



Permit: 107517

17 August 2022

To: **Teck Coal Limited – Green Hills Operation**

Re: **2022 Split Sampling Audit Summary Report**

Attention: Jeremy Enns,

Thank you for participating in the Split Sampling Program. Environmental data produced under order or enactment such as those required by permit provide critical information upon which crucial decisions are made regarding environmental protection. For this reason it is incumbent upon the Province to ensure that environmental data is produced with a reliable level of quality. The *Split Sampling Program* is a robust audit mechanism that evaluates and monitors that quality by comparing the analytical results of your samples to those obtained by a Ministry representative.

The Split Sampling Program is a Quality Assurance Program administered by the Ministry of Environment and Climate Change Strategy. Evaluations of the Split Sample test results are conducted by the Ministry's Laboratory Standards and Quality Assurance Unit (LSQA).

Performance Evaluations

Split Sample audits are used to conduct an assessment of a permittee's sampling performance and a laboratory's analytical performance. Where possible a sample splitter is used to produce homogenous aliquots of sample material from a known source thereby reducing to the greatest degree possible, the potential impacts of media heterogeneity. The removal of this potential interference allows an evaluation to distinguish and report on the remaining aspects of producing representative environmental parameters. These remaining aspects include field QA/QC, sample handling, processing, preservation, shipping, laboratory processing and sample handling, laboratory equipment and instrumentation, QA/QC, and reporting.

Guidance and instruction on field QA/QC, sample handling, processing and preservation are provided in the British Columbia Field Sampling Manual (the 'BCFSM'). The B.C. Environmental Data Quality Assurance Regulation (EDQAR) stipulates that environmental monitoring that is required by permit must be analyzed by a "qualified laboratory". The B.C. Ministry of Environment and Climate Change Strategy (ENV) maintains a Directory of Qualified Laboratories (the 'directory'). Access to the directory, the BCFSM and the EDQAR is provided by the Laboratory Standards and Quality Assurance unit at: <https://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/monitoring/laboratory-standards-quality-assurance>.

Audit Definition and Performance Criteria

Split sampling for this program is typically carried out during routine inspections. Parameters included in your audit are derived from your permit and chosen by the ENV inspector. Each submission of split samples constitutes an *audit*. The analytes included in an audit are divided into Water Chemistry, toxicity and Microbiological components although not all submissions include toxicity and or microbiological testing. Water chemistry results are evaluated via a statistical comparison of the permittee's laboratory results with the Ministry's laboratory results. An evaluation of microbiological test results are scored according to the grading scale developed for the CMPT data assessment protocol. Toxicity test results are scored by absolute deviation. The maximum allowable deviation for a toxicity test is 30%.

Each test result included in an audit is evaluated and each evaluation produces a statistical performance score of 5, 4, 2 or 0 *points* where 5 is the highest score and both 2 and 0 indicate an unacceptable (failed) test result. The average of all performance scores produced in a single audit constitutes the overall Performance Evaluation. Two criterion are applied to each audit; a *Percent of Failed Tests* with a 25% threshold and an *Overall Performance Evaluation* which must achieve 70%. Evaluations that result in a percentage of Failed Tests equal to or below 25 and a Performance Evaluation equal to or greater than 70% constitutes an audit pass.

2021 Audit Summary

In total 79 analytical tests were included in this year's audit and of those 79 were evaluated. The outcomes of this year's audit include a performance evaluation of 95% with 3 failed test results, which is indicative of strong quality assurance and quality control measures.

Client Name: Teck Coal - Green Hills	
Audit No.:	22.1
Requisition No's.:	X20220524
Sample Date:	20-Apr-2022
Total Tests Included:	79
Total Tests Evaluated:	79
Total Points Assigned:	375
Failed Test Results:	3
Percent of Failed Tests:	4%
Performance Evaluation:	95%
Audit Result:	PASS

A summary of our evaluation is presented in the adjacent table. For more information on the calculation of the performance score rating or any other information regarding the Split Sampling Program, please feel free to contact me. For any permit related question please contact your Environmental Protection Officer.

Ken Murray, B.Sc.,
Senior Quality Management Analyst
Email: SplitSampleaudits@gov.bc.ca

cc: Kelly Mills