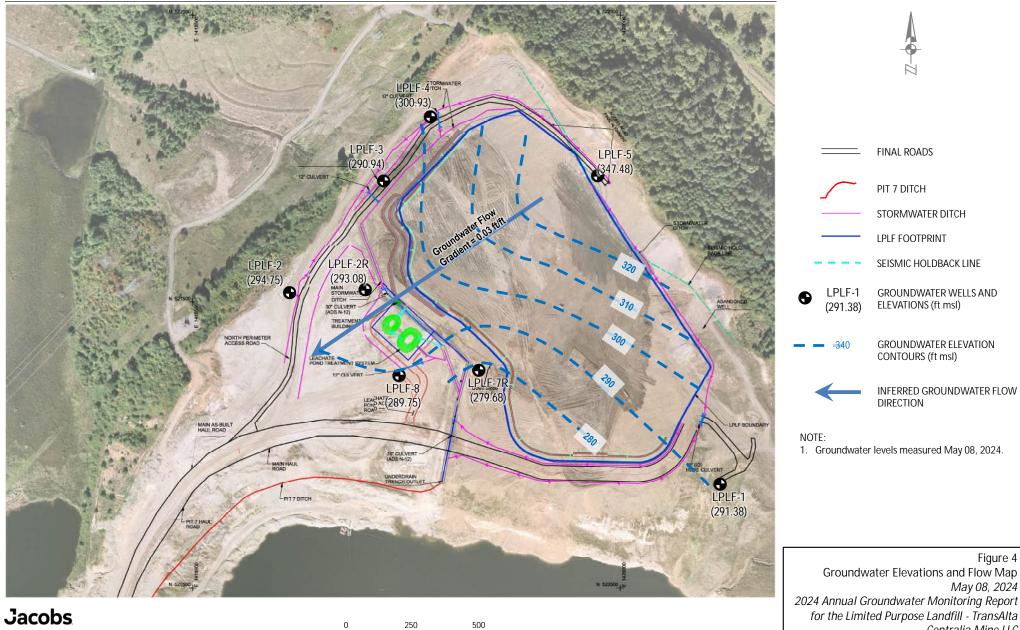
Figure 2 Site Map and Groundwater Monitoring Network 2024 Annual Groundwater Monitoring Report for the Limited Purpose Landfill - TransAlta Centralia Mine LLC



Jacobs

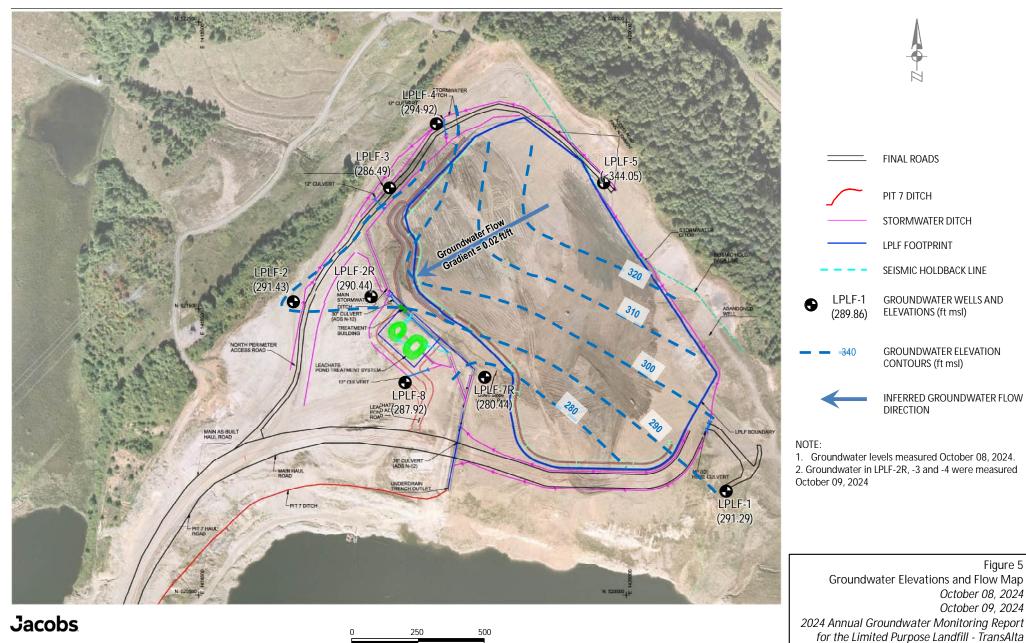
Figure 3. Groundwater Elevation Hydrograph 2024 Annual Report for Limited Purpose Landfill November 14, 2016 through November 26, 2024

Date



Centralia Mine LLC

Scale: feet



Centralia Mine LLC

Scale: feet

Appendix A Field Forms

SITE:	TCM LPL	.F	Proj	ect Number:	CC	R	Well ID: LPLF 1					
Field Team:		Bill Scheer	Bu				Date: 5-8-24					
Weather/Te	mp: <u>50</u>	inny/	war	m			Arrival Time to Well: $0:22$ Initial DTW (ft btc): (56.42)					
Purge Meth		2		Grab	Other:		Initial DT	W (ft btc):	(56.42)			
Pump Settir	ng ⁵ :	<i>i</i>		Notes:					C . ,			
				Fiel	d Parameters	5						
Time ¹	DTW ²	Purge Vol. (ml)	pН	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.			
	Begin Pumpin	_										
10:30	(57.06)	1880	6.46	3514	5.70	14.1	54.5		orange I cloudy			
		1										
							2. 					
								-	5			
Stabilization			± 0.1 units	± 3%	± 0.3 mg/L		± 10 mV	± 10% ⁴				
	ameters in consistent ieved after 3 success						xceed 0.33 ft for Low	-Flow method				
⁴ For turbidity rea	on achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO ty readings > 10 NTUs ⁵ Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min)											
	b: <u>OSO824 - CCR - UPLF</u> Sample Time: <u>LO:30</u>											
Analysis: Appendix III (boron, calcium, chloride, fluoride, pH, sulfate, and TDS) Appendix IV (total metals, Radium 226, and Radium 228). Other, specify												
QC SAMPLE		eld Duplicate			EQ Rinsate B	lank	TOTAL PU	JRGED (ml):				
QC Sample												
Comments:												
	·					-t.						
					(a	1						

SITE:	TCM LPL	.F	Project Number: CCR			Well ID: LPLF 8			
Field Team:		Bill Scheer	BM				11. 14.	Date:	5-8-24
Weather/Ter	mp:	nny,	warn	5			Arrival Time to Well: 9:12		
Purge Metho		0			Other:			W (ft btc):	9.00)
Pump Settin	ng 5: 1001	m1/m	in	Notes:					
				Field	Parameters	3			
Time ¹	DTW ²	Purge Vol. (ml)	рН	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.
9:16		ng							
9:21	9.68	480	5.73	3868	6.50	12.3	58.3		clear
9:26	(0.00)	940		3844			\$6.7		clear clear clear
9:31	(10.28)	1460	5.71	3851	3.66		55.8		GIAN
	10.96			(* P		Py.			
	()								
				N.A.					
					= .				
		er för Latio i seke i baland föra		<u></u>	C.u.				
	1	N**							
		1							
		-							
Stabilization Criteria ³			± 0.1 units	± 3%	± 0.3 mg/L		± 10 mV	± 10% ⁴	
¹ Collect field parameters in consistent 3-5 minute intervals for Low-Flow method ³ Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO									
⁴ For turbidity readings > 10 NTUs ⁵ Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min) Sample ID: 050824- CCR - LPLI= 8 Sample Time: 9:31									
Analysis: Appendix III (boron, calcium, chloride, pH, sulfate, and TDS)									
Anarysis. Appendix III (bordi, calcium,									
	Other, speci	fy							
QC SAMPLI	E: 🗆 Fi	ield Duplicate	e 💢 MS/	MSD 🗆	EQ Rinsate E	Blank	TOTAL PU	JRGED (ml):	
QC Sample ID : 050824 - CCK-LPLF & MS							QC	Sample Time:	
Comments:	OSC	58 24 -	2005 No 800 No			9:31			

SITE:	TCM LPL	LPLF Project Number: CER					Well ID: LPLF 7 R			
Field Team:		Bill Scheer	BM		р:		Date: 5-8-24			
Weather/Ter	mp:	unny,	war	m			Arrival T	ime to Well:	9:50	
Purge Metho	od: 🗌 Blade	,			Other:		Initial DT	W (ft btc):	(19.32)	
Pump Settin	g ⁵ : <u>100</u>	m1/m	nin	Notes:					·	
				and the second se	l Parameters					
Time ¹	DTW ²	Purge Vol. (ml)	рН	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.	
9:55	Begin Pumpin	g								
10:00	19.98	1500	6.19	3433	6.31	13.5	65.7		clear	
10:05	60.40)	980	6.18	34 98	4.44	13.4	72.1		clean clean	
10:10	(20.52)	(1390)	6.17	3555	3.55	13.9	73.8		clear	
	(20.58))								
Stabilization Criteria ³		-	± 0.1 units	± 3%	± 0.3 mg/L	- 10	± 10 mV	± 10% ⁴		
¹ Collect field para	meters in consistent ieved after 3 success						xceed 0.33 ft for Low	-Flow method		
⁴ For turbidity read			ourge rate is 0.1 - 0.		3 gal/min)				10:10	
	65082		272		1700)			sample Time:	10:10	
Analysis: [Appendix III	(boron, calcium, (total metals, R			and IDS)					
Ι		у			2					
QC SAMPLE	:: 🗆 Fi	eld Duplicate	MS/N	MSD 🗆	EQ Rinsate B	lank	TOTAL PL	JRGED (ml):		
QC Sample	D:						QC .	Sample Time:		
Comments:			۶							

SITE:	TCM LPL	F	Proje	ect Number:	Ce	R	Well ID: LPLF 2R				
Field Team:		Bill Scheer	BU				Date: 5-8-24				
Weather/Ter	mp: 🧲	Sunnu	1, IN	arm			Arrival T	me to Well:	8:35		
Purge Metho		ler LP	ALC: NO DECISION OF A		Other:		Initial DT	W (ft btc):	(2.96)		
Pump Settin	g 5: 100	mimin	7	Notes:							
					Parameters	5					
Time ¹	DTW ²	Purge Vol. (ml)	pН	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.		
8:42	Begin Pumpin	g									
8:47	(3.18)	640	6.25	3206	6.25	12.3	49.7		clear		
8:52	3.27)	1000		3571					clear clear		
8:57	(3.31)	1400	6.21	3695	3.78	12.5	47.S		clear		
	(3.38)										
			2								
Stabilization Criteria ³			± 0.1 units	± 3%	± 0.3 mg/L		± 10 mV	± 10% ⁴			
¹ Collect field parameters in consistent 3-5 minute intervals for Low-Flow method ³ Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO											
⁴ For turbidity readings > 10 NTUs ⁵ Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min) Sample ID: $650874 - CCR - 1.21572R$ Sample Time: $8:57$											
Analysis:			adium 226, and								
	Other, speci	fy							0		
QC SAMPL			e □ MS/		EQ Rinsate E			JRGED (ml)			
QC Sample	ID : 0 9	5082	4- 000	2 - LPLF	ZRE	-12	QC	Sample Time	8:57		
Comments:			3. ⁹								

SITE:	TCM LPL	.F	Proj€	ect Number:	CC	R	Well ID: LPLF S				
Field Team:		Bill Scheer	Bu,	SC				Date:	5/8/24		
Weather/Ter	np:	ragy 1	cool				_ Arrival Time to Well:				
Purge Metho				🗌 Grab	Other:		Initial DT	N (ft btc)	[12.42]		
Pump Settin	g ⁵ : <u>l0e</u>	m1/m	vin	Notes:							
		Durne Val		Field Sp. Cond.	d Parameters	S Temp	ORP	Turbidity			
Time ¹	DTW ²	Purge Vol. (ml)	рН	(uS/cm)	(mg/L)	(°C)	(mV)	(NTU)	Note color, odor, etc.		
7:53	Begin Pumpin	g									
7:58	(12.71)	500	6.67	1213	8.00	11.0	217. 2		clear clear		
8:03	(12.80)	1040		1266		11.0	216.6	÷	clear		
8:08	(12.82)	(500)	6.69	1293	5.00	11.0	216.9		clear		
	12.80)										
			1	2 2							
Stabilization Criteria ³	-		± 0.1 units	± 3%	± 0.3 mg/L	F . []	± 10 mV	± 10% ⁴			
¹ Collect field par	ameters in consisten nieved after 3 succes	t 3-5 minute interva	Is for Low-Flow met w-Flow method: mi	hod inimum parameter s			xceed 0.33 ft for Lov	-Flow method			
⁴ For turbidity rea	dings > 10 NTUs	⁵ Low-flow target	purge rate is 0.1 - 0).5 L/min (0.03 - 0.1	3 gal/min)				0440		
Sample ID:	05082	$e^{q}-cc$	R-LI	PLFS			_ 5	Sample Time	8:08		
Analysis:	Analysis: Appendix III (boron, calcium, chloride, fluoride, pH, sulfate, and TDS) Appendix IV (total metals, Radium 226, and Radium 228).										
		fy									
QC SAMPLI	E: 🗆 F	ield Duplicate	e □ MS/	MSD 🗆	EQ Rinsate	Blank	TOTAL PL	JRGED (ml)			
QC Sample	ID :						QC	Sample Time	l		
Comments:	\ <u></u>										

SITE: TCM LPLF Project Number:								Well ID: LPLEZ		
Field Team:		Bill Scheer	BM				Date: <u>5 - 8 - 24</u>			
Weather/Ter	np: <	unny,	war	m			Arrival Time to Well: 8:30			
Purge Metho		der 🗆 F	Peristaltic	🗌 Grab	Other:		Initial DT	W (ft btc):	(7.51)	
Pump Settin	g ⁵ :			Notes:	-					
				the start of	d Parameters		000	T 11111		
Time ¹	DTW ²	Purge Vol. (ml)	рН	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.	
	Begin Pumpir	ng								
1										
	/	in	ate	1	lert	2	onl	V		
							/			
									т Т	
-										
									÷	
	-									
Stabilization										
Criteria ³	-	-	± 0.1 units	± 3%	± 0.3 mg/L	-	± 10 mV cceed 0.33 ft for Lov	± 10% ⁴	•	
³ Stabilization ach ⁴ For turbidity read		sive readings for Lo	w-Flow method; mi purge rate is 0.1 - 0	nimum parameter	subset: pH, sp. cond			-i low method	i.	
Sample ID:							5	Sample Time:		
Analysis:	Appendix III									
[(total metals, R								
L		fy				N 53. FS				
QC SAMPLE	D	eld Duplicate		1.3	EQ Rinsate E					
QC Sample I	U:			Ŷ			. QC	Sample Time:		
Comments:					- A.					

SITE:	TCM LPL	.F	Proj	ect Number:	2	Well ID: LPLF 3			
Field Team:		Bill Scheer	Bn					Date:	5/8/23
Weather/Ter		12a	Sunn	1, 000	(Arrival 7	ime to Well:	8:25
Purge Metho	od: 🗌 Blad	der 🗌 P	eristaltic	Grab	Other:		Initial DT	W (ft btc):	(4.70)
Pump Settin	g ⁵ :	\sim	-	Notes:					/
					d Parameters	3			
Time ¹	DTW ²	Purge Vol. (ml)	рН	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.
	Begin Pumpin	g							
					5.				
	/		val	er	leve	21 (Only	1	
							1		
				/					
						in dense fold well, personal def Processor († 1947) 1 1			
Stabilization Criteria ³	-	•	± 0.1 units	± 3%	± 0.3 mg/L		± 10 mV	± 10% ⁴	•
¹ Collect field para	meters in consistent ieved after 3 succes	3-5 minute interval sive readings for Lo	s for Low-Flow met w-Flow method; mi	hod nimum parameter s	² DTW: Total draw subset: pH, sp. cond			v-Flow method	
⁴ For turbidity read		⁵ Low-flow target p							
Sample ID:								Sample Time:	
Analysis:	Appendix III				and TDS)				
[Other, specif								
QC SAMPLE	: 🗆 Fi	eld Duplicate	□ MS/I	MSD 🗆	EQ Rinsate B	lank	TOTAL PL	JRGED (ml):	
QC Sample I	D:						QC	Sample Time:	
Comments:									
									11

SITE:	TCM LPL	.F	Proje	ect Number:	R	Well ID: LPLF 4			
Field Team:		Bill Scheer					Date: 5-8-24		
Weather/Ter	np: SU	nny/c	cool				Arrival T	ime to Well:	8:20
Purge Metho			eristaltic		Other:		Initial DT	W (ft btc):	(2.19)
Pump Settin	g ⁵ :	~	_	Notes:					
					Parameters		000	Truck I differ	
Time ¹	DTW ²	Purge Vol. (ml)	pН	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.
	Begin Pumpir	ng							
					1				
		1100	ter	2e	vel	C	only		
	/	00					1		
	/								
		1							
Stabilization			± 0.1 units	± 3%	± 0.3 mg/L		± 10 mV	± 10% ⁴	
Criteria ³		nt 3-5 minute interva				down should not e	xceed 0.33 ft for Lo	a standard and a	
³ Stabilization act	nieved after 3 succe dings > 10 NTUs	ssive readings for Lo	ow-Flow method; mi purge rate is 0.1 - 0	inimum parameter :	subset: pH, sp. cond				
Sample ID:	176	Lon non talgot					_ ;	Sample Time:	
Analysis:		(boron, calcium							
	Appendix IV	(total metals, R	adium 226, and	Radium 228).					
		ify							
QC SAMPLI		ield Duplicate	e □ MS/	MSD 🗌	EQ Rinsate E	Blank			
QC Sample	ID :						QC	Sample Time	
Comments:									

Groundwater Purging and Sampling Form									
TI SITE:	Well ID:	LPLF2R							
								Date:	6-24-24
Weather/Ter	mp: <u>Su</u>	n/m.	raem				Arrival T	ime to Well:	8:35
	od: 🗌 Blad				Other:		Initial DT	W (ft btc):	(4.04)
Pump Settin	g ⁵ : [8	o mili	min	Notes:					
				and the second se	Parameters		000	Techialta	
Time ¹	DTW ²	Purge Vol. (ml)	рН	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.
8:41	Begin Pumpin	g		1 4 A.					
8:46	(4.23)	620	6.25	3867	6.62	14.0	53,4		clear
8:51	(4.40)	1100	6.25	4027	4.83	\$ 13.8	43.5		clear clear
8:56	(4.41)	1580	6.25	4126	3.89	14.0	41.0		clear
	(4.44)								
	-								
Otobilization							-		
Stabilization Criteria ³	1.		± 0.1 units	± 3%	± 0.3 mg/L		± 10 mV	± 10% ⁴	•
¹ Collect field parameters in consistent 3-5 minute intervals for Low-Flow method ² DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method ³ Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO									
⁴ For turbidity readings > 10 NTUs ⁵ Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min) Sample ID: 062424 - CCR - LPLF 2 R Sample Time: \$:56									
Analysis: Appendix III (boron, calcium, chloride, fluoride, pH, sulfate, and TDS) Appendix IV (total metals, Radium 226, and Radium 228).									
	Other, specify								
QC SAMPL		ield Duplicate					TOTAL P	URGED (ml)	1600
QC Sample	ID :	2424	- CCR	- LPLE	= ZR	FD	QC	Sample Time	8:56
Comments:									

Weather/Temp: Sunny/wam Arrival Time to Well: 9:07 Purge Method: Bladder PxPeristalitic Israb Other: Initial DTW (ft btc): (10.51) Pung Setting ⁵ : 100 ml/mio Notes: Field Parameters Initial DTW (ft btc): (10.51) Time ¹ DTW ¹ Purge Vol. pH Sp. Cond. D0 Temp ORP Turbidity 9:09 Bagin Pumping 9:14 (U.155) SOO S.79 U.321 S.97 IS.O U.2.4 Clear 9:14 (U.6) 11000 S.74 U.2.5 U.2.4 Clear Clear 9:24 (U.8) IS 20 S.73 U.2.55 3.S1 IU.1 U.6.1 Clear (12.60) Is 20 S.73 U.2.55 3.S1 IU.1 U.6.1 Clear (12.60) Is 20 S.73 U.2.55 3.S1 IU.1 U.6.1 Clear Stabilization Is 20 S.73 U.2.55 3.S1 IU.1 U.6.1 Clear Stabilization Is 20 tunits 13% 2.0.												
Field Team: Bm / ML Date: 6 - 24 - 2 Weather/Temp: Sunny / warm Arrival Time to Well: 9:07 Purge Method: Bladder Ø-Peristalitic Dsrab Initial DTW (ft btc): (10.51) Pung Setting ⁵ : 100 ml / mig Notes: Initial DTW (ft btc): (10.51) Time ¹ DTW ² Purge Vol. PH §0.004 D0 Temp ORP Turbidity Note color, odor, etc 9:04 Begin Pumping 91.14 (11.55) SOO S. 7.9 43.21 S. 9.7 I.5.0 42.4 cl. ear 9:14 (11.60) 11.00 S. 7.4 2.5 9.7 I.5.0 42.4 cl. ear 9:14 (11.61) 1.5.0 S. 7.3 42.95 3.5.1 14.1 46.1 cl. ear 9:24 (11.81) 1.5.20 S. 7.3 42.95 3.5.1 14.1 46.1 cl. ear 112.600 1.5.0 1.5.0 1.5.0 1.5.0 1.5.0 1.5.0 1.5.0 1.5.0 1.5.0 1.5.0 1.5.0 1.5.0 1.5.0	TC	im	Grou	undwater	Purging	and Sam	pling For	m				
Field Team: Bm / ML Date: 6 - 24 - 2 Weather/Temp: Sun ax / mam Arrival Time to Well: 9:07 Purge Method: Bladder Perstatilic Grab Other: Initial DTW (ft btc): (10.51) Purge Method: Bladder Perstatilic Grab Other: Initial DTW (ft btc): (10.51) Purge Vol. PH Sp. Cond: DO Temp ORP Turbidity 9:14 (11.55) SOO S.79 43.21 S.97 IS.O 42.4 cl car 9:14 (11.60) I.100 S.74 42.55 41.24 I4.2 45.8 cl car 9:24 (11.61) I.520 S.7.3 42.85 3.51 I4.1 46.1 cl car (12.60) I.100 S.74 42.85 3.51 I4.1 46.1 cl car Selectation I.100 S.74 42.85 3.51 I4.1 46.1 cl car (12.60) I.100 S.74 42.85 3.51 I4.1 46.1 cl car Selectation <td>SITE:</td> <td>LPLF</td> <td>-</td> <td>Pro</td> <td>ject Number:</td> <td>CC</td> <td>R</td> <td></td> <td>Well ID:</td> <td>LPLF 8</td>	SITE:	LPLF	-	Pro	ject Number:	CC	R		Well ID:	LPLF 8		
Weather/Temp:	Field Team:	-	1						Date:	6-24-2		
Purge Method: Bladder P.Peristattic Grab Other: Initial DTW (ft btc): (10.51) Purge Setting ⁵ : 100 m [/min] Notes: Field Parameters Initial DTW (ft btc): (10.51) Time ¹ DTW ¹ (min) pH Sp. Cond. DO Temp ORP Turbidity 9:14 (II-15) SOO S.79 U321 S.97 IS.0 U2.4 cl ear 9:14 (II-6) 100 S.74 U2.5 U.24 U5.8 cl ear 9:24 (II.6) 1100 S.74 U2.55 U2.54 U4.1 U6.1 cl ear 9:24 (II.6) 1520 S.73 U2.55 3.51 U4.1 U6.1 cl ear (12.60) 0 0 0 0 0 0 0 0 Stabilization 1 0 0 0 0 0 0 0 0 0 Stabilization 1 10 10 0 0 0 0 0 0 0 0 <	Weather/Ter											
Pump Setting 5: IOU m 1/min Notes: Field Parameters Time 1 DTW 2 Purge Vol. pH Sp. Cond. DO Temp ORP Turbidity Note color, dor, etc. 9:04 Begin Pumping	Purge Metho											
Time 1 DTW ² Purge Vol. (ml) PH Sp. Cond. (usicm) OD (mgL) Temp (°C) ORP (mV) Turbidity (NTU) Note color, odor, etc (NTU) 9: 1/4 (II.6) SO: 0 S.79 432.1 S.97 I.S.O 42.4 c.I.ear 9: 1/4 (II.6) I.O.0 S.74 42.55 4.24 I4.2 U.S.8 c.I.ear 9: 24 (II.6) I.S.O S.7.3 42.55 3.51 I4.1 U.S.8 c.I.ear (I2.6cg) I.S.O S.7.3 42.55 3.51 I4.1 U.G.1 c.I.ear I.S.O I.S.O S.7.3 42.55 J.S.O J.S.O J.S.O J.S.O J.S.O J.S.O <td>Pump Settin</td> <td>g⁵: 100</td> <td>milmi</td> <td>2</td> <td>Notes:</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Pump Settin	g ⁵ : 100	milmi	2	Notes:							
Time 1 DTW 2 (m1) pH (ustrom) (mgt.) (*C) (mV) (NTU) Note color, odor, etc 9:04 04:04 Begin Pumping	- 24								-			
9:14 (11-15) SOO S.79 4321 S.97 IS.O 42.4 clear 9:19 (11.60) 11.00 S.74 42.5 4.24 14.2 45.8 clear 9:24 (11.81) IS20 S.73 42.85 3.51 14.1 46.1 clear (12.60) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 <t< td=""><td>X 800108-</td><td>DTW²</td><td></td><td>pН</td><td></td><td></td><td></td><td></td><td></td><td>Note color, odor, etc</td></t<>	X 800108-	DTW ²		pН						Note color, odor, etc		
9: [9] (1.6) 1000 S.74 12.65 4.24 14.2 45.8 c (ear 9: 24 (11.81) 15.20 S.73 42.85 3.51 14.1 46.1 c (ear (12.60)	9:09		ng							a long the second		
9:24 (U.81) IS 20 S.73 4285 3.51 14.1 46.1 clear (12:60) 1 1 1 1 1 1 1 1 Image: Stabilization in the interval of the set of the	9:14	(".15)	500	5.79	4321	5.97	15.0	42.4		clear		
(12.60)	9:19	(11.6)	1100	5.74	4265	4.24	14.2	45.8		clear		
(12.60)	9:24	(11.81)	1520	5.73	4255	3.51	14.1	46.1		clear		
Criteria ³ - ± 0.1 units ± 3% ± 0.3 mg/L - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method - - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - - ± 10 mV ± 10% ⁴ - Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - Sample Time: 9: Z 4/ For turbidity readings > 10 NTUs * Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min) Sample Time: 9: Z 4/ Sample ID: OG 24224 - CCR - LPLF 8 Sample Time: 9: Z 4/ Analysis: Appendix IV (total metals, Radium 226, and Radium 228). Sample Time: 9: Z 4/ QC SAMPLE : Field Duplicate MS/MSD EQ Rinsate Blank TOTAL PURGED (ml): QC Sample ID: O6 24 24 - CCR - LPLF 8 MS QC Sample Time: 9: Z 4/		(12.60)						13				
Criteria ³ - ± 0.1 units ± 3% ± 0.3 mg/L - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method - - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - - ± 10 mV ± 10% ⁴ - Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - Sample Time: 9: Z 4/ For turbidity readings > 10 NTUs * Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min) Sample Time: 9: Z 4/ Sample ID: OG 24224 - CCR - LPLF 8 Sample Time: 9: Z 4/ Analysis: Appendix IV (total metals, Radium 226, and Radium 228). Sample Time: 9: Z 4/ QC SAMPLE : Field Duplicate MS/MSD EQ Rinsate Blank TOTAL PURGED (ml): QC Sample ID: O6 24 24 - CCR - LPLF 8 MS QC Sample Time: 9: Z 4/												
Criteria ³ - ± 0.1 units ± 3% ± 0.3 mg/L - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method - - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - - ± 10 mV ± 10% ⁴ - Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - Sample Time: 9: Z 4/ For turbidity readings > 10 NTUs * Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min) Sample Time: 9: Z 4/ Sample ID: OG 24224 - CCR - LPLF 8 Sample Time: 9: Z 4/ Analysis: Appendix IV (total metals, Radium 226, and Radium 228). Sample Time: 9: Z 4/ QC SAMPLE : Field Duplicate MS/MSD EQ Rinsate Blank TOTAL PURGED (ml): QC Sample ID: O6 24 24 - CCR - LPLF 8 MS QC Sample Time: 9: Z 4/												
Criteria ³ - ± 0.1 units ± 3% ± 0.3 mg/L - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method - - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - - ± 10 mV ± 10% ⁴ - Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - Sample Time: 9: Z 4/ For turbidity readings > 10 NTUs * Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min) Sample Time: 9: Z 4/ Sample ID: OG 24224 - CCR - LPLF 8 Sample Time: 9: Z 4/ Analysis: Appendix IV (total metals, Radium 226, and Radium 228). Sample Time: 9: Z 4/ QC SAMPLE : Field Duplicate MS/MSD EQ Rinsate Blank TOTAL PURGED (ml): QC Sample ID: O6 24 24 - CCR - LPLF 8 MS QC Sample Time: 9: Z 4/												
Criteria ³ - ± 0.1 units ± 3% ± 0.3 mg/L - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method - - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - - ± 10 mV ± 10% ⁴ - Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - Sample Time: 9: Z 4/ For turbidity readings > 10 NTUs * Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min) Sample Time: 9: Z 4/ Sample ID: OG 24224 - CCR - LPLF 8 Sample Time: 9: Z 4/ Analysis: Appendix IV (total metals, Radium 226, and Radium 228). Sample Time: 9: Z 4/ QC SAMPLE : Field Duplicate MS/MSD EQ Rinsate Blank TOTAL PURGED (ml): QC Sample ID: O6 24 24 - CCR - LPLF 8 MS QC Sample Time: 9: Z 4/												
Criteria ³ - ± 0.1 units ± 3% ± 0.3 mg/L - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method - - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - - ± 10 mV ± 10% ⁴ - Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - Sample Time: 9: Z 4/ For turbidity readings > 10 NTUs * Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min) Sample Time: 9: Z 4/ Sample ID: OG 24224 - CCR - LPLF 8 Sample Time: 9: Z 4/ Analysis: Appendix IV (total metals, Radium 226, and Radium 228). Sample Time: 9: Z 4/ QC SAMPLE : Field Duplicate MS/MSD EQ Rinsate Blank TOTAL PURGED (ml): QC Sample ID: O6 24 24 - CCR - LPLF 8 MS QC Sample Time: 9: Z 4/												
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Criteria ³ - ± 0.1 units ± 3% ± 0.3 mg/L - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method 2 DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method - - ± 10 mV ± 10% ⁴ - Collect field parameters in consistent 3-5 minute Intervals for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - - ± 10 mV ± 10% ⁴ - Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO - Sample Time: 9: Z 4/ For turbidity readings > 10 NTUs * Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min) Sample Time: 9: Z 4/ Sample ID: OG 24224 - CCR - LPLF 8 Sample Time: 9: Z 4/ Analysis: Appendix IV (total metals, Radium 226, and Radium 228). Sample Time: 9: Z 4/ QC SAMPLE : Field Duplicate MS/MSD EQ Rinsate Blank TOTAL PURGED (ml): QC Sample ID: O6 24 24 - CCR - LPLF 8 MS QC Sample Time: 9: Z 4/												
Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO For turbidity readings > 10 NTUs Sample ID: OG 24224 - CCR - LPLF & Sample ID: Analysis: Appendix III (boron, calcium, chloride, fluoride, pH, sulfate, and TDS) Appendix IV (total metals, Radium 226, and Radium 228). Other, specify QC SAMPLE : Field Duplicate MS/MSD EQ Rinsate Blank COTAL PURGED (ml): QC Sample ID: Of 2424-CCR - LPLF & MS QC Sample ID: Of 2424-CCR - LPLF & MS QC Sample Time: Q: 24				± 0.1 units	± 3%	± 0.3 mg/L		± 10 mV	± 10% ⁴			
For turbidity readings > 10 NTUs * Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min) Sample ID: 062424-600 - 0.000 - 0.10 - 0.5 L/min (0.03 - 0.13 gal/min) Analysis: Appendix III (boron, calcium, chloride, fluoride, pH, sulfate, and TDS) Appendix IV (total metals, Radium 226, and Radium 228). Sample Time: 9:29 QC SAMPLE : Field Duplicate MS/MSD EQ Rinsate Blank TOTAL PURGED (ml): QC Sample ID: QC Sample ID: 0624234-0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.0000 - 0.00000 - 0.0	¹ Collect field paran ³ Stabilization achie	neters in consistent aved after 3 success	3-5 minute intervals f ive readings for Low-	or Low-Flow metho Flow method: mini	od mum parameter su	² DTW: Total drawd	lown should not exc and turbidity or DO	ceed 0.33 ft for Low-	Flow method			
Analysis: Appendix III (boron, calcium, chloride, fluoride, pH, sulfate, and TDS) Appendix IV (total metals, Radium 226, and Radium 228). Other, specify QC SAMPLE : Field Duplicate Image: Sample ID : O6 74 74 - CCR - LPLF 8 MS QC Sample ID : O6 74 74 - CCR - LPLF 8 MS	* For turbidity reading	ngs > 10 NTUs	⁶ Low-flow target pu	rge rate is 0.1 - 0.5	L/min (0.03 - 0.13)	gal/min)						
Appendix IV (total metals, Radium 226, and Radium 228). Other, specify QC SAMPLE : Field Duplicate Image: Complete Complexity Image: Complete Complexity Image: Complexity Image: Complexity								S	ample Time:	9:24		
□ Other, specify												
QC Sample ID: 062424-CCR-LPLF 8 MS QC Sample Time: 9:24												
QC Sample ID: 062424-CCR-LPLF 8 MS QC Sample Time: 9:24	QC SAMPLE :	: 🗌 Fie	ld Duplicate	X MS/N	ISD 🗆	EQ Rinsate Bl	ank	TOTAL PU	RGED (ml):			
	QC Sample ID						989. US		-			
	Comments:						D					

SITE:	TCM		Pro	ject Number:		Well ID: LPLF 1					
Field Team:	F	zn/r sunn	n				Date: 10 - 8 - 24				
Weather/Te	mp:	sunn	1/cool				Arrival 7	Fime to Well:	14:50		
Purge Meth			eristaltic	Grab	Sother: Ba	ailer	Initial DT	W (ft btc):	(S6.5	$\left(\right)$	
Pump Settir	g ⁵ :			Notes:						.)	
					Parameters						
Time ¹	DTW ²	Purge Vol. (ml)	pH	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, o	odor, etc.	
	Begin Pumpir	g									
14:57	(57.25)	1500	6.35	3505	8.53	IS. 7	173.5	180.65	тигку	brown	
Stabilization Criteria ³			± 0.1 units	± 3%	± 0.3 mg/L		± 10 mV	± 10% ⁴			
		ive readings for Low	-Flow method; mini Irge rate is 0.1 - 0.5	mum parameter sub 5 L/min (0.03 - 0.13 ç	gal/min)	lown should not ex and turbidity or DO			111:5:	~	
•						-	5	ample Time:	14:S;	/	
	Appendix III (Appendix IV (Other, specify)	total metals, Ra	dium 226, and F	Radium 228).	nd TDS)						
QC SAMPLE : Field Duplicate MS/MSD EQ Rinsate Blank								JRGED (ml):			
QC Sample ID :								Sample Time:			
Comments:											

SITE: TCM	Project Number: CCR	Well ID: UPUFSR								
Field Team: ML/Br	1	Date: 10/09/24								
Weather/Temp: Overca	st/cool	Arrival Time to Well: 8:50								
Purge Method: 🗌 Bladder 🏾 🕅 Peristal		Initial DTW (ft btc): (2.6)								
Pump Setting 5: 100 mls/min	n Notes:	5.6								
	Field Parameters									
Time ¹ DTW ² Purge Vol.	Sp. Cond. DO Ten pH (uS/cm) (mg/L) (°C									
8:51 Begin Pumping										
5:56 5.8 (2.54) 600 6.	.08 3736 7.87 14	.3 125.0 4.27 clean								
Q:015.81 (2.8) 1050 6.	12 4016 6.85 14									
9:065.81 (2.83) 1520 6.	.12 4127 6.25 14	2 60.4 5.93 J								
9:11 6 (3.0) 2140 6.	13 4228 5,57 (3	.7 52.3 4.60								
S. & (2.97)										
1-										
4										
Stabilization										
Criteria	1 units ± 3% ± 0.3 mg/L -	± 10 mV ± 10% ⁴ -								
¹ Collect field parameters in consistent 3-5 minute intervals for Low-Flow method ² DTW: Total drawdown should not exceed 0.33 ft for Low-Flow method ³ Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO ⁴ For turbidity readings > 10 NTUs ⁵ Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min) ⁵										
Sample ID: $1009749 - CCR - 1PLF 2R$ Sample Time: 9:11										
Analysis: Appendix III (boron, calcium, chloride, pH, sulfate, and TDS)										
Analysis. Appendix III (ooron, calcium, chionde, nuonde, pH, suirate, and TDS)										
Other, specify										
QC SAMPLE : Field Duplicate MS/MSD EQ Rinsate Blank TOTAL PURGED (ml):										
QC Sample ID :	QC Sample Time:									
Comments:										

P

	7 10					10		M. 11 15	1 17
SITE: T				ject Number	C	CK		Well ID:	
Field Team:	N	UL/	sy	/	1		-		10-
Weather/Temp	0	ven	const	1000				Time to Well:	
Purge Method:		🗆 P	eristaltic	Grab	Other:		Initial D	ΓW (ft btc):	(10
Pump Setting ⁵			-	Notes					19
		urge Vol.		Sp. Cond.	d Parameter DO	Temp	ORP	Turbidity	
Time ¹	DTW ² Begin Pumping	(ml)	рН	(uS/cm)	(mg/L)	(°C)	(mV)	(NTU)	Note co
		1at	20	10	Ind	Dul	1		
	-vv	an	9	- Col	rei	Pri	Y	-	1
\vdash						/			
	\rightarrow								
					1				
						-			
							\backslash		
						· · · · ·			
Stabilization Criteria ³	-		± 0.1 units	± 3%	± 0.3 mg/L		± 10 mV	± 10%	
¹ Collect field paramete	rs in consistent 3-5 m	inute intervals	for Low-Flow meth	od	² DTW: Total draw	down should not e	10.000 A Co. 1	a paran la	
³ Stabilization achieved ⁴ For turbidity readings	> 10 NTUs ⁵ Low	/-flow target pu	rge rate is 0.1 - 0.5	imum parameter si 5 L/min (0.03 - 0.13	ibset: pH, sp. cond. gal/min)	, and turbidity or D	0		
Sample ID:							S	Sample Time:	
Analysis:	ppendix III (boror	n, calcium, c	hloride, fluoride	a, pH, sulfate, a	nd TDS)				
	ppendix IV (total ther, specify	metals, Rad	lium 226, and R	adium 228).					
QC SAMPLE :	□ Field D				EQ Rinsate B	lank	TOTAL	DOCD	
QC Sample ID :								IRGED (ml): Sample Time:	

TransAlta Centralia Mining LLC Groundwater Purging and Sampling Form

SITE:	TransAlta Ce		-		CC	R		Well ID:	LPLF 3
Field Team:		Bul	Me						
Weather/Te	mp:	ove	ne	+/c	od		Arrival	Time to Well:	10-09-24 8:35
Purge Metho			Peristaltic	Grab	Other:			W (ft bgl):	/- \
Pump Settin								(ais
Fump Settin	ig .			Notes:	d Parameters				7.15
Time ¹	DTW ²	Purge Vol.	рН	Sp. Cond.	DO	Temp	ORP	Turbidity	Note color, odor, etc.
	Begin Pumpin	(ml)		(uS/cm)	(mg/L)	(°C)	(mV)	(NTU)	
	begin Pumpin	9							
			1	_	2	1		1	1
	M	Ja	rer		La	rel		On	(Y
									/
								×	
Stabilization Criteria ³	0.0.0		± 0.1 units	± 3%	± 0.3 mg/L	P	± 10 mV	± 10%	
¹ Collect field para	meters in consistent ieved after 3 success				² DTW: Total drawd			w-Flow method	/
⁴ For turbidity read	fings > 10 NTUs	⁵ Low-flow target (purge rate is 0.1 - 0	5 L/min (0.03 - 0.1	3 gal/min)	, and turbidity of DA	, 		
							Sampl	le Time	
Туре	Treatment		Quantity	Container Ty	pe				
250	None		2		astic		Confi	dence	
	Unfiltered, HNO	3		Pla	astic		Sample	Treatment	
120	Filter, HNO3		1	Pla	astic		Sample	Treatment	
	Unfiltered, H2SC	04		Pla	astic		Field In	strument	
	Filter, HCL			G	ass		rielu III	suument	
	H2SO4			G	ass		Total Pu	irged (ml)	

Comments:

SITE:	TCI	~	Pro	ject Number:	CL	R		Well ID:	LPLF4
Field Team:		MU	BU		C			Date:	10-9
Weather/Te	emp:	over	cast	-100			Arrival		8:34
Purge Meth	od: 🗌 Blad	der 🗌	Peristaltic	Grab	Other:		Initial DT	W (ft btc):	(S.00)
Pump Settir	ng ⁵ :	-		Notes:					8.205
		1.5	1000	Fiel	d Parameter	s			
Time ¹	DTW ²	Purge Vol. (ml)	рН	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.
	Begin Pumpir	ng			The second		Berta	11-39.2	
	- 1 -	11	20)	eve		()	11/	
	ΗA	Var	9	6	FEV E	7		ny	
								/	
_									
	·								
Otabilization									
Stabilization Criteria ³	-		± 0.1 units	± 3%	± 0.3 mg/L		± 10 mV	± 10%	
¹ Collect field para	meters in consistent ieved after 3 success	3-5 minute interval	s for Low-Flow meth	od	² DTW: Total drawo	lown should not ex	ceed 0.33 ft for Low	-Flow method	
⁴ For turbidity read	lings > 10 NTUs	⁵ Low-flow target p	w-riow method; min ourge rate is 0.1 - 0.1	5 L/min (0.03 - 0.13	ubset: pH, sp. cond., } gal/min)	, and turbidity or DO)		
Sample ID:							S	ample Time:	
Analysis:	Appendix III (boron, calcium,	chloride, fluorid	e, pH, sulfate, a	and TDS)				
	Appendix IV (.,				
1	Other, specify	/							
QC SAMPLE	: 🗌 Fie	eld Duplicate	MS/N	ISD 🗆	EQ Rinsate Bl	lank	TOTAL PU	JRGED (ml):	
QC Sample II	D :							Sample Time:	
Comments:									

SITE: eld Team: /eather/Ten urge Metho		nm	/				-		LPLFS
urge Metho								Dater	10-9-
urge Metho		verca	s7/c	Oril			- Arrival 1	ime to Well:	8:3/
	d: 🗆 Blade			Grab	Other:		Initial DT		8-31D
ump Setting				Notes					
amp coung					d Parameters			1	
Time ¹	DTW ²	Purge Vol. (ml)	pH	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.
TIME	Begin Pumpin		рп	(us/ciii)	(ing/c)	(0)	(inv)	(110)	Note color, odor, etc.
				$\overline{}$					
									<u> </u>
				_					
Stabilization			± 0.1 units	± 3%	± 0.3 mg/L		± 10 mV	± 10% ⁴	. \
	neters in consistent		for Low-Flow metho	od	² DTW: Total drawd		xceed 0.33 ft for Low)
stabilization achie for turbidity readir			v-Flow method; mini urge rate is 0.1 - 0.5		ubset: pH, sp. cond., a 3 gal/min)	and turbidity or D	0		
ample ID:							s	ample Time:	
Ľ	Appendix III (I Appendix IV (boron, calcium, total metals, Ra	chloride, fluoride dium 226, and F	e, pH, sulfate, a Radium 228).	and TDS)		_		
	Other, specify					ante	TOTAL		
C SAMPLE		eld Duplicate	MS/N	NSD []	EQ Rinsate Bl	ank		JRGED (ml):	
C Sample ID	D :						QC :	Sample Time:	

SITE: 7	TCA	Λ	Proj	ect Number:	C	-R		Well ID:	LPLF 78
Field Team:		BM,	IMC	_		``		Date:	10-8-24
Weather/Temp):	overc	ast/	cool			Arrival ⁻	Time to Well:	S:08
Purge Method:	Blade		1	Grab	Other:				18.56)
Pump Setting ⁶	·: 10	o mis	/min	Notes:				,	
			1	Field	Parameters				
Time ¹	DTW ²	Purge Vol. (ml)	pH	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.
15:10	Begin Pumpin	g							
15:15(18.83)	550	6.13	3837	7.52	17.9	86.0	9.74	clear
15:20	18.98)	900	6.09	3818	6.43	17.3	93.7	3.74	
15:25/	19.13)	1400	6.08	3828	S. 62	16.5	98.8	2.21	
7	19.52)								
· · · · · · · · · · · · · · · · · · ·		(
			<i></i>						
Stabilization Criteria ³	3.		± 0.1 units	± 3%	± 0.3 mg/L		± 10 mV	± 10% ⁴	
¹ Collect field parameter ³ Stabilization achiever	id after 3 successi	ive readings for Low	Flow method; minin	num parameter sub	² DTW: Total drawd set: pH, sp. cond., a	own should not exc and turbidity or DO	eed 0.33 ft for Low	-Flow method	
⁴ For turbidity readings	s > 10 NTUs	⁵ Low-flow target pu	urge rate is 0.1 - 0.5	L/min (0.03 - 0.13 g	gal/min)				15122
Sample ID:						<u> </u>	5	Sample Time:	5:25
		boron, calcium, o			nd TDS)				
	Other, specify	total metals, Ra	Julii 220, and R	adium 228).					
QC SAMPLE :	🗌 Fie	ld Duplicate	X MS/N	ISD 🗌	EQ Rinsate Bl	ank	TOTAL PL	JRGED (ml):	15:25
QC Sample ID :		0824-				MS			15:25
Comments:	100	824-	- CCR-	- LPL	F7R	MSD	•		
	-								

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SITE: TCM LPLF Project Number: CCR Well ID:	LPLF8
Field Team: Bill Schoor BM/MC Date:	10-8-24
Weather/Temp: Overcast/cool Arrival Time to Well:	15:36
Purge Method: Bladder Purge Method: Bladder Purge Method: Differistaltic Grab Other: Initial DTW (ft btc):	(10.83)
Pump Setting 5: 100 mis/min Notes:	
Field Parameters	
Time 1 DTW 2 Purge Vol. (ml) pH Sp. Cond. (uS/cm) DO Temp ORP Turbidity (mV) (ml) pH Sp. Cond. (uS/cm) DO Temp ORP Turbidity	Note color, odor, etc.
15:38 Begin Pumping	L'Simil
15:43 (11.5 Z) 600 5.66 4490 5.55 15.9 51.9 4.45	clear
15:48 (11.71) 100 5.66 4473 4.96 16.1 46.1 2.00	
15:53 (12.11) 1540 5.66 4446 4.51 16.0 43.5 -0.18	
(12.33)	
Stabilization	
Criteria ³ - ± 0.1 units ± 3% ± 0.3 mg/L - ± 10 mV ± 10% ⁴	
¹ Collect field parameters in consistent 3-5 minute intervals for Low-Flow method ³ Stabilization achieved after 3 successive readings for Low-Flow method; minimum parameter subset: pH, sp. cond., and turbidity or DO	
⁴ For turbidity readings > 10 NTUs ⁵ Low-flow target purge rate is 0.1 - 0.5 L/min (0.03 - 0.13 gal/min)	15:53
	10.03
Analysis: Appendix III (boron, calcium, chloride, fluoride, pH, sulfate, and TDS) Appendix IV (total metals, Radium 226, and Radium 228).	
Other, specify	
QC SAMPLE : Field Duplicate SMS/MSD EQ Rinsate Blank TOTAL PURGED (ml):	
QC SAMPLE : X Field Duplicate MS/MSD EQ Rinsate Blank TOTAL PURGED (ml): _ QC Sample ID :	15:53
Comments:	

SITE:			Pro	ject Number:	Ce	R		Well ID:	LPLE 2R
Field Team:		Bu						Date:	11.26.24
Weather/Te	imp:	Ber doudy	lead				Arrival	Time to Well:	11:44
Purge Meth		adder 📈		Grab	Other:		Initial DT	W (ft btc):	5.34 (Z.41)
Pump Settir	ng ⁵ : 4	90 mis/1	min	Notes:					
					Parameters	;			
Time ¹	DTW ²	Purge Vol. (ml)	pH	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.
11:16	Begin Pum	ping							Start Science
11:21	5.53(2.	s) 600	6.25	4135	7.07	11.8	22.7	24.18	clean
11:26	5,7 (2	64) 1100	6-19	4187	6.04	11.8	30.5	23.81	
11:31	5.7 2.4	2)1560	6.18	4206	5.33	11.8	32.0	9.08	
-	5.6 (2.	54)							1 ²
Stabilization Criteria ³			± 0.1 units	± 3%	± 0.3 mg/L	•	± 10 mV	± 10% ⁴	
		tent 3-5 minute interva cessive readings for Lo					ceed 0.33 ft for Lov	v-Flow method	
······································	dings > 10 NTUs		purge rate is 0.1 - 0.						1
Sample ID:	11262	u-ccr	- LILI	PAR			-	Sample Time:	11:3/
Analysis:		III (boron, calcium IV (total metals, R			nd TDS)				
		ecify		Radium 220).					
QC SAMPLE	E: 🗆	Field Duplicate	e 🗌 MS/	MSD 🗌	EQ Rinsate E	llank	TOTAL PI	JRGED (ml):	
QC Sample	ID :						QC	Sample Time:	
Comments:									

ř

SITE:		*	Pro	ject Number:	CC	R		Well ID:	LPLFS
Field Team:		sn							11-26-24
Weather/Te	mp:	londy/	cool				Arrival		10:35
Purge Metho	od: 🗌 Blad	der AP	eristaltic	Grab	Other:		* ·		12.93(10.8)
Pump Settin	ng ⁵ : 160	misim	in	Notes:					10000
				Field	Parameters	5			
Time ¹	DTW ²	Purge Vol. (ml)	pH	Sp. Cond. (uS/cm)	DO (mg/L)	Temp (°C)	ORP (mV)	Turbidity (NTU)	Note color, odor, etc.
10:48	Begin Pumpin		- PO	(uo/oni)	(ingre)	()	1 ()	((()))	1010 00101, 0001, 010.
	13.62	600	S.74	425 Z	8.69	13.3	42.6	0.26	clear
10:58	13 99(11.7	1080	S. 73	4230	7.05	13.0	33.8	0.71	claur
11:03	14.59 (12.	2) 1500	5.72	4205	6.25	13.0	31.7	1.09	clear clear
	9 (12.7)	5							Citri
						1			
Stabilization Criteria ³	-		± 0.1 units	± 3%	± 0.3 mg/L	•	± 10 mV	± 10% ⁴	
¹ Collect field para ³ Stabilization achi ⁴ For turbidity read	meters in consistent leved after 3 success	3-5 minute intervals live readings for Low ⁵ Low-flow target p	-Flow method; mini	imum parameter sub	oset: pH, sp. cond.,	down should not ex and turbidity or DO	ceed 0.33 ft for Low	-Flow method	
	11262			-	Janum ()		S	Sample Time:	11:03
	Appendix III (nd TDS)				
	Appendix IV (total metals, Ra	dium 226, and F	Radium 228).					
	Other, specify								
QC SAMPLE		eld Duplicate					TOTAL PL	JRGED (ml):	
QC Sample I	D: [[2624.	- CCR.	- LPLF	8FD	>	QC	Sample Time:	
Comments:									

2

Appendix B Laboratory Reports



Dennis Morr Transalta Centralia Mining, LLC 913 Big Hanaford Rd Centralia, WA 98531

Laboratory Results for: LPLF CCR

Dear Dennis,

Enclosed are the results of the sample(s) submitted to our laboratory May 08, 2024 For your reference, these analyses have been assigned our service request number **K2404754**.

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 3350. You may also contact me via email at shari.endy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Hala Smith

for Shari Endy 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: Transalta Centralia Mining, LLC

Project: LPLF CCR

Service Request: K2404754 Date Received: 05/08/2024

Sample Matrix: Water

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Six water samples were received for analysis at ALS Environmental on 05/08/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Shari Cula

Approved by

Date 05/24/2024

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SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

LIENT ID: 050824-CCR-LPLF1	Lab ID: K2404754-001						
Analyte	Results	Flag	MDL	MRL	Units	Method	
Boron	662		3	10	ug/L	6020B	
Calcium	206000		6	20	ug/L	6020B	
Chloride	3.0		0.10	2.0	mg/L	300.0	
Solids, Total Dissolved	2570			40	mg/L	SM 2540 C	
Sulfate	1250		5	50	mg/L	300.0	

CLIENT ID: 050824-CCR-LPLF8	Lab ID: K2404754-002							
Analyte	Results	Flag	MDL	MRL	Units	Method		
Boron	1170		10	40	ug/L	6020B		
Calcium	404000		120	400	ug/L	6020B		
Chloride	6.5		0.10	2.0	mg/L	300.0		
Solids, Total Dissolved	3820			40	mg/L	SM 2540 C		
Sulfate	2230		5	50	mg/L	300.0		

CLIENT ID: 050824-CCR-LPLF7R	Lab ID: K2404754-003							
Analyte	Results	Flag	MDL	MRL	Units	Method		
Boron	382		3	10	ug/L	6020B		
Calcium	250000		6	20	ug/L	6020B		
Chloride	9.4		0.10	2.0	mg/L	300.0		
Solids, Total Dissolved	2750			40	mg/L	SM 2540 C		
Sulfate	1340		5	50	mg/L	300.0		

CLIENT ID: 050824-CCR-LPLF2R	Lab ID: K2404754-004						
Analyte	Results	Flag	MDL	MRL	Units	Method	
Boron	416		3	10	ug/L	6020B	
Calcium	435000		6	20	ug/L	6020B	
Chloride	7.2		0.10	2.0	mg/L	300.0	
Solids, Total Dissolved	3360			40	mg/L	SM 2540 C	
Sulfate	1480		5	50	mg/L	300.0	

CLIENT ID: 050824-CCR-LPLF2R FD						
Analyte	Results	Flag	MDL	MRL	Units	Method
Boron	428		3	10	ug/L	6020B
Calcium	432000		6	20	ug/L	6020B
Chloride	7.2		0.10	2.0	mg/L	300.0
Solids, Total Dissolved	3360			40	mg/L	SM 2540 C
Sulfate	1470		5	50	mg/L	300.0

CLIENT ID: 050824-CCR-LPLF5		Lab ID: K240	4754-006		
Analyte	Results Fla	g MDL	MRL	Units	Method
Boron	110	3	10	ug/L	6020B
Calcium	314000	30	100	ug/L	6020B
Chloride	3.0 Page 4 of 59	0.10	2.0	mg/L	300.0



SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: 050824-CCR-LPLF5		Lab	ID: K2404	754-006		
Analyte	Results	Flag	MDL	MRL	Units	Method
Fluoride	0.3	J	0.2	2.0	mg/L	300.0
Solids, Total Dissolved	1470			20	mg/L	SM 2540 C
Sulfate	682		5	50	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

> RIGHT SOLUTIONS | RIGHT PARTNER Page 6 of 59

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	TIME
K2404754-001	050824-CCR-LPLF1	5/8/2024	1030
K2404754-002	050824-CCR-LPLF8	5/8/2024	0931
K2404754-003	050824-CCR-LPLF7R	5/8/2024	1010
K2404754-004	050824-CCR-LPLF2R	5/8/2024	0857
K2404754-005	050824-CCR-LPLF2R FD	5/8/2024	0857
K2404754-006	050824-CCR-LPLF5	5/8/2024	0808

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(ALS)

ADDRESS 1317 South 13th Ave., Kelso, WA 98626 PHONE 1 360 577 7222 FAX 1 360 636 1068

Wor	k O	rder	No.:

Chain of Custody

ALS	Part of the	ALS Grou	p A Campbell	Brothers Limi	ited Com	bany										K	24	-10	4	154	-\					
Project Manager:	Steve Lea	ia. Briani	na McCloskey									Bill to:			Ste	Steve Legg										
Client Name:			a Mining Comp	any								Cor	npany:		Tra	TransAlta Centralia Mining										
Address:	913 Big H	anaford	Road							Ado	lress:		91:	3 Big	Hana	ford	Road	ł								
City, State ZIP:	Centralia,	WA 985	31									City, State ZIP:			Ce	ntralia	a, W/	4 985	31							
Email:	brianna_n	nccloske	y@transalta.cc	<u>m</u>	Phone:	360-	807-80	73				Ema	-			<u>ve_le</u>		trans	alta.c	<u>:om</u>	po#					
Project Name:	LPLF CCF	२										·	REQL	JESTE	D AI	VALY	SIS	*******							TAT	
Project Number:																										e 21day
P.O. Number:	47001032	34 Line	30																					11 1		ıy 100%
Sampler's Name:	Steve Leg	<u>j</u> g																							Next Da	Υ ***
	SA	MPLE R	ECEIPT																						3 Day	
Temperature (°C):			Temp Blar	nk Present																					5 Day	50%
Received Intact:		Yes	No N/A	Wet Ice / E	lue Ice																			5	Surchar	aes.
Cooler Custody Sea	als: Yes No N/A Total Containers:			ainers:																				ease ca		
Sample Custody Sea	als:	Yes	No N/A			lers	S		e			<u>-</u>												1	availab	ility
Sample Identific	ation	Matrix	Date Sampled	Time Sampled	Lab ID	of Containers	2540 C / TDS	C PI	~ 1	~ 1	A / 504	C / Metals													Due Da	ate:
						N0. 0	SM 2	QUEGA		9056A	9056A	6010C													Comme	ents
050824-CCR-LI	PLF1	GW	05/08/2024	10:30		2	x	; ,	x	x	х	X				-								-		
050824-CCR-LI	PLF8	GW	05/08/2024	9:31		2	X	:)	X []	X	Х	X												1		
050824-CCR-LPL	.F8 MS	GW	05/08/2024	9:31		2	X	:)	X I	X	X	X														
050824-CCR-LPLI	F8 MSD	GW	05/08/2024	9:31		2	X	:)	X I	x	Х	X														
050824-CCR-LP	LF7R	GW	05/08/2024	10:10		2	X	;)	X	X	Х	Х				Τ										
050824-CCR-LP	LF2R	GW	05/08/2024	8:57		2	X	;)	X	X	Х	X				1										
050824-CCR-LPL	F2R FD	GW	05/08/2024	8:57		2	X		X	x	Х	Х														
050824-CCR-LI	PLF5	GW	05/08/2024	8:08		2	X		X	x	X	X														
Dissolved			Ag, Al, As, B, Bi	a, Be, Ca, Cd	, Co, Cr,	Cu, Fe	e, K, Li,	Mg,	Mn,	 Mo,	, Na	, Ni,	P, Pb, S	ib, Se,	Si, Si	1, Sr,	 TI, V,	Zn, 2	2r			Addit	ional	Meth	ods Av	ailable
Total	real and the second		Ag, Al, As, B, Ba		, Co, Cr,	Cu, Fe	e, K, Li,	Mg,	Mn,	Mo,	, Na	, Ni,	P, Pb, S	b, Se,	Si, Si	n, Sr,						<u></u>	Upo	on Re	equest	
	ne coloration	R	ELINQUISH	ED BY					1940 B		· · · · ·	·. ·. ·		a <mark>da antar</mark>			1	REC	EIVE	ED B	<u>Y</u>		1. N.:			
Print N	lame			gnature			Date/	Tim	e			Print Name					Signature			Date/T	ime					
Brianna McCloskey Pun 200 05/08/2023 1:05 Wortelyn Mitcle Uniter M		Mile	nfe_	517	8124	1304																				

	•						PM	1
-60	Alle		Cooler Receipt	•		a.17511	1 50	
Client _/(0			<u>(710-12)</u>	Sen	vice Request K24	04154	· / · /	
Received:	518/24	Opened:	518124	_ By: _ K1M	_Unloaded: <u>5</u> /	<u>8124</u> By:	MM	
. Samples w	ere received via?	USPS	Fed Ex U	PS DHL	PDX	Courier Hand D	elivered	
. Samples w	ere received in: (ci	rcle) (Ca	poler Box	Envelope	Other		NA	
Were custo	dy seals on coolers	?	NA Y (N) II	fyes, how many and v	vhere?			
If present, v	vere custody seals	intact?	Y N If	present, were they sig	gned and dated?	Y	N	
Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp indicate with "X	PM Notified If out of tem	p Tracking Num	iber NA	Filed
	6.0^{-1}	F202						
				· ·				1

	······································			· · · · · · · · · · · · · · · · · · ·				
Was a Temp	erature Blank prese	nt in cooler?		f yes, notate the tempe	rature in the appro-	priste column shove:		
^	-					-		
			sample bottle containe	· · · · · · · · · · · · · · · · · · ·	state in the column	Sample Temp :),	
-		-	cified temperature range		1 (10 (1 10)		N	
			as collected? If not, not		e and notify the PN	1. <u>NA</u> Y	N	
i applicable, ti	ssue samples were	received: F	Trozen Partially Tha	wed Thawed				
. Packing m	aterial: Inserts	Raggies) Bul	bble Wrap Gel Packs	Wet Ice Dry Ice	Sleeves			
. Were custo	dy papers properly	filled out (ink,	signed, etc.)?	- Andrew Control		NA (Y	N C	
. Were sampl	es received in goo	d condition (un	broken)			NA 🖉	N X	
		-	, preservation, etc.)?			NA VE	> N	
0. Did all sam	ple labels and tags	agree with cus	tody papers?			NA (Y	>y n	
1. Were appro	priate bottles/conta	uners and volu	mes received for the tes	ts indicated?		NA 😽	N	
2. Were the pl	I-preserved bottles	s (see SMO GE	N SOP) received at the	appropriate pH? India	cate in the table be	low NA (Y	N	
3. Were VOA	vials received with	nout headspace	? Indicate in the table l	below.		(NA) Y	N	
4. Was C12/R	es negative?					NA Y	N	
5. Were sampl	les received within	the method sp	ecified time limit? If no	t, notate the error belo	w and notify the P	M NA Y	Ν	
16. Were 100m	l sterile microbiolo	ogy bottles fille	d exactly to the 100ml r	mark? (NA)	Y N	Underfilled	Overfilled	
		······						
58	mple ID on Bott		Sample I	D on COC		identified by:		
			· · · · · · · · · · · · · · · · · · ·	······				
						·····		
			-1			·····		
	Sample ID			Head- space Broke pH		ume Reagent Lot ded Number	Initials	Time
						1		

	Sample ID on Bottle	Sample ID on COC	identified by:
	••••••		
		· · · · · · · · · · · · · · · · · · ·	

Sample ID	Bottle Count Bottle Type	Head- space	Broke	рH	Reagent	Volume added	Reagent Lot Number	Initials	Time
					#RUMIT 1. 1 00 10				

Notes, Discrepancies, Resolutions: ____

G:\SMO\2024 Forms



Miscellaneous Forms

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Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable.
- 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.
- 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 over the calibration range.
- J The result is an estimated value between the MDL and the MRL.
- 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

- ${f F}$ 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/EnvironmentalLaborator yAccreditation/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 to our laboratory's NFLAP-approved quality assurance program A complete	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M MCL	Modified 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.

Analyst Summary report

Client:	Transalta Centralia Mining, LLC
Project:	LPLF CCR/

050824-CCR-LPLF1

K2404754-001

Water

Service Request: K2404754

Date Collected: 05/8/24 **Date Received:** 05/8/24

Analysis Method 300.0 6020B SM 2540 C		Extracted/Digested By ABOYER	Analyzed By NFOTH EMCALLISTER AWILSON
Sample Name: Lab Code: Sample Matrix:	050824-CCR-LPLF1 K2404754-001.R01 Water		Date Collected: 05/8/24 Date Received: 05/8/24
Analysis Method 6020B		Extracted/Digested By ABOYER	Analyzed By EMCALLISTER

Sample Name:	050824-CCR-LPLF8
Lab Code:	K2404754-002
Sample Matrix:	Water

Analysis N	Aethod
300.0	
6020B	
SM 2540 G	2

Sample Name:

Sample Matrix:

Analysis Method

Lab Code:

6020B

Sample Name:

Sample Matrix:

Lab Code:

Water		

050824-CCR-LPLF8

K2404754-002.R01

Water

Extracted/Digested By

ABOYER

Analyzed By NFOTH EMCALLISTER AWILSON

Date Collected: 05/8/24 **Date Received:** 05/8/24

Date Collected: 05/8/24

Date Received: 05/8/24

Extracted/Digested By ABOYER **Analyzed By** EMCALLISTER

Analyst Summary report

Client:	Transalta Centralia Mining, LLC
Project:	LPLF CCR/

050824-CCR-LPLF7R

050824-CCR-LPLF2R

K2404754-004.R01

Water

K2404754-003

Water

Sample Name:

Sample Matrix:

Lab Code:

Service Request: K2404754

Date Collected: 05/8/24 Date Received: 05/8/24

Analysis Method		Extracted/Digested By	Analyzed By
300.0			NFOTH
6020B		ABOYER	EMCALLISTER
SM 2540 C			AWILSON
Sample Name:	050824-CCR-LPLF7R	Da	te Collected: 05/8/24
Lab Code:	K2404754-003.R01	Da	te Received: 05/8/24
Sample Matrix:	Water		
Analysis Method		Extracted/Digested By	Analyzed By
300.0			NFOTH
6020B		ABOYER	EMCALLISTER
Sample Name:	050824-CCR-LPLF2R	Da	te Collected: 05/8/24
Lab Code:	K2404754-004	Da	te Received: 05/8/24
Sample Matrix:	Water		
Analysis Method		Extracted/Digested By	Analyzed By
300.0			NFOTH
6020B		ABOYER	EMCALLISTER
SM 2540 C			AWILSON

Date Collected: 05/8/24 Date Received: 05/8/24

Analysis Method	Extracted/Digested By
6020B	ABOYER

Sample Name:

Sample Matrix:

Lab Code:

Analyzed By

EMCALLISTER

Analyst Summary report

Client:	Transalta Centralia Mining, LLC
Project:	LPLF CCR/

K2404754-005

Water

050824-CCR-LPLF2R FD

Service Request: K2404754

Date Collected: 05/8/24 Date Received: 05/8/24

Analysis Method 300.0 6020B SM 2540 C		Extracted/Digested By ABOYER	Analyzed By NFOTH EMCALLISTER AWILSON
Sample Name: Lab Code: Sample Matrix:	050824-CCR-LPLF2R FD K2404754-005.R01 Water		Date Collected: 05/8/24 Date Received: 05/8/24
Analysis Method 6020B		Extracted/Digested By ABOYER	Analyzed By EMCALLISTER
Sample Name: Lab Code: Sample Matrix:	050824-CCR-LPLF5 K2404754-006 Water		Date Collected: 05/8/24 Date Received: 05/8/24
Analysis Method		Extracted/Digested By	Analyzed By

•	
300.0	
6020B	
SM 2540 C	

6020B

Analysis Method

Sample Name:

Sample Matrix:

Lab Code:

Sample Name:	050824-CCR-LPLF5
Lab Code:	K2404754-006.R01
Sample Matrix:	Water

MCHATTICK

NFOTH ABOYER AWILSON

Date Collected: 05/8/24 Date Received: 05/8/24

Extracted/Digested By
MCHATTICK

Analyzed By ABOYER



Sample Results

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Metals

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 10:30
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF1 K2404754-001	Basis: NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	662	ug/L	10	3	5	05/23/24 14:45	05/16/24	
Calcium	6020B	206000	ug/L	20	6	1	05/22/24 14:48	05/16/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 09:31
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF8 K2404754-002	Basis: NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	1170	ug/L	40	10	20	05/23/24 14:24	05/16/24	
Calcium	6020B	404000	ug/L	400	120	20	05/22/24 13:57	05/16/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 10:10
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF7R K2404754-003	Basis: NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	382	ug/L	10	3	5	05/23/24 14:47	05/16/24	
Calcium	6020B	250000	ug/L	20	6	1	05/22/24 14:51	05/16/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 08:57
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF2R K2404754-004	Basis: NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	416	ug/L	10	3	5	05/23/24 14:48	05/16/24	
Calcium	6020B	435000	ug/L	20	6	1	05/22/24 14:53	05/16/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 08:57
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF2R FD K2404754-005	Basis: NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	428	ug/L	10	3	5	05/23/24 14:50	05/16/24	
Calcium	6020B	432000	ug/L	20	6	1	05/22/24 14:56	05/16/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 08:08
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF5 K2404754-006	Basis: NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	110	ug/L	10	3	5	05/23/24 19:14	05/20/24	
Calcium	6020B	314000	ug/L	100	30	5	05/24/24 11:31	05/20/24	



General Chemistry

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 10:30
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF1 K2404754-001	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	3.0	mg/L	2.0	0.10	20	05/15/24 02:47	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	05/15/24 02:47	
Sulfate	300.0	1250	mg/L	50	5	500	05/14/24 23:45	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 10:30
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF1 K2404754-001	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	2570	mg/L	40	-	1	05/14/24 14:49	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 09:31
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF8 K2404754-002	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	6.5	mg/L	2.0	0.10	20	05/15/24 02:13	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	05/15/24 02:13	
Sulfate	300.0	2230	mg/L	50	5	500	05/14/24 22:53	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 09:31
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF8 K2404754-002	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	3820	mg/L	40	-	1	05/14/24 14:49	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 10:10
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF7R K2404754-003	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	9.4	mg/L	2.0	0.10	20	05/15/24 23:50	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	05/15/24 23:50	
Sulfate	300.0	1340	mg/L	50	5	500	05/14/24 23:54	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 10:10
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF7R K2404754-003	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	2750	mg/L	40	-	1	05/14/24 14:49	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 08:57
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF2R K2404754-004	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	7.2	mg/L	2.0	0.10	20	05/15/24 03:05	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	05/15/24 03:05	
Sulfate	300.0	1480	mg/L	50	5	500	05/15/24 00:02	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 08:57
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF2R K2404754-004	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	3360	mg/L	40	-	1	05/14/24 14:49	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 08:57
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF2R FD K2404754-005	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	7.2	mg/L	2.0	0.10	20	05/15/24 03:13	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	05/15/24 03:13	
Sulfate	300.0	1470	mg/L	50	5	500	05/15/24 00:11	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 08:57
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF2R FD K2404754-005	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	3360	mg/L	40	-	1	05/14/24 14:49	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 08:08
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF5 K2404754-006	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	3.0	mg/L	2.0	0.10	20	05/15/24 03:22	
Fluoride	300.0	0.3 J	mg/L	2.0	0.2	20	05/15/24 03:22	
Sulfate	300.0	682	mg/L	50	5	500	05/15/24 00:20	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: 05/08/24 08:08
Sample Matrix:	Water	Date Received: 05/08/24 13:05
Sample Name: Lab Code:	050824-CCR-LPLF5 K2404754-006	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	1470	mg/L	20	-	1	05/15/24 13:49	



QC Summary Forms

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Metals

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2404754
Project:	LPLF CCR	Date Collected:	NA
Sample Matrix:	Water	Date Received:	NA
Sample Name: Lab Code:	Method Blank KQ2407300-01	Basis:	NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	ND U	ug/L	2.0	0.5	1	05/23/24 14:15	05/16/24	
Calcium	6020B	ND U	ug/L	20	6	1	05/22/24 13:26	05/16/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2404754
Project:	LPLF CCR	Date Collected:	NA
Sample Matrix:	Water	Date Received:	NA
Sample Name: Lab Code:	Method Blank KQ2407657-01	Basis:	NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	ND U	ug/L	2.0	0.5	1	05/23/24 18:12	05/20/24	
Calcium	6020B	ND U	ug/L	20	6	1	05/23/24 18:12	05/20/24	

QA/QC Report

Client: Project: Sample Matrix:	Transalta Centralia Mining, Ll LPLF CCR Water	LC	Date (Date I	e Request: Collected: Received: Analyzed:	K2404754 05/08/24 05/08/24 05/22/24 - 05/23/24
			Date I	Extracted:	05/16/24
		Matrix Spike Sum	nary		
		Total Metals			
Sample Name:	050824-CCR-LPLF8			Units:	ug/L
Lab Code:	K2404754-002			Basis:	NA
Analysis Method:	6020B				
Prep Method:	EPA CLP ILM04.0				
		Matrix Spike KQ2407300-05			
Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Boron	1170	1190	25	96 #	75-125

418000

10300

141 #

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.

404000

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

Calcium

QA/QC Report

Client: Project Sample Matrix:	Transalta Centrali LPLF CCR Water	ia Mining, I	LLC			Service Request: Date Collected: Date Received: Date Analyzed:	05/08/2 05/08/2	24 24
			-	Sample Sum otal Metals	nmary	2 a.c. 1		
Sample Name: Lab Code:	050824-CCR-LP K2404754-002	PLF8			Duplicate	Units Basis	ug/L NA	
Analyte Name Boron	Analysis Method 6020B	MRL 40	MDL 10	Sample Result 1170	Sample KQ2407300-04 <u>Result</u> 1180	Average 1180	RPD <1	RPD Limit 20
Calcium	6020B	400	120	404000	411000	408000	2	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.

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Water

Service Request: K2404754 **Date Analyzed:** 05/22/24 - 05/23/24

Lab Control Sample Summary Total Metals

Units:ug/L Basis:NA

Lab Control Sample

KQ2407300-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Boron	6020B	26.3	25.0	105	80-120
Calcium	6020B	10600	10300	103	80-120

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Water

Service Request: K2404754 **Date Analyzed:** 05/23/24

Lab Control Sample Summary Total Metals

Units:ug/L Basis:NA

Lab Control Sample

KQ2407657-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Boron	6020B	26.1	25.0	104	80-120
Calcium	6020B	10800	10300	105	80-120



General Chemistry

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: NA
Sample Matrix:	Water	Date Received: NA
Sample Name: Lab Code:	Method Blank K2404754-MB1	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	0.005	1	05/14/24 17:49	
Fluoride	300.0	ND U	mg/L	0.10	0.006	1	05/14/24 17:49	
Sulfate	300.0	ND U	mg/L	0.10	0.010	1	05/14/24 17:49	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: NA
Sample Matrix:	Water	Date Received: NA
Sample Name: Lab Code:	Method Blank K2404754-MB1	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	10	-	1	05/14/24 14:49	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2404754
Project:	LPLF CCR	Date Collected:	NA
Sample Matrix:	Water	Date Received:	NA
Sample Name: Lab Code:	Method Blank K2404754-MB2	Basis:	NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	0.005	1	05/14/24 19:50	
Fluoride	300.0	ND U	mg/L	0.10	0.006	1	05/14/24 19:50	
Sulfate	300.0	ND U	mg/L	0.10	0.010	1	05/14/24 19:50	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: NA
Sample Matrix:	Water	Date Received: NA
Sample Name: Lab Code:	Method Blank K2404754-MB2	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	10	-	1	05/14/24 14:49	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2404754
Project:	LPLF CCR	Date Collected:	NA
Sample Matrix:	Water	Date Received:	NA
Sample Name: Lab Code:	Method Blank K2404754-MB3	Basis:	NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	0.005	1	05/15/24 17:36	
Fluoride	300.0	ND U	mg/L	0.10	0.006	1	05/15/24 17:36	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2404754
Project:	LPLF CCR	Date Collected: NA
Sample Matrix:	Water	Date Received: NA
Sample Name: Lab Code:	Method Blank K2404754-MB3	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	10	-	1	05/15/24 13:49	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2404754
Project:	LPLF CCR	Date Collected:	NA
Sample Matrix:	Water	Date Received:	NA
Sample Name: Lab Code:	Method Blank K2404754-MB4	Basis:	NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	0.005	1	05/15/24 19:38	
Fluoride	300.0	ND U	mg/L	0.10	0.006	1	05/15/24 19:38	

QA/QC Report

Client:	Transalta Centralia Mining, LLC
Project:	LPLF CCR
Sample Matrix:	Water

Service Request:K2404754 Date Collected:05/08/24 Date Received:05/08/24 Date Analyzed:05/14/24 - 05/15/24

Duplicate Matrix Spike Summary General Chemistry Parameters

Sample Name: Lab Code:	050824-C K2404754	CR-LPLF8 4-002							J nits: mg/L Basis:NA		
					rix Spike 754-002M	IS	Duplicate K240475	Matrix Sp 4-002DM			
		Sample		Spike			Spike		% Rec		RPD
Analyte Name	Method	Result	Result	Amount	% Rec	Result	Amount	% Rec	Limits	RPD	Limit
Chloride	300.0	6.5	197	200	95	196	200	95	90-110	<1	20
Fluoride	300.0	ND U	190	200	95	189	200	94	90-110	<1	20
Sulfate	300.0	2230	6140	4000	98	6150	4000	98	90-110	<1	20

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

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

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

QA/QC Report

	-				
Client:	Transalta Centralia Mining, LLC			Service Request:	K2404754
Project	LPLF CCR			Date Collected:	05/08/24
Sample Matrix:	Water			Date Received:	05/08/24
				Date Analyzed:	05/14/24 - 05/15/24
	Replicate	Sample Summar	ry		
	General Ch	nemistry Paramet	ters		
Sample Name:	050824-CCR-LPLF8			Units:	mg/L
Lab Code:	K2404754-002			Basis:	NA
			Duplicate Sample K2404754-		
	Analysis	Sample	002DUP		

	Analysis			Sample	002DUP			
Analyte Name	Method	MRL	MDL	Result	Result	Average	RPD	RPD Limit
Chloride	300.0	2.0	0.10	6.5	6.5	6.52	<1	20
Fluoride	300.0	2.0	0.2	ND U	ND U	NC	NC	20
Solids, Total Dissolved	SM 2540 C	40	-	3820	3840	3830	<1	5
Sulfate	300.0	50	5	2230	2230	2230	<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.

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Water

Service Request: K2404754 **Date Analyzed:** 05/14/24

Lab Control Sample Summary General Chemistry Parameters

Units:mg/L Basis:NA

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.76	5.00	95	90-110
Fluoride	300.0	4.75	5.00	95	90-110
Solids, Total Dissolved	SM 2540 C	1720	1760	98	85-115
Sulfate	300.0	4.86	5.00	97	90-110

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Water

Service Request: K2404754 Date Analyzed: 05/14/24 - 05/15/24

Lab Control Sample Summary General Chemistry Parameters

Units:mg/L Basis:NA

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.84	5.00	97	90-110
Fluoride	300.0	4.83	5.00	97	90-110
Solids, Total Dissolved	SM 2540 C	1710	1760	97	85-115
Sulfate	300.0	4.92	5.00	98	90-110

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Water

Service Request: K2404754 **Date Analyzed:** 05/15/24

Lab Control Sample Summary General Chemistry Parameters

Units:mg/L Basis:NA

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.78	5.00	96	90-110
Fluoride	300.0	4.78	5.00	96	90-110

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Water

Service Request: K2404754 **Date Analyzed:** 05/15/24

Lab Control Sample Summary General Chemistry Parameters

Units:mg/L Basis:NA

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.80	5.00	96	90-110
Fluoride	300.0	4.79	5.00	96	90-110



Marc Read Transalta Centralia Mining, LLC 913 Big Hanaford Rd Centralia, WA 98531

Laboratory Results for: LPLF CCR

Dear Marc,

Enclosed are the results of the sample(s) submitted to our laboratory June 27, 2024 For your reference, these analyses have been assigned our service request number **K2406681**.

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 3350. You may also contact me via email at shari.endy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Shari Endy 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

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Client: Transalta Centralia Mining, LLC

Project: LPLF CCR

Service Request: K2406681 Date Received: 06/27/2024

Sample Matrix: Water

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Three water samples were received for analysis at ALS Environmental on 06/27/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Shari Cula

Approved by

Date

07/15/2024



SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: 062424-CCR-LPLF2R						
Analyte	Results	Flag	MDL	MRL	Units	Method
Boron	397		3	10	ug/L	6020B
Calcium	437000		60	200	ug/L	6020B
Chloride	7.3		0.10	2.0	mg/L	300.0
Solids, Total Dissolved	3280			40	mg/L	SM 2540 C
Sulfate	1470		5	50	mg/L	300.0

CLIENT ID: 062424-CCR-LPLF2RFD						
Analyte	Results	Flag	MDL	MRL	Units	Method
Boron	410		3	10	ug/L	6020B
Calcium	437000		60	200	ug/L	6020B
Chloride	7.3		0.10	2.0	mg/L	300.0
Solids, Total Dissolved	3320			40	mg/L	SM 2540 C
Sulfate	1470		5	50	mg/L	300.0

CLIENT ID: 062424-CCR-LPLF8		Lab	ID: K2406	681-003		
Analyte	Results	Flag	MDL	MRL	Units	Method
Boron	1150		3	10	ug/L	6020B
Calcium	400000		60	200	ug/L	6020B
Chloride	7.0		0.10	2.0	mg/L	300.0
Solids, Total Dissolved	3850			40	mg/L	SM 2540 C
Sulfate	2310		5	50	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

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SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	CLIENT SAMPLE ID	DATE	<u>TIME</u>
K2406681-001	062424-CCR-LPLF2R	6/24/2024	0856
K2406681-002	062424-CCR-LPLF2RFD	6/24/2024	0856
K2406681-003	062424-CCR-LPLF8	6/24/2024	0924

VA2406681



ADDRESS 1317 South 13th Ave., Kelso, WA 98626 PHONE 1 360 577 7222 FAX 1 360 636 1068

Work Order No.:

Chain of Custody

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City, State ZIP: Centralia	, WA 985:	31									City	y, Sta	ite Zl	P:	Cer	ntrali	a, W.	<u> 4 98</u>	531								
		@transalta.co	om	Phone:	360	-623	-498	2			Ema			· · ·				losk	ey@	trans	salta	.com			po#		
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Sampler's Name: Brianna	McCloske	: <u>У</u>			-																				Ne Ne	xt Day ***	
Sector Contraction States	AMPLE RI	ECEIPT	nggan sa																						31	Day	
Temperature (°C):		Temp Bla	nk Present																						5 1	Day 50)%
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Sample Custody Seals:	Yes	No N/A			lers		s	e			1														ava	ailability	
Sample Identification	Matrix	Date Sampled	Time Sampled	Lab ID	No. of Containers		SM 2540 C / TDS	9056A / Chloride	9056A / F	9056A / SO4	6010C / Metals					and a long of the second se										Je Date:	
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062424CCR-LPLF8	GW	06/24/2024	9:24		2		X	x	X	x	x				1			 			-	-		-	1		—
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	oler Receipt a	and Preser	vation	Form	~	1 -1	<u>x 171</u>	<u> </u>
client 1(QV)BAHO			Servic	e Request I	k24	1500		
Received: <u>0127124</u> Opened: <u>(</u> 0	127/24	_ By: 1/1M	l	Unloaded:	<u>0127</u>	124 By: 1	nM	
1. Samples were received via? USPS	- Fed Ex U	PS DI	.	PDX	Courie	r Hand Deli	vered	
2. Samples were received in: (circle) Coole	1	Envelope	A.L.	Other	004110	110000	NA	
3. Were <u>custody seals</u> on coolers? NA	\sim \sim	f yes, how man	v and wh				* ** *	
If present, were custody seals intact?		present, were			?	Y	N	
					-			
				en e				
Temp Blank Sample Temp IR Gun C	poler #/COC ID / NA	Out o indicate	temp	Notifie If out of t	Contraction of the second second	Tracking Numbe	μ. MA	Filed
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2.0 - Will	·····				·			
				<u> </u>	<u> </u>			
4. Was a Temperature Blank present in cooler? NA	V (Y) N I	f yes, notate th	e tempera	ature in the a	ppropriate	column above:		<u> </u>
If no, take the temperature of a representative sa	mple bottle containe	ed within the co	oler; not	tate in the col	umn "Sam	ple Temp":		
5. Were samples received within the method specif	ed temperature rang	es?				NA (Y	N	
If no, were they received on ice and same day as			# above	and notify the	e PM.	(NA) Y	N	
•	zen Partially Th			une 20011, m	• • • • • •	Ū.		
in applicable, inside samples were received.	cere a wresury 176		- 68					
6. Packing material: Inserts Baggies Bubb	le Wrap Gel Packs	s Wet Ice) L	ry Ice	Sleeves				
7. Were custody papers properly filled out (ink, si	gned, etc.)?	\bigcirc				NA Y	N	
8. Were samples received in good condition (unbr	oken)					NA CEL	∕ N	
9. Were all sample labels complete (ie, analysis, p						NA Y	N	
10. Did all sample labels and tags agree with custo	ly papers?					NA Y	N	
11. Were appropriate bottles/containers and volum	es received for the te	sts indicated?				NA (Y	N-	\backslash
12. Were the pH-preserved bottles (see SMO GEN	SOP) received at the	e appropriate pl	1? Indic	ate in the tab	le below	NA Y	N	
13. Were VOA vials received without headspace?	Indicate in the table	below.				NA Y	N	
14. Was C12/Res negative?						NA Y	N	
15. Were samples received within the method spec	ified time limit? If n	ot, notate the e	rior belo	w and notify	the PM	NA Y	N	
16. Were 100ml sterile microbiology bottles filled	exactly to the 100ml	mark? (N	A	Y N		Underfilled	Overfille	d
	Ţ			<u> </u>				
Sample ID on Bottle	Sample	ID on COC		<u> </u>		Identified by:		
							-	
						····		
Sample ID	Bottle Count Bottle Type	Head- space Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Sample ID		space		рH		added	Number	Initials	Time
102424-CCB-URLFZBED	125 MC			Х	HNOS	· 5ML	ME1-66-G	VnN	1421
· · · · · · · · · · · · · · · · · · ·		1							
		1	1					1	

Notes, Discrepancies, Resolutions:

G:\SMO\2024 Forms

SOP: SMO-GEN

Reviewed: NP 1/3/2024



Miscellaneous Forms

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Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable.
- 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.
- 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 over the calibration range.
- J The result is an estimated value between the MDL and the MRL.
- 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

- ${f F}$ 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/EnvironmentalLaborator yAccreditation/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 to our laboratory's NFLAP-approved quality assurance program A complete	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M MCL	Modified 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
ТРН	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.

Analyst Summary report

Client:	Transalta Centralia Mining, LLC
Project:	LPLF CCR/

062424-CCR-LPLF2R

K2406681-001

Water

Sample Name:

Sample Matrix:

Lab Code:

Service Request: K2406681

Date Collected: 06/24/24 **Date Received:** 06/27/24

Analysis Method 300.0 6020B SM 2540 C		Extracted/Digested By MCHATTICK	Analyzed By NFOTH JCHAN AWILSON
Sample Name: Lab Code: Sample Matrix:	062424-CCR-LPLF2R K2406681-001.R01 Water		Date Collected: 06/24/24 Date Received: 06/27/24
Analysis Method 6020B		Extracted/Digested By MCHATTICK	Analyzed By RMOORE

Sample Name:062424-CCR-LPLF2RFDLab Code:K2406681-002Sample Matrix:Water

Data Callest

Date Collected: 06/24/24 **Date Received:** 06/27/24

Analysis Method		Extracted/Digested By	Analyzed By
300.0			NFOTH
6020B		MCHATTICK	JCHAN
SM 2540 C			AWILSON
Sample Name:	062424-CCR-LPLF2RFD	D	ate Collected: 06/24/24
Lab Code:	K2406681-002.R01	D	ate Received: 06/27/24
Sample Matrix:	Water		

Analysis Method 6020B

Extracted/Digested By MCHATTICK **Analyzed By** RMOORE

Analyst Summary report

Client:	Transalta Centralia Mining, LLC
Project:	LPLF CCR/

062424-CCR-LPLF8

K2406681-003

Water

Sample Name:

Sample Matrix:

Lab Code:

Service Request: K2406681

Date Collected: 06/24/24 **Date Received:** 06/27/24

Analysis Method 300.0		Extracted/Digested By	Analyzed By NFOTH
6020B SM 2540 C		MCHATTICK	JCHAN AWILSON
Sample Name: Lab Code: Sample Matrix:	062424-CCR-LPLF8 K2406681-003.R01 Water		Date Collected: 06/24/24 Date Received: 06/27/24
Analysis Method 6020B		Extracted/Digested By MCHATTICK	Analyzed By RMOORE



Sample Results

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Metals

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RIGHT SOLUTIONS | RIGHT PARTNER

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2406681
Project:	LPLF CCR	Date Collected: 06/24/24 08:56
Sample Matrix:	Water	Date Received: 06/27/24 14:10
Sample Name:	062424-CCR-LPLF2R	Basis: NA
Lab Code:	K2406681-001	

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	397	ug/L	10	3	1	07/11/24 08:20	07/08/24	
Calcium	6020B	437000	ug/L	200	60	10	07/03/24 18:18	07/02/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2406681
Project:	LPLF CCR	Date Collected: 06/24/24 08:56
Sample Matrix:	Water	Date Received: 06/27/24 14:10
Sample Name: Lab Code:	062424-CCR-LPLF2RFD K2406681-002	Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	410	ug/L	10	3	1	07/11/24 08:22	07/08/24	
Calcium	6020B	437000	ug/L	200	60	10	07/03/24 18:21	07/02/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2406681
Project:	LPLF CCR	Date Collected: 06/24/24 09:24
Sample Matrix:	Water	Date Received: 06/27/24 14:10
Sample Name:	062424-CCR-LPLF8	Basis: NA
Lab Code:	K2406681-003	

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	1150	ug/L	10	3	1	07/11/24 08:11	07/08/24	
Calcium	6020B	400000	ug/L	200	60	10	07/03/24 18:23	07/02/24	



General Chemistry

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2406681
Project:	LPLF CCR	Date Collected: 06/24/24 08:56
Sample Matrix:	Water	Date Received: 06/27/24 14:10
Sample Name: Lab Code:	062424-CCR-LPLF2R K2406681-001	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	7.3	mg/L	2.0	0.10	20	07/10/24 00:28	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	07/10/24 00:28	
Sulfate	300.0	1470	mg/L	50	5	500	07/09/24 14:02	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	
Project:	LPLF CCR	Date Collected:	06/24/24 08:56
Sample Matrix:	Water	Date Received:	06/27/24 14:10
Sample Name: Lab Code:	062424-CCR-LPLF2R K2406681-001	Basis:	NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	3280	mg/L	40	-	1	06/28/24 18:34	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2406681
Project:	LPLF CCR	Date Collected: 06/24/24 08:56
Sample Matrix:	Water	Date Received: 06/27/24 14:10
Sample Name: Lab Code:	062424-CCR-LPLF2RFD K2406681-002	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	7.3	mg/L	2.0	0.10	20	07/10/24 00:36	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	07/10/24 00:36	
Sulfate	300.0	1470	mg/L	50	5	500	07/09/24 14:11	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2406681
Project:	LPLF CCR	Date Collected: 06/24/24 08:56
Sample Matrix:	Water	Date Received: 06/27/24 14:10
Sample Name: Lab Code:	062424-CCR-LPLF2RFD K2406681-002	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	3320	mg/L	40	-	1	06/28/24 18:34	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2406681
Project:	LPLF CCR	Date Collected: 06/24/24 09:24
Sample Matrix:	Water	Date Received: 06/27/24 14:10
Sample Name: Lab Code:	062424-CCR-LPLF8 K2406681-003	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	7.0	mg/L	2.0	0.10	20	07/09/24 23:53	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	07/09/24 23:53	
Sulfate	300.0	2310	mg/L	50	5	500	07/09/24 13:27	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2406681
Project:	LPLF CCR	Date Collected: 06/24/24 09:24
Sample Matrix:	Water	Date Received: 06/27/24 14:10
Sample Name: Lab Code:	062424-CCR-LPLF8 K2406681-003	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	3850	mg/L	40	-	1	06/28/24 18:34	



QC Summary Forms

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Metals

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2406681
Project:	LPLF CCR	Date Collected:	NA
Sample Matrix:	Water	Date Received:	NA
Sample Name: Lab Code:	Method Blank KQ2409906-01	Basis:	NA

Total Metals

	Analysis							Date	
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Extracted	Q
Calcium	6020B	ND U	ug/L	20	6	1	07/03/24 17:58	07/02/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2406681
Project:	LPLF CCR	Date Collected:	NA
Sample Matrix:	Water	Date Received:	NA
Sample Name: Lab Code:	Method Blank KQ2410380-01	Basis:	NA

Total Metals

	Analysis							Date	
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Extracted	Q
Boron	6020B	ND U	ug/L	2.0	0.5	1	07/11/24 08:08	07/08/24	

QA/QC Report

Client: Project: Sample Matrix:	Transalta Centralia Mining, LI LPLF CCR Water	LC	Date Date 1	ee Request: Collected: Received: Analyzed:	K2406681 06/24/24 06/27/24 07/3/24						
			Date 1	Extracted:	07/2/24						
Matrix Spike Summary											
		Total Met	als								
Sample Name:	062424-CCR-LPLF8			Units:	ug/L						
Lab Code:	K2406681-003			Basis:	NA						
Analysis Method:	6020B										
Prep Method:	EPA CLP ILM04.0										
		Matrix Spike KQ2409906-04									
Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits						
Calcium	400000	405000	10300	53 #	75-125						

Results flagged with an asterisk (\ast) 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.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

QA/QC Report

Client: Project: Sample Matrix:	Transalta Centralia Mining, LI LPLF CCR Water	LC	Date (e Request: Collected: Received:	K2406681 06/24/24 06/27/24
-			Date A	Analyzed:	07/11/24
			Date I	Extracted:	07/8/24
		Matrix Spike Sur	nmary		
		Total Metal	S		
Sample Name:	062424-CCR-LPLF8			Units:	ug/L
Lab Code:	K2406681-003			Basis:	NA
Analysis Method:	6020B				
Prep Method:	EPA CLP ILM04.0				
		Matrix Spike KQ2410380-04			
Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Boron	1150	1330	125	144 #	75-125

Results flagged with an asterisk (\ast) 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.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

QA/QC Report

Client: Project	Transalta Centra LPLF CCR	llia Mining, I	LLC			Service Reques Date Collecte Date Receive	d: 06/24/2	24			
Sample Matrix:	Water					Date Receive Date Analyze					
Replicate Sample Summary											
			Т	otal Metals							
Sample Name:	062424-CCR-L	PLF8				Uni	ts: ug/L				
Lab Code:	K2406681-003					Bas	is: NA				
	Analysis			Sample	Duplicate Sample KQ2409906-03						
Analyte Name	Method	MRL	MDL	Result	Result	Average	RPD	RPD Limit			
Calcium	6020B	200	60	400000	395000	398000	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.

QA/QC Report

Client: Project	Transalta Centra LPLF CCR	lia Mining, 1	LLC			Service Reque Date Collect				
Sample Matrix:	Water					Date Receiv				
						Date Analyz	ed: 07/11/2	24		
Replicate Sample Summary										
			Т	otal Metals						
Sample Name:	062424-CCR-LI	PLF8				Un	its: ug/L			
Lab Code:	K2406681-003					Ba	sis: NA			
	Analysis			Sample	Duplicate Sample KQ2410380-03					
Analyte Name	Method	MRL	MDL	Result	Result	Average	RPD	RPD Limit		
Boron	6020B	10	3	1150	1170	1160	2	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.

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Water

Service Request: K2406681 **Date Analyzed:** 07/03/24

Lab Control Sample Summary Total Metals

Units:ug/L Basis:NA

Lab Control Sample KQ2409906-02

Analyte NameAnalytical MethodResultSpike Amount% Rec% Rec LimitsCalcium6020B9810103009680-120

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Water

Service Request: K2406681 Date Analyzed: 07/11/24

Lab Control Sample Summary Total Metals

Units:ug/L Basis:NA

Lab Control Sample
KQ2410380-02Analyte NameAnalytical MethodResultSpike Amount% Rec% Rec LimitsBoron6020B24.425.09780-120



General Chemistry

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2406681
Project:	LPLF CCR	Date Collected: NA
Sample Matrix:	Water	Date Received: NA
Sample Name: Lab Code:	Method Blank K2406681-MB1	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	0.007 J	mg/L	0.10	0.005	1	07/09/24 13:10	
Fluoride	300.0	ND U	mg/L	0.10	0.006	1	07/09/24 13:10	
Sulfate	300.0	0.02 J	mg/L	0.10	0.010	1	07/09/24 13:10	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2406681
Project:	LPLF CCR	Date Collected:	NA
Sample Matrix:	Water	Date Received:	NA
Sample Name: Lab Code:	Method Blank K2406681-MB1	Basis:	NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	10	-	1	06/28/24 18:34	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2406681
Project:	LPLF CCR	Date Collected: NA
Sample Matrix:	Water	Date Received: NA
Sample Name: Lab Code:	Method Blank K2406681-MB2	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	0.005	1	07/09/24 15:12	
Fluoride	300.0	ND U	mg/L	0.10	0.006	1	07/09/24 15:12	
Sulfate	300.0	ND U	mg/L	0.10	0.010	1	07/09/24 15:12	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2406681
Project:	LPLF CCR	Date Collected:	NA
Sample Matrix:	Water	Date Received:	NA
Sample Name: Lab Code:	Method Blank K2406681-MB3	Basis:	NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	0.005	1	07/09/24 17:13	
Fluoride	300.0	ND U	mg/L	0.10	0.006	1	07/09/24 17:13	
Sulfate	300.0	ND U	mg/L	0.10	0.010	1	07/09/24 17:13	

QA/QC Report

Client:	Transalta Centralia Mining, LLC
Project:	LPLF CCR
Sample Matrix:	Water

Service Request:K2406681 Date Collected:06/24/24 Date Received:06/27/24 Date Analyzed:07/09/24 - 07/10/24

Duplicate Matrix Spike Summary General Chemistry Parameters

Sample Name: Lab Code:	062424-C K240668	CR-LPLF8 1-003							J nits: mg/L Basis:NA		
					rix Spike 681-003M	IS	Duplicate X K240668	Matrix Sp 31-003DM			
Analyte Name	Method	Sample Result	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Chloride	300.0	7.0	202	200	98	197	200	95	90-110	3	20
Fluoride	300.0	ND U	197	200	98	192	200	96	90-110	2	20
Sulfate	300.0	2310	6290	4000	100	6270	4000	99	90-110	<1	20

Results flagged with an asterisk (\ast) 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:	Transalta Centralia Mining, LLC			Service Request:	K2406681
Project	LPLF CCR			Date Collected:	06/24/24
Sample Matrix:	Water			Date Received:	06/27/24
				Date Analyzed:	06/28/24 - 07/10/24
	Replicate S	Sample Summary	y		
	General Che	emistry Paramete	ers		
Sample Name:	062424-CCR-LPLF8			Units:	mg/L
Lab Code:	K2406681-003			Basis:	NA
			Duplicate Sample K2406681-		
	Analysis	Sample	003DUP		

	Analysis			Sample	003DUP				
Analyte Name	Method	MRL	MDL	Result	Result	Average	RPD	RPD Limit	
Chloride	300.0	2.0	0.10	7.0	6.8	6.93	3	20	
Fluoride	300.0	2.0	0.2	ND U	ND U	NC	NC	20	
Solids, Total Dissolved	SM 2540 C	40	-	3850	3850	3850	<1	5	
Sulfate	300.0	50	5	2310	2270	2290	2	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.

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Water

Service Request: K2406681 Date Analyzed: 06/28/24 - 07/09/24

Lab Control Sample Summary General Chemistry Parameters

Units:mg/L Basis:NA

Lab Control Sample

K2406681-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	5.05	5.00	101	90-110
Fluoride	300.0	5.14	5.00	103	90-110
Solids, Total Dissolved	SM 2540 C	1720	1760	98	85-115
Sulfate	300.0	5.20	5.00	104	90-110

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Water

Service Request: K2406681 **Date Analyzed:** 07/09/24

Lab Control Sample Summary General Chemistry Parameters

Units:mg/L Basis:NA

Lab Control Sample

K2406681-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.85	5.00	97	90-110
Fluoride	300.0	4.93	5.00	99	90-110
Sulfate	300.0	4.99	5.00	100	90-110

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Water

Service Request: K2406681 **Date Analyzed:** 07/09/24

Lab Control Sample Summary General Chemistry Parameters

Units:mg/L Basis:NA

Lab Control Sample

K2406681-LCS3

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.89	5.00	98	90-110
Fluoride	300.0	4.96	5.00	99	90-110
Sulfate	300.0	5.02	5.00	100	90-110



Service Request No:K2410826

Marc Read Transalta Centralia Mining, LLC 913 Big Hanaford Rd Centralia, WA 98531

Laboratory Results for: LPLF CCR

Dear Marc,

Enclosed are the results of the sample(s) submitted to our laboratory October 10, 2024 For your reference, these analyses have been assigned our service request number **K2410826**.

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 3350. You may also contact me via email at shari.endy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Shari Endy Project Manager

CC: Brianna McCloskey

> 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:Transalta Centralia Mining, LLCProject:LPLF CCR

Sample Matrix: Ground Water

Service Request: K2410826 Date Received: 10/10/2024

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Five ground water samples were received for analysis at ALS Environmental on 10/10/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Approved by

Shari Cula

Date

10/31/2024



SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: 100824-CCR-LPLF1							
Analyte	Results	Flag	MDL MRL		Units	Method	
Boron	0.617		0.005	0.020	mg/L	6020B	
Calcium	221		0.006	0.040	mg/L	6020B	
Chloride	3.7		0.10	2.0	mg/L	300.0	
Solids, Total Dissolved	2900			40	mg/L	SM 2540 C	
Sulfate	1380		5	50	mg/L	300.0	

CLIENT ID: 100824-CCR-LPLF8						
Analyte	Results	Flag	MDL	MRL	Units	Method
Boron	1.09		0.005	0.020	mg/L	6020B
Calcium	398		0.06	0.40	mg/L	6020B
Chloride	6.8		0.10	2.0	mg/L	300.0
Solids, Total Dissolved	3840			40	mg/L	SM 2540 C
Sulfate	2230		5	50	mg/L	300.0

CLIENT ID: 100824-CCR-LPLF8 FD						
Analyte	Results	Flag	MDL	MRL	Units	Method
Boron	1.09		0.005	0.020	mg/L	6020B
Calcium	395		0.06	0.40	mg/L	6020B
Chloride	6.8		0.10	2.0	mg/L	300.0
Solids, Total Dissolved	3830			40	mg/L	SM 2540 C
Sulfate	2230		5	50	mg/L	300.0

CLIENT ID: 100824-CCR-LPLF7R						
Analyte	Results	Flag	MDL	MRL	Units	Method
Boron	0.376		0.0005	0.0020	mg/L	6020B
Calcium	239		0.06	0.40	mg/L	6020B
Chloride	9.5		0.10	2.0	mg/L	300.0
Solids, Total Dissolved	2760			40	mg/L	SM 2540 C
Sulfate	1340		5	50	mg/L	300.0

CLIENT ID: 100924-CCR-LPLF2R		Lab ID: K2410826-005							
Analyte	Results	Flag	MDL	MRL	Units	Method			
Boron	0.411		0.0005	0.0020	mg/L	6020B			
Calcium	470		0.06	0.40	mg/L	6020B			
Chloride	7.3		0.10	2.0	mg/L	300.0			
Solids, Total Dissolved	3450			40	mg/L	SM 2540 C			
Sulfate	1530		5	50	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

SAMPLE CROSS-REFERENCE

SAMPLE #	CLIENT SAMPLE ID	DATE	<u>TIME</u>
K2410826-001	100824-CCR-LPLF1	10/8/2024	1457
K2410826-002	100824-CCR-LPLF8	10/8/2024	1553
K2410826-003	100824-CCR-LPLF8 FD	10/8/2024	1553
K2410826-004	100824-CCR-LPLF7R	10/8/2024	1525
K2410826-005	100924-CCR-LPLF2R	10/9/2024	0911

ADDRESS 1317 South 13th Ave., Kelso, WA 98626 PHONE 1 360 577 7222 FAX 1 360 636 1068

KU10824

Work Order No.:

Chain of Custody

Part of the ALS Group A Campbell Brothers Limited Company

7										Bill	to:		Brian	na M	Clos	key					
		bany]	Con	npany:		TransAlta Centralia Mining								
										Add	ress:	je konstante se	913 E	lig Ha	anafor	d Roa	ad				
]	City	, State Z	IP:	Centr	alia, '	WA 9	8531					
	@transalta.co	m	Phone:	360	-623-	4982	2		1	Ema	ail: Alassa	· · · · · · · · · · · · · · · · · · ·	brianr	na m	cclos	key@	transa	ita.co	m		po#
۲					enne el	hatsa jay	Neda în				REQUE	STE) ANA	LYSI	S SS	94493	1111 A A A	gaada.	an a	0.0000	TAT
																			I		Routine 21da
																					Same Day 1009
Sampler's Name: Brianna McCloskey																					Next Day ***
MPLE RE	CEIPT																				3 Day
	Temp Bla	nk Present 🔅																			5 Day 50%
Yes	No N/A	Wet Ice / B	lue Ice	1 .																	Surcharges.
Yes	No N/A	Total Conta	ainers:	1																	Please call for
Yes	No <mark>N/A</mark>			ers			a			L											availability
Matrix	Date Sampled	Time Sampled	Lab ID	5		2540 C /		56A / F	56A / SO4	10C / Metals											Due Date:
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GW	10/08/2024	15:53		2		x															
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Print Name Signature Brianna McCloskey								17	N						JULIO124 141-						
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	ivanstal	1	Cooler Receipt	and F	resei	vatio	n Form	١٢	VANIA		<u></u>
		iter	1.1.104			Servi	ice Request		JOAQ)
Received: <u>\C</u>	10109	Opened: _	10/10/24	By: _	A	₩	Unloaded:	10110	12с[В	y: A	<u></u>
1. Samples w	ere received via?	USPS	Fed Ex	UPS	D	HL	PDX	Couri	ier Hand	Delivered)
2. Samples w	ere received in: (cir	rcle) Ca	Box	L EI	nvelope		Other		·	NA	
	ty seals on coolers			lf yes, h			-	Froz	<u> </u>	~	
• If present, v	vere custody seals i	ntact?	(Y) N I	if preser	it, were	they sig	ned and dated	d?	(N Y	
							PM				
Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / N/		Out o indicate	temp	Notif	ed	Tracking Nu	imber NA	Filed
	17 -	18010			HIGHORIC	WEATT. PL	in out of	LOTTOP 1	I I GONALDE THE		
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							+			<u></u>	
4. Was a Temp	erature Blank prese	nt in cooler?	NA Y N	ן If ves. ח	otate th	e tempe	1 rature in the a	1 appropriate	column above:		
-	_		e sample bottle contain	-		-					
	-	-	cified temperature rang			•			NA C	Y N	
-		-	as collected? If not, n	-	e cooler	# above	and notify the	ne PM.	THA	Y N	
	ssue samples were		rozen Partially Th		Thaw		· ····· ······		\bigcirc		
	-		-	~			C I				
-	aterial: Inserts dy papers properly		bble Wrap Gel Pack	s <i>Wel</i>	ice D	ry Ice	Sleeves	<u></u>	NA (Ŷ N	
	les received in goo	•							NA (Y N	
-	-		, preservation, etc.)?						NA (N N	
	ple labels and tags		-						NA (Ŷ N	
11. Were appro	priate bottles/cont	ainers and volu	mes received for the te	ests indi	cated?				NA (N N	
12. Were the p	H-preserved bottles	s (see SMO GE	N SOP) received at the	e approp	oriate pl-	l? Indic	cate in the tab	ole below	NA (Y) N	
13. Were VOA	vials received with	hout headspace	? Indicate in the table	e below.					NA	Y N	
14. Was C12/R	tes negative?								(NA)	Y N	
15. Were samp	les received within	the method sp	ecified time limit? If n	iot, nota	te the er	ror belo	w and notify	the PM	(NA)	Y N	
16. Were 100n	al sterile microbiol	ogy bottles fille	ed exactly to the 100m	l mark?	(N	A)	Y N		Underfilled	Overfill	ed
e	ample ID on Bot	fla	Sample		000				Identified by:	,	
			Oditipic		000	<u></u>	<u> </u>	<u></u>			
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L		····	. <u>F</u>							·	
		· · · · · · · · · · · · · · · · · · ·	Bottle Count	Head-				Volume	Reagent Lot		
	Sample ID		Bottle Type	space	Broke	pH	Reagent	added	Number	Initials	Time
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Notes, Discrepancies, Resolutions:

G:\SMO\2024 Forms

SOP: SMO-GEN

Reviewed: NP 1/3/2024



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.
- 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.
- 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 over the calibration range.
- J The result is an estimated value between the MDL and the MRL.
- 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

- ${f F}$ 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/EnvironmentalLaborator yAccreditation/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 to our laboratory's NFLAP-approved quality assurance program A complete	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M MCL	Modified 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
ТРН	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.

Analyst Summary report

Client:	Transalta Centralia Mining, LLC
Project:	LPLF CCR/

100824-CCR-LPLF1

K2410826-001

Ground Water

Sample Name:

Sample Matrix:

Lab Code:

Service Request: K2410826

Date Collected: 10/8/24 **Date Received:** 10/10/24

Analysis Method		Extracted/Digested By	Analyzed By
300.0			NFOTH
6020B		MCHATTICK	ABOYER
SM 2540 C			JBYMAN
Sample Name:	100824-CCR-LPLF8	Dat	e Collected: 10/8/24
Lab Code:	K2410826-002	Dat	te Received: 10/10/24
Sample Matrix:	Ground Water		

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NFOTH
6020B	MCHATTICK	ABOYER
SM 2540 C		JBYMAN

Sample Name:	100824-CCR-LPLF8 FD
Lab Code:	K2410826-003
Sample Matrix:	Ground Water

100824-CCR-LPLF7R

K2410826-004

Ground Water

JBYMAN Date Collected: 10/8/24 Date Received: 10/10/24

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NFOTH
6020B	MCHATTICK	ABOYER
SM 2540 C		JBYMAN

Date Collected: 10/8/24 **Date Received:** 10/10/24

Analysis Method	Extracted/Digested By	Analyzed By
300.0		NFOTH
6020B	MCHATTICK	ABOYER
SM 2540 C		JBYMAN

Sample Name:

Sample Matrix:

Lab Code:

Analyst Summary report

Client:Transalta Centralia Mining, LLCProject:LPLF CCR/

Service Request: K2410826

Sample Name:100924-CCR-LPLF2RLab Code:K2410826-005Sample Matrix:Ground Water

Date Collected: 10/9/24 **Date Received:** 10/10/24

By



Sample Results

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: 10/08/24 14:57
Sample Matrix:	Ground Water	Date Received: 10/10/24 14:17
Sample Name: Lab Code:	100824-CCR-LPLF1 K2410826-001	Basis: NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	0.617	mg/L	0.020	0.005	10	10/29/24 19:25	10/21/24	
Calcium	6020B	221	mg/L	0.040	0.006	1	10/29/24 18:56	10/21/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: 10/08/24 15:53
Sample Matrix:	Ground Water	Date Received: 10/10/24 14:17
Sample Name: Lab Code:	100824-CCR-LPLF8 K2410826-002	Basis: NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	1.09	mg/L	0.020	0.005	10	10/29/24 19:26	10/21/24	
Calcium	6020B	398	mg/L	0.40	0.06	10	10/29/24 19:26	10/21/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: 10/08/24 15:53
Sample Matrix:	Ground Water	Date Received: 10/10/24 14:17
Sample Name: Lab Code:	100824-CCR-LPLF8 FD K2410826-003	Basis: NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	1.09	mg/L	0.020	0.005	10	10/29/24 19:28	10/21/24	
Calcium	6020B	395	mg/L	0.40	0.06	10	10/29/24 19:28	10/21/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: 10/08/24 15:25
Sample Matrix:	Ground Water	Date Received: 10/10/24 14:17
Sample Name: Lab Code:	100824-CCR-LPLF7R K2410826-004	Basis: NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	0.376	mg/L	0.0020	0.0005	1	10/29/24 18:32	10/21/24	
Calcium	6020B	239	mg/L	0.40	0.06	10	10/29/24 19:17	10/21/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: 10/09/24 09:11
Sample Matrix:	Ground Water	Date Received: 10/10/24 14:17
Sample Name: Lab Code:	100924-CCR-LPLF2R K2410826-005	Basis: NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	0.411	mg/L	0.0020	0.0005	1	10/29/24 19:00	10/21/24	
Calcium	6020B	470	mg/L	0.40	0.06	10	10/29/24 19:29	10/21/24	



General Chemistry

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: 10/08/24 14:57
Sample Matrix:	Ground Water	Date Received: 10/10/24 14:17
Sample Name: Lab Code:	100824-CCR-LPLF1 K2410826-001	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	3.7	mg/L	2.0	0.10	20	10/23/24 06:23	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	10/23/24 06:23	
Sulfate	300.0	1380	mg/L	50	5	500	10/22/24 17:39	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: 10/08/24 14:57
Sample Matrix:	Ground Water	Date Received: 10/10/24 14:17
Sample Name: Lab Code:	100824-CCR-LPLF1 K2410826-001	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	2900	mg/L	40	-	1	10/14/24 10:44	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2410826
Project:	LPLF CCR	Date Collected:	10/08/24 15:53
Sample Matrix:	Ground Water	Date Received:	10/10/24 14:17
Sample Name: Lab Code:	100824-CCR-LPLF8 K2410826-002	Basis:	NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	6.8	mg/L	2.0	0.10	20	10/23/24 06:32	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	10/23/24 06:32	
Sulfate	300.0	2230	mg/L	50	5	500	10/22/24 17:48	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: 10/08/24 15:53
Sample Matrix:	Ground Water	Date Received: 10/10/24 14:17
Sample Name: Lab Code:	100824-CCR-LPLF8 K2410826-002	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	3840	mg/L	40	-	1	10/14/24 10:44	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: 10/08/24 15:53
Sample Matrix:	Ground Water	Date Received: 10/10/24 14:17
Sample Name: Lab Code:	100824-CCR-LPLF8 FD K2410826-003	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	6.8	mg/L	2.0	0.10	20	10/23/24 06:41	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	10/23/24 06:41	
Sulfate	300.0	2230	mg/L	50	5	500	10/22/24 17:56	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2410826
Project:	LPLF CCR	Date Collected:	10/08/24 15:53
Sample Matrix:	Ground Water	Date Received:	10/10/24 14:17
Sample Name: Lab Code:	100824-CCR-LPLF8 FD K2410826-003	Basis:	NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	3830	mg/L	40	-	1	10/14/24 10:44	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: 10/08/24 15:25
Sample Matrix:	Ground Water	Date Received: 10/10/24 14:17
Sample Name: Lab Code:	100824-CCR-LPLF7R K2410826-004	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	9.5	mg/L	2.0	0.10	20	10/23/24 05:49	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	10/23/24 05:49	
Sulfate	300.0	1340	mg/L	50	5	500	10/22/24 17:04	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2410826
Project:	LPLF CCR	Date Collected:	10/08/24 15:25
Sample Matrix:	Ground Water	Date Received:	10/10/24 14:17
Sample Name: Lab Code:	100824-CCR-LPLF7R K2410826-004	Basis:	NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	2760	mg/L	40	-	1	10/14/24 10:44	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: 10/09/24 09:11
Sample Matrix:	Ground Water	Date Received: 10/10/24 14:17
Sample Name: Lab Code:	100924-CCR-LPLF2R K2410826-005	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	7.3	mg/L	2.0	0.10	20	10/23/24 06:49	
Fluoride	300.0	ND U	mg/L	2.0	0.2	20	10/23/24 06:49	
Sulfate	300.0	1530	mg/L	50	5	500	10/22/24 18:05	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2410826
Project:	LPLF CCR	Date Collected:	10/09/24 09:11
Sample Matrix:	Ground Water	Date Received:	10/10/24 14:17
Sample Name: Lab Code:	100924-CCR-LPLF2R K2410826-005	Basis:	NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	3450	mg/L	40	-	1	10/14/24 10:44	



QC Summary Forms

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2410826
Project:	LPLF CCR	Date Collected:	NA
Sample Matrix:	Ground Water	Date Received:	NA
Sample Name: Lab Code:	Method Blank KQ2416832-01	Basis:	NA

Analyte Name	Analysis Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Date Extracted	Q
Boron	6020B	ND U	mg/L	0.0020	0.0005	1	10/29/24 18:29	10/21/24	
Calcium	6020B	ND U	mg/L	0.040	0.006	1	10/29/24 18:29	10/21/24	

QA/QC Report

Client:	Transalta Centralia Mining, LI	LC	Service	e Request:	K2410826
Project:	LPLF CCR		Date C	ollected:	10/08/24
Sample Matrix:	Ground Water		Date R	eceived:	10/10/24
			Date A	nalyzed:	10/29/24
			Date E	xtracted:	10/21/24
		Matrix Spike Su	mmarv		
		Total Meta	•		
Sample Name:	100824-CCR-LPLF7R			Units:	mg/L
Lab Code:	K2410826-004			Basis:	NA
Analysis Method:	6020B				
Prep Method:	EPA CLP ILM04.0				
		Matrix Spike			
		KQ2416832-04			
Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Boron	0.376	0.417	0.0250	161 #	75-125
Calcium	239	255	10.3	156 #	75-125

Results flagged with an asterisk (\ast) 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.

Matrix Spike and Matrix Spike Duplicate Data is presented for information purposes only. The matrix may or may not be relevant to samples reported in this report. The laboratory evaluates system performance based on the LCS and LCSD control limits.

QA/QC Report

Client: Project	Transalta Central LPLF CCR	lia Mining, I	LLC			Service Request Date Collected		
Ū.								
Sample Matrix:	Ground Water					Date Received	: 10/10/2	.4
						Date Analyzed	: 10/29/2	24
			Replicate	Sample Sun	nmary			
			T	otal Metals				
Sample Name:	100824-CCR-LI	PLF7R				Units	: mg/L	
Lab Code:	K2410826-004					Basis	: NA	
				a 1	Duplicate Sample			
	Analysis			Sample	KQ2416832-03			
Analyte Name	Method	MRL	MDL	Result	Result	Average	RPD	RPD Limit
Boron	6020B	0.0020	0.0005	0.376	0.388	0.382	3	20
Calcium	6020B	0.40	0.06	239	240	240	<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.

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Ground Water

Service Request: K2410826 **Date Analyzed:** 10/29/24

Lab Control Sample Summary Total Metals

Units:mg/L Basis:NA

Lab Control Sample

KQ2416832-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Boron	6020B	0.0239	0.0250	96	80-120
Calcium	6020B	10.6	10.3	103	80-120



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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2410826
Project:	LPLF CCR	Date Collected:	NA
Sample Matrix:	Ground Water	Date Received:	NA
Sample Name: Lab Code:	Method Blank K2410826-MB1	Basis: 1	NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	0.005	1	10/22/24 16:47	
Fluoride	300.0	ND U	mg/L	0.10	0.006	1	10/22/24 16:47	
Sulfate	300.0	ND U	mg/L	0.10	0.0097	1	10/22/24 16:47	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: NA
Sample Matrix:	Ground Water	Date Received: NA
Sample Name: Lab Code:	Method Blank K2410826-MB1	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	10	-	1	10/14/24 10:44	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: NA
Sample Matrix:	Ground Water	Date Received: NA
Sample Name: Lab Code:	Method Blank K2410826-MB2	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	ND U	mg/L	0.10	0.005	1	10/22/24 18:48	
Fluoride	300.0	ND U	mg/L	0.10	0.006	1	10/22/24 18:48	
Sulfate	300.0	ND U	mg/L	0.10	0.0097	1	10/22/24 18:48	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2410826
Project:	LPLF CCR	Date Collected: NA
Sample Matrix:	Ground Water	Date Received: NA
Sample Name: Lab Code:	Method Blank K2410826-MB2	Basis: NA

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	10	-	1	10/14/24 10:44	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K24108	826
Project:	LPLF CCR	Date Collected: NA	
Sample Matrix:	Ground Water	Date Received: NA	
Sample Name: Lab Code:	Method Blank K2410826-MB3	Basis: NA	

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Chloride	300.0	0.006 J	mg/L	0.10	0.005	1	10/22/24 20:50	
Fluoride	300.0	ND U	mg/L	0.10	0.006	1	10/22/24 20:50	
Sulfate	300.0	ND U	mg/L	0.10	0.0097	1	10/22/24 20:50	

QA/QC Report

Client:	Transalta Centralia Mining, LLC
Project:	LPLF CCR
Sample Matrix:	Ground Water

Duplicate Matrix Spike Summary General Chemistry Parameters

Sample Name: Lab Code:	100824-C K2410826	CR-LPLF7R 5-004	2	Units:mg/L Basis:NA							
				Matrix Spike K2410826-004MS		Duplicate Matrix Spike K2410826-004DMS					
		Sample		Spike			Spike		% Rec		RPD
Analyte Name	Method	Result	Result	Amount	% Rec	Result	Amount	% Rec	Limits	RPD	Limit
Chloride	300.0	9.5	198	200	94	198	200	94	90-110	<1	20
Fluoride	300.0	ND U	187	200	94	187	200	94	90-110	<1	20
Sulfate	300.0	1340	5220	4000	97	5230	4000	97	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.

Service Request:K2410826 Date Collected:10/08/24 Date Received:10/10/24

Date Analyzed:10/22/24 - 10/23/24

QA/QC Report

Client: Project Sample Matrix:	Transalta Centralia Mining, LLC LPLF CCR Ground Water			Service Request: Date Collected: Date Received: Date Analyzed:	10/08/24
	•	Sample Summar nemistry Paramet	•		
Sample Name:	100824-CCR-LPLF7R	v		Units	mg/L
Lab Code:	K2410826-004			Basis	NA NA
	Analyzia	Comple	Duplicate Sample K2410826-		

	Analysis			Sample	004DUP			
Analyte Name	Method	MRL	MDL	Result	Result	Average	RPD	RPD Limit
Chloride	300.0	2.0	0.10	9.5	9.4	9.42	<1	20
Fluoride	300.0	2.0	0.2	ND U	ND U	NC	NC	20
Solids, Total Dissolved	SM 2540 C	40	-	2760	2770	2770	<1	5
Sulfate	300.0	50	5	1340	1330	1340	<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.

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Ground Water

Service Request: K2410826 Date Analyzed: 10/14/24 - 10/22/24

Lab Control Sample Summary General Chemistry Parameters

Units:mg/L Basis:NA

Lab Control Sample

K2410826-LCS1

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.77	5.00	95	90-110
Fluoride	300.0	4.74	5.00	95	90-110
Solids, Total Dissolved	SM 2540 C	1780	1760	101	85-115
Sulfate	300.0	4.92	5.00	98	90-110

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Ground Water

Service Request: K2410826 **Date Analyzed:** 10/22/24

Lab Control Sample Summary General Chemistry Parameters

Units:mg/L Basis:NA

Lab Control Sample

K2410826-LCS2

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.79	5.00	96	90-110
Fluoride	300.0	4.77	5.00	95	90-110
Sulfate	300.0	4.94	5.00	99	90-110

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Ground Water

Service Request: K2410826 **Date Analyzed:** 10/22/24

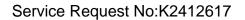
Lab Control Sample Summary General Chemistry Parameters

Units:mg/L Basis:NA

Lab Control Sample

K2410826-LCS3

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Chloride	300.0	4.78	5.00	96	90-110
Fluoride	300.0	4.75	5.00	95	90-110
Sulfate	300.0	4.92	5.00	98	90-110





Marc Read Transalta Centralia Mining, LLC 913 Big Hanaford Rd Centralia, WA 98531

Laboratory Results for: LPLF CCR

Dear Marc,

Enclosed are the results of the sample(s) submitted to our laboratory November 26, 2024 For your reference, these analyses have been assigned our service request number **K2412617**.

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 3350. You may also contact me via email at shari.endy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Shari Endy 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

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Client: Transalta Centralia Mining, LLC

Project: LPLF CCR

Service Request: K2412617 Date Received: 11/26/2024

Sample Matrix: Water

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples for the Tier II level requested by the client.

Sample Receipt:

Three water samples were received for analysis at ALS Environmental on 11/26/2024. Any discrepancies upon initial sample inspection are annotated on the sample receipt and preservation form included within this report. The samples were stored at minimum in accordance with the analytical method requirements.

Metals:

No significant anomalies were noted with this analysis.

General Chemistry:

No significant anomalies were noted with this analysis.

Shari Cula

Approved by

Date

12/10/2024



SAMPLE DETECTION SUMMARY

This form includes only detections above the reporting levels. For a full listing of sample results, continue to the Sample Results section of this Report.

CLIENT ID: 112624-CCR-LPLF2R		Lab	DID: K2412	617-001		
Analyte	Results	Flag	MDL	MRL	Units	Method
Boron	0.368		0.003	0.010	mg/L	6020B
Solids, Total Dissolved	3440			40	mg/L	SM 2540 C
CLIENT ID: 112624-CCR-LPLF8	Lab ID: K2412617-002					
Analyte	Results	Flag	MDL	MRL	Units	Method
Boron	1.17		0.003	0.010	mg/L	6020B
CLIENT ID: 112624-CCR-LPLF8FD		Lab	DID: K2412	2617-003		
Analyte	Results	Flag	MDL	MRL	Units	Method
Boron	1.12		0.003	0.010	mg/L	6020B



Sample Receipt Information

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SAMPLE CROSS-REFERENCE

<u>SAMPLE #</u>	CLIENT SAMPLE ID	DATE	TIME
K2412617-001	112624-CCR-LPLF2R	11/26/2024	1131
K2412617-002	112624-CCR-LPLF8	11/26/2024	1103
K2412617-003	112624-CCR-LPLF8FD	11/26/2024	1103



ADDRESS 1317 South 13th Ave., Kelso, WA 98626 PHONE 1 360 577 7222 FAX 1 360 636 1068

Work Order No.:

Chain of Custody

Part of the ALS Group A Campbell Brothers Limited Company Brianna McCloskey Brianna McCloskey Project Manager: Bill to: Client Name: TransAlta Centralia Mining TransAlta Centralia Mining Company Company: Address: 913 Big Hanaford Road Address: 913 Big Hanaford Road City, State ZIP: Centralia, WA 98531 City, State ZIP: Centralia, WA 98531 Email: 360-623-4982 Email: brianna mccloskey@transalta.com brianna mccloskey@transalta.com Phone: TAT **REQUESTED ANALYSIS** Project Name: LPLF CCR Routine 21day Project Number: 4700103234 Line 30 Same Day 100% P.O. Number: Sampler's Name: Brianna McCloskey Next Day *** SAMPLE RECEIPT 3 Day Temperature ("C): Temp Blank Present 5 Day 50% Received Intact: Yes No N/A Wet Ice / Blue Ice Surcharges. Cooler Custody Seals: Yes No N/A **Total Containers:** of Containers Please call for **}---**Sample Custody Seals: 9056A / Chloride Yes No N/A SM 2540 C / TDS availability 6010C / Metals 9056A / SO4 9056A / F Due Date: Date Time Sample Identification Matrix Lab ID Sampled Sampled ģ Comments 112624-CCR-LPLF2R 2 TDS & Boron only GW 11/26/2024 11:31 Х Х Boron only 112624-CCR-LPLF8 GW 11/26/2024 2 Х 11:03 112624-CCR-LPLF8FD GW 2 Х Boron only 11/26/2024 11:03 Dissolved Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Tl, V, Zn, Zr Additional Methods Available Total **Upon Request** Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Si, Sn, Sr, Tl, V, Zn, Zr **RELINOUISHED BY RECEIVED BY** Print Name Signature Date/Time Print Name Signature Date/Time m.mil 11 MMUL Brianna McCloskey 1-26-24 . PUBLIC Andreana Carpentes

ZHPade 7 of 27



					PMSE
	Gooler Receipt an			· ~ / · · · · ·	
Client (ta	entralia M	<u>(ming</u> Ser	vice Request K24_	12617	
Received: <u>// <i>2(o 2</i>024</u> Opened:	11 26 2024 F	3y: <u> </u>	_ Unloaded: <u>//</u>	26 2024 By:	AD
1. Samples were received via? USPS	Fed Ex UPS	S DHL	PDX C	ourier Hand De	livered
2. Samples were received in: (circle)	cooler Box	Envelope	Other		NA
3. Were custody seals on coolers?		es, how many and		Frank	1 76 3
" If present, were custody seals intact?	~ -	esent, were they si		(P)	N
F		T)
			PM		
Temp Blank Sample Temp IR Gun	Cooler #/COC ID (NA)	Out of temp indicate with "	Notified If out of temp	Tracking Numb	er NA Filed
1.5		- Forther wanted	S W We we write	715 22°	31.07.997
I IROL	· · · · · · · · · · · · · · · · · · ·	······································			<u>No 157 II</u>
		1			
				· · · · · · · · · · · · · · · · · · ·	
4. Was a Temperature Blank present in cooler?			erature in the appropr		
If no, take the temperature of a representativ		vithin the cooler; n	otate in the column "	Sample Temp":	
5. Were samples received within the method spe				NA (Y)	N
If no, were they received on ice and same da	y as collected? If not, notate	e the cooler # abov	e and notify the PM.	NA Y	N
If applicable, tissue samples were received:	Frozen Partially Thawe	d Thawed			
6. Packing material: Inserts Baggies Bu	ubble Wrap Gel Packs (Wet Ice Dry Ice	Sleeves		
7. Were custody papers properly filled out (ink	- 、	\bigcirc .		NA Y	N
8. Were samples received in good condition (u				NA Y) N
9. Were all sample labels complete (ie, analysi	s, preservation, etc.)?			NA Y	N
10. Did all sample labels and tags agree with cu	stody papers?			NA Y) N
11. Were appropriate bottles/containers and volu	umes received for the tests i	indicated?		NA (Y) N
12. Were the pH-preserved bottles (see SMO GI	EN SOP) received at the app	propriate pH? Indi	cate in the table belo	w NA Y	$\overline{(N)}$
13. Were VOA vials received without headspace	e? Indicate in the table belo	ow.		NA Y	N
14. Was C12/Res negative?				NA Y	N
15. Were samples received within the method sp	pecified time limit? If not, n	otate the error belo	ow and notify the PM	- and the second	N
16. Were 100ml sterile microbiology bottles fill		and the second s	Y N	Underfilled	Overfilled
		·			
Sample ID on Bottle	Sample ID o	on COC		Identified by:	
					······
				······································	· · · · · · · · · · · · · · · · · · ·
		1 1 1			T
Sample ID	Bottle Count Hea Bottle Type spa	ad- Ice Broke pH	Reagent adde		Initiate Time
112624 - CCR-LPIF	ZR 125mL		HANS 0.5	mar 1 mar 1	Initials Time
				M-NUTIOT	1740

								1 1
					11			+
Notes Discrepancies Resolutions	Reciewed	(w) 257)(~/	all us		
Notes, Discrepancies, Resolutions: / test an the G:\SMO\2024 Forms Jogged	in for so	- inplan	CCR	-CPCF-8	and (PLF SF	D. 2 tob	<u>en en u>
C. JINIC (2024 FORMS Logged	forthys on hald	SOP. SIVIL	1-0EN			Revie	ewed: NP 1/	3/2024
	Construction Const							



Miscellaneous Forms

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Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable.
- 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.
- 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 over the calibration range.
- J The result is an estimated value between the MDL and the MRL.
- 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

- ${f F}$ 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/EnvironmentalLaborator yAccreditation/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 to our laboratory's NFLAP-approved quality assurance program A complete	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.ALSGlobal.com or at the accreditation bodies web site.

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M MCL	Modified 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.

Analyst Summary report

Client:	Transalta Centralia Mining, LLC
Project:	LPLF CCR/

112624-CCR-LPLF2R

K2412617-001

Water

Sample Name:

Sample Matrix:

Lab Code:

Service Request: K2412617

Date Collected: 11/26/24 **Date Received:** 11/26/24

Analysis Method 6020B SM 2540 C		Extracted/Digested By MCHATTICK	Analyzed By ABOYER AWILSON
Sample Name: Lab Code: Sample Matrix:	112624-CCR-LPLF8 K2412617-002 Water		Date Collected: 11/26/24 Date Received: 11/26/24
Analysis Method 6020B		Extracted/Digested By MCHATTICK	Analyzed By ABOYER
Sample Name: Lab Code: Sample Matrix:	112624-CCR-LPLF8FD K2412617-003 Water		Date Collected: 11/26/24 Date Received: 11/26/24
Analysis Method 6020B		Extracted/Digested By MCHATTICK	Analyzed By ABOYER



Sample Results

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Metals

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2412617
Project:	LPLF CCR	Date Collected: 11/26/24 11:31
Sample Matrix:	Water	Date Received: 11/26/24 14:16
Sample Name: Lab Code:	112624-CCR-LPLF2R K2412617-001	Basis: NA

	Analysis							Date	
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Extracted	Q
Boron	6020B	0.368	mg/L	0.010	0.003	5	12/04/24 16:26	12/03/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2412617
Project:	LPLF CCR	Date Collected: 11/26/24 11:03
Sample Matrix:	Water	Date Received: 11/26/24 14:16
Sample Name: Lab Code:	112624-CCR-LPLF8 K2412617-002	Basis: NA

	Analysis							Date	
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Extracted	Q
Boron	6020B	1.17	mg/L	0.010	0.003	5	12/04/24 16:28	12/03/24	

Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2412617
Project:	LPLF CCR	Date Collected: 11/26/24 11:03
Sample Matrix:	Water	Date Received: 11/26/24 14:16
Sample Name: Lab Code:	112624-CCR-LPLF8FD K2412617-003	Basis: NA

	Analysis							Date	
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Extracted	Q
Boron	6020B	1.12	mg/L	0.010	0.003	5	12/04/24 16:30	12/03/24	



General Chemistry

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2412617
Project:	LPLF CCR	Date Collected: 11/26/24 11:31
Sample Matrix:	Water	Date Received: 11/26/24 14:16
Sample Name: Lab Code:	112624-CCR-LPLF2R K2412617-001	Basis: NA

General Chemistry Parameters

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	3440	mg/L	40	-	1	12/03/24 16:41	



QC Summary Forms

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Metals

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request:	K2412617
Project:	LPLF CCR	Date Collected:	NA
Sample Matrix:	Water	Date Received:	NA
Sample Name: Lab Code:	Method Blank KQ2419441-01	Basis:	NA

	Analysis							Date	
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Extracted	Q
Boron	6020B	ND U	mg/L	0.0020	0.0005	1	12/04/24 16:01	12/03/24	

QA/QC Report

Client:Transalta Centralia Mining, LLCProject:LPLF CCRSample Matrix:Water

Service Request: K2412617 Date Analyzed: 12/04/24

Lab Control Sample Summary Total Metals

Units:mg/L Basis:NA

Lab Control Sample KQ2419441-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Boron	6020B	0.0238	0.0250	95	80-120



General Chemistry

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Analytical Report

Client:	Transalta Centralia Mining, LLC	Service Request: K2412617
Project:	LPLF CCR	Date Collected: NA
Sample Matrix:	Water	Date Received: NA
Sample Name: Lab Code:	Method Blank K2412617-MB	Basis: NA

General Chemistry Parameters

	Analysis							
Analyte Name	Method	Result	Units	MRL	MDL	Dil.	Date Analyzed	Q
Solids, Total Dissolved	SM 2540 C	ND U	mg/L	10	-	1	12/03/24 16:41	

QA/QC Report

Client: Project: Sample Matrix:	Transalta Cer LPLF CCR Water	ntralia Mining, LLC		Service Re Date Analy Date Extra	zed:	K241261 12/03/24 NA		
Lab Control Sample Summary Solids, Total Dissolved								
Analysis Method: Prep Method:	SM 2540 C None			Units: Basis: Analysis L	ot:	mg/L NA 863013		
Sample Name Lab Control Sample		Lab Code K2412617-LCS	Result 1710	Spike Amount 1760	<mark>% Rec</mark> 97	:	% Rec Limits 85-115	