



ALS Environmental
ALS Group USA, Corp
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www.alsglobal.com

January 14, 2022

Analytical Report for Service Request No: K2114552
Revised Service Request No: K2114552.01

Mike Williams
TransAlta Centralia Generation LLC
913 Big Hanaford Rd
Centralia, WA 98531

RE: TCG NPDES 2021

Dear Mike,

Enclosed are the results of the sample(s) submitted to our laboratory December 16, 2021
For your reference, these analyses have been assigned our service request number **K2114552**.

The metal results have been added to this report.

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.

We apologize for any inconvenience this may have created.

Please contact me if you have any questions. My extension is 3350. You may also contact me via email at Kelley.Lovejoy@alsglobal.com.

Respectfully submitted,

ALS Group USA, Corp. dba ALS Environmental

Kelley Lovejoy
Project Manager

REVISED

12:36 pm, Jan 14, 2022



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Table of Contents

Acronyms

Qualifiers

State Certifications, Accreditations, And Licenses

Case Narrative

Chain of Custody

General Chemistry

Metals

Subcontract Lab Results

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

- * The result is an outlier. See case narrative.
- # The control limit criteria is not applicable.
- 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.
- J The result is an estimated value.
- N The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
- P The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
- U The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL.
DOD-QSM 4.2 definition : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
- i The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
- X See case narrative.
- Q See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

- F The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
- L The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
- H The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
- O The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
- Y The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
- Z The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEH	http://dec.alaska.gov/eh/lab/cs/csapproval.htm	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2795
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L16-58-R4
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Hawaii DOH	http://health.hawaii.gov/	-
ISO 17025	http://www.pjllabs.com/	L16-57
Louisiana DEQ	http://www.deq.louisiana.gov/page/la-lab-accreditation	03016
Maine DHS	http://www.maine.gov/dhhs/	WA01276
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-457
Nevada DEP	http://ndep.nv.gov/bsdwlabservice.htm	WA01276
New Jersey DEP	http://www.nj.gov/dep/enforcement/oqa.html	WA005
New York - DOH	https://www.wadsworth.org/regulatory/elap	12060
North Carolina DEQ	https://deq.nc.gov/about/divisions/water-resources/water-resources-data/water-sciences-home-page/laboratory-certification-branch/non-field-lab-certification	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA100010
South Carolina DHEC	http://www.scdhec.gov/environment/EnvironmentalLabCertification/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C544
Wyoming (EPA Region 8)	https://www.epa.gov/region8-waterops/epa-region-8-certified-drinking-water	-
Kelso Laboratory Website	www.alsglobal.com	NA

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

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



Case Narrative

ALS Environmental—Kelso Laboratory
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Phone (360)577-7222 Fax (360)636-1068
www.alsglobal.com

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water

Service Request: K2114552
Date Received: 12/16/2021

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:

One water sample was received for analysis at ALS Environmental on 12/16/2021. 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:

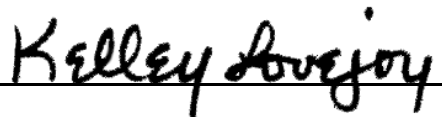
No significant anomalies were noted with this analysis.

Subcontracted Analytical Parameters:

Chromium (VI) by EPA Method 218.6

Chromium (VI) analysis by EPA Method 218.6 was performed at ALS Middletown, PA Laboratory. The data for this analysis is included in the corresponding section of this report.

Approved by



Date

01/13/2022



Chain of Custody

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Chain of Custody

Work Order No.:

L2114SSD

Part of the ALS Group A Campbell Brothers Limited Company

[illegible]

Cooler Receipt and Preservation Form

Client Trans Alta Service Request K21 14552 PM ✓
Received: 12/16/21 Opened: 12/16/21 By: ZH Unloaded: 12/16/21 By: ZH

- Samples were received via? USPS Red Ex UPS DHL PDX Courier Hand Delivered
 - Samples were received in: (circle) Cooler Box Envelope Other NA
 - Were custody seals on coolers? NA Y N If yes, how many and where? NA
If present, were custody seals intact? Y N If present, were they signed and dated? Y N
 - Was a Temperature Blank present in cooler? NA Y N If yes, notate the temperature in the appropriate column below:
If no, take the temperature of a representative sample bottle contained within the cooler; notate in the column "Sample Temp":
 - Were samples received within the method specified temperature ranges? NA Y N
If no, were they received on ice and same day as collected? If not, notate the cooler # below and notify the PM. NA Y N
- If applicable, tissue samples were received: Frozen Partially Thawed Thawed

Temp Blank	Sample Temp	IR Gun	Cooler #/COC ID / NA	Out of temp Indicate with "X"	PM Notified If out of temp	Tracking Number NA	Filed
	<u>3.4</u>	<u>1202</u>				<u>1502916473955</u>	

- Packing material: Inserts Baggies Bubble Wrap Gel Packs Wet Ice Dry Ice Sleeves
- Were custody papers properly filled out (ink, signed, etc.)? NA Y N
- Were samples received in good condition (unbroken) NA Y N
- Were all sample labels complete (ie, analysis, preservation, etc.)? NA Y N
- Did all sample labels and tags agree with custody papers? NA Y N
- Were appropriate bottles/containers and volumes received for the tests indicated? NA Y N
- Were the pH-preserved bottles (see SMO GEN SOP) received at the appropriate pH? Indicate in the table below NA Y N
- Were VOA vials received without headspace? Indicate in the table below. NA Y N
- Was C12/Res negative? NA Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Head- space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, Resolutions: _____

SHORT HOLD TIME



General Chemistry

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ALS Group USA, Corp.
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Analytical Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water
Analysis Method: 1664A
Prep Method: Method

Service Request: K2114552
Date Collected: 12/15/21
Date Received: 12/16/21
Units: mg/L
Basis: NA

Oil and Grease, Total (HEM)

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
OO1	K2114552-001	ND U	4.6	1	12/21/21 10:00	12/21/21	
Method Blank	K2114552-MB	ND U	4.0	1	12/21/21 10:00	12/21/21	

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QA/QC Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water

Service Request: K2114552
Date Analyzed: 12/21/21
Date Extracted: 12/21/21

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method: 1664A
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 749868

Lab Control Sample
K2114552-LCS1

Duplicate Lab Control Sample
K2114552-DLCS1

Analyte Name	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Oil and Grease, Total (HEM)	113	120	94	114	120	95	78-114	<1	18

ALS Group USA, Corp.
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Analytical Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water
Analysis Method: 335.4
Prep Method: Method

Service Request: K2114552
Date Collected: 12/15/21
Date Received: 12/16/21
Units: mg/L
Basis: NA

Cyanide, Total

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
OO1	K2114552-001	ND U	0.020	1	12/21/21 12:49	12/21/21	
Method Blank	K2114552-MB	ND U	0.020	1	12/21/21 12:49	12/21/21	

ALS Group USA, Corp.
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QA/QC Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water

Service Request: K2114552
Date Analyzed: 12/21/21
Date Extracted: 12/21/21

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method: 335.4
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 749861

Lab Control Sample
K2114552-LCS1

Duplicate Lab Control Sample
K2114552-DLCS1

Analyte Name	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Cyanide, Total	0.0747	0.075	100	0.0741	0.075	99	90-110	<1	20

ALS Group USA, Corp.
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Analytical Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water
Analysis Method: 420.1
Prep Method: Method

Service Request: K2114552
Date Collected: 12/15/21
Date Received: 12/16/21
Units: mg/L
Basis: NA

Phenolics, Total

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
OO1	K2114552-001	0.031	0.010	1	12/21/21 16:50	12/21/21	
Method Blank	K2114552-MB	ND U	0.010	1	12/21/21 16:50	12/21/21	

ALS Group USA, Corp.
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QA/QC Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water

Service Request: K2114552
Date Analyzed: 12/21/21
Date Extracted: 12/21/21

Lab Control Sample Summary
Phenolics, Total

Analysis Method: 420.1
Prep Method: Method

Units: mg/L
Basis: NA
Analysis Lot: 749873

Sample Name	Lab Code	Result	Spike Amount	% Rec	% Rec Limits
Lab Control Sample	K2114552-LCS2	0.590	0.600	98	86-112

ALS Group USA, Corp.
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Analytical Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water
Analysis Method: SM 4500-CN- E
Prep Method: SM 4500-CN- G

Service Request: K2114552
Date Collected: 12/15/21
Date Received: 12/16/21
Units: mg/L
Basis: NA

Cyanide, Amenable to Chlorination

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
OO1	K2114552-001	ND U	0.020	1	12/21/21 12:49	12/21/21	
Method Blank	K2114552-MB	ND U	0.020	1	12/21/21 12:49	12/21/21	

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QA/QC Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water

Service Request: K2114552
Date Analyzed: 12/21/21
Date Extracted: 12/21/21

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method: SM 4500-CN- E
Prep Method: SM 4500-CN- G

Units: mg/L
Basis: NA
Analysis Lot: 749861

Lab Control Sample
K2114552-LCS1

Duplicate Lab Control Sample
K2114552-DLCS1

Analyte Name	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Cyanide, Amenable to Chlorination	0.0747	0.075	100	0.0741	0.075	99	56-169	<1	20

ALS Group USA, Corp.
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Analytical Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water
Analysis Method: SM 4500-CN- E
Prep Method: SM 4500-CN-I

Service Request: K2114552
Date Collected: 12/15/21
Date Received: 12/16/21
Units: mg/L
Basis: NA

Cyanide, Weak Acid Dissociable (WAD)

Sample Name	Lab Code	Result	MRL	Dil.	Date Analyzed	Date Extracted	Q
OO1	K2114552-001	ND U	0.020	1	12/21/21 12:35	12/21/21	
Method Blank	K2114552-MB	ND U	0.020	1	12/21/21 12:35	12/21/21	

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QA/QC Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water

Service Request: K2114552
Date Analyzed: 12/21/21
Date Extracted: 12/21/21

Duplicate Lab Control Sample Summary
General Chemistry Parameters

Analysis Method: SM 4500-CN- E
Prep Method: SM 4500-CN-I

Units: mg/L
Basis: NA
Analysis Lot: 749865

Lab Control Sample
K2114552-LCS1

Duplicate Lab Control Sample
K2114552-DLCS1

Analyte Name	Result	Spike Amount	% Rec	Result	Spike Amount	% Rec	% Rec Limits	RPD	RPD Limit
Cyanide, Weak Acid Dissociable (WAD)	0.0746	0.075	99	0.0745	0.075	99	70-141	<1	20



Metals

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ALS Group USA, Corp.
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Analytical Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water

Service Request: K2114552
Date Collected: 12/15/21
Date Received: 12/16/21

Mercury, Total

Prep Method: METHOD
Analysis Method: 1631E
Test Notes:

Units: ng/L
Basis: NA

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
OO1	K2114552-001	0.5	1	12/20/21	12/21/21	3.8	
Method Blank 1	K2114552-MB1	0.5	1	12/20/21	12/21/21	ND	
Method Blank 2	K2114552-MB2	0.5	1	12/20/21	12/21/21	ND	
Method Blank 3	K2114552-MB3	0.5	1	12/20/21	12/21/21	ND	

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QA/QC Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
LCS Matrix: Water

Service Request: K2114552
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/21/21

Ongoing Precision and Recovery (OPR) Sample Summary
Total Metals

Sample Name: Ongoing Precision and Recovery (Initial) **Units:** ng/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	ALS Percent Recovery	Result Notes
						Acceptance Limits	
Mercury	METHOD	1631E	5.00	5.23	105	77-123	

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QA/QC Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
LCS Matrix: Water

Service Request: K2114552
Date Collected: NA
Date Received: NA
Date Extracted: NA
Date Analyzed: 12/21/21

Ongoing Precision and Recovery (OPR) Sample Summary
Total Metals

Sample Name: Ongoing Precision and Recovery (Final) **Units:** ng/L
Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	ALS	Result Notes
						Percent Recovery Acceptance Limits	
Mercury	METHOD	1631E	5.00	4.87	97	77-123	

ALS Group USA, Corp.
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QA/QC Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
LCS Matrix: Water

Service Request: K2114552
Date Collected: NA
Date Received: NA
Date Extracted: 12/20/2021
Date Analyzed: 12/21/21

Quality Control Sample (QCS) Summary
Total Metals

Sample Name: Quality Control Sample

Units: ng/L

Basis: NA

Test Notes:

Analyte	Prep Method	Analysis Method	True Value	Result	Percent Recovery	ALS	Result Notes
						Percent Recovery Acceptance Limits	
Mercury	METHOD	1631E	5.00	4.44	89	77-123	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water

Service Request: K2114552
Date Collected: 12/15/21 10:00
Date Received: 12/16/21 10:50

Sample Name: OO1
Lab Code: K2114552-001

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Antimony	200.8	0.232	ug/L	0.050	1	12/17/21 15:44	12/17/21	
Arsenic	200.8	1.24	ug/L	0.50	1	12/17/21 15:44	12/17/21	
Beryllium	200.8	ND U	ug/L	0.020	1	12/17/21 15:44	12/17/21	
Cadmium	200.8	0.034	ug/L	0.020	1	12/17/21 15:44	12/17/21	
Chromium	200.8	1.15	ug/L	0.20	1	12/17/21 15:44	12/17/21	
Copper	200.8	2.10	ug/L	0.10	1	12/20/21 14:03	12/20/21	
Lead	200.8	0.338	ug/L	0.020	1	12/17/21 15:44	12/17/21	
Nickel	200.8	1.16	ug/L	0.20	1	12/17/21 15:44	12/17/21	
Selenium	200.8	ND U	ug/L	1.0	1	12/17/21 15:44	12/17/21	
Silver	200.8	ND U	ug/L	0.020	1	12/17/21 15:44	12/17/21	
Thallium	200.8	0.024	ug/L	0.020	1	12/17/21 15:44	12/17/21	
Zinc	200.8	9.3	ug/L	2.0	1	12/17/21 15:44	12/17/21	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water

Sample Name: Method Blank
Lab Code: KQ2124366-01

Service Request: K2114552
Date Collected: NA
Date Received: NA

Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Antimony	200.8	ND U	ug/L	0.050	1	12/17/21 15:40	12/17/21	
Arsenic	200.8	ND U	ug/L	0.50	1	12/17/21 15:40	12/17/21	
Beryllium	200.8	ND U	ug/L	0.020	1	12/17/21 15:40	12/17/21	
Cadmium	200.8	ND U	ug/L	0.020	1	12/17/21 15:40	12/17/21	
Chromium	200.8	ND U	ug/L	0.20	1	12/17/21 15:40	12/17/21	
Lead	200.8	ND U	ug/L	0.020	1	12/17/21 15:40	12/17/21	
Nickel	200.8	ND U	ug/L	0.20	1	12/17/21 15:40	12/17/21	
Selenium	200.8	ND U	ug/L	1.0	1	12/17/21 15:40	12/17/21	
Silver	200.8	ND U	ug/L	0.020	1	12/17/21 15:40	12/17/21	
Thallium	200.8	ND U	ug/L	0.020	1	12/17/21 15:40	12/17/21	
Zinc	200.8	ND U	ug/L	2.0	1	12/17/21 15:40	12/17/21	

ALS Group USA, Corp.
dba ALS Environmental

Analytical Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water
Sample Name: Method Blank
Lab Code: KQ2124475-01

Service Request: K2114552
Date Collected: NA
Date Received: NA
Basis: NA

Total Metals

Analyte Name	Analysis Method	Result	Units	MRL	Dil.	Date Analyzed	Date Extracted	Q
Copper	200.8	ND U	ug/L	0.10	1	12/20/21 13:50	12/20/21	

ALS Group USA, Corp.

dba ALS Environmental

QA/QC Report

Client: TransAlta Centralia Generation LLC
Project TCG NPDES 2021
Sample Matrix: Water

Service Request: K2114552

Date Collected: 12/15/21

Date Received: 12/16/21

Date Analyzed: 12/17/21

Replicate Sample Summary

Total Metals

Sample Name: OO1
Lab Code: K2114552-001

Units: ug/L

Basis: NA

Duplicate Sample KQ2124366-03							
Analyte Name	Analysis Method	MRL	Sample Result	Result	Average	RPD	RPD Limit
Antimony	200.8	0.050	0.232	0.286	0.259	21 *	20
Arsenic	200.8	0.50	1.24	1.25	1.25	<1	20
Beryllium	200.8	0.020	ND U	0.030	ND	-	20
Cadmium	200.8	0.020	0.034	0.023	0.029	39 #	20
Chromium	200.8	0.20	1.15	1.21	1.18	5	20
Lead	200.8	0.020	0.338	0.339	0.339	<1	20
Nickel	200.8	0.20	1.16	1.10	1.13	5	20
Selenium	200.8	1.0	ND U	ND U	ND	-	20
Silver	200.8	0.020	ND U	ND U	ND	-	20
Thallium	200.8	0.020	0.024	ND U	0.021	34 #	20
Zinc	200.8	2.0	9.3	9.3	9.3	<1	20

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

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

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

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water

Service Request: K2114552
Date Collected: 12/15/21
Date Received: 12/16/21
Date Analyzed: 12/17/21
Date Extracted: 12/17/21

Matrix Spike Summary
Total Metals

Sample Name: OO1
Lab Code: K2114552-001
Analysis Method: 200.8
Prep Method: EPA CLP ILM04.0

Units: ug/L
Basis: NA

Matrix Spike
KQ2124366-04

Analyte Name	Sample Result	Result	Spike Amount	% Rec	% Rec Limits
Antimony	0.232	10.3	10.0	101	70-130
Arsenic	1.24	51.6	50.0	101	70-130
Beryllium	ND U	2.71	2.50	108	70-130
Cadmium	0.034	25.1	25.0	100	70-130
Chromium	1.15	11.4	10.0	103	70-130
Lead	0.338	51.4	50.0	102	70-130
Nickel	1.16	25.8	25.0	99	70-130
Selenium	ND U	51.9	50.0	103	70-130
Silver	ND U	12.2	12.5	97	70-130
Thallium	0.024	49.2	50.0	98	70-130
Zinc	9.3	33.9	25.0	99	70-130

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.

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.

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water

Service Request: K2114552
Date Analyzed: 12/17/21

Lab Control Sample Summary
Total Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ2124366-07

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Antimony	200.8	9.66	10.0	97	85-115
Arsenic	200.8	49.3	50.0	99	85-115
Beryllium	200.8	2.56	2.50	102	85-115
Cadmium	200.8	24.5	25.0	98	85-115
Chromium	200.8	9.90	10.0	99	85-115
Lead	200.8	49.9	50.0	100	85-115
Nickel	200.8	24.3	25.0	97	85-115
Selenium	200.8	50.7	50.0	101	85-115
Silver	200.8	12.2	12.5	97	85-115
Thallium	200.8	48.8	50.0	98	85-115
Zinc	200.8	24.9	25.0	99	85-115

ALS Group USA, Corp.
dba ALS Environmental

QA/QC Report

Client: TransAlta Centralia Generation LLC
Project: TCG NPDES 2021
Sample Matrix: Water

Service Request: K2114552
Date Analyzed: 12/20/21

Lab Control Sample Summary
Total Metals

Units:ug/L
Basis:NA

Lab Control Sample
KQ2124475-02

Analyte Name	Analytical Method	Result	Spike Amount	% Rec	% Rec Limits
Copper	200.8	12.3	12.5	98	85-115



Subcontract Lab Results

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



301 Fulling Mill Road | Middletown, PA 17057 | Phone: 717-944-5541 | Fax: 717-944-1430 | www.alsglobal.com

NELAP Certifications: NJ PA010 , NY 11759 , PA 22-293 DoD ELAP: PJLA 74618
State Certifications: FL E871113 , WA C999 , MD 128 , VA 460157 , WV DW 9961-C , WV 343

Analytical Results Report For

ALS Environmental-Kelso

Project K2114552
Workorder 3219133
Report ID 142787 on 1/13/2022

Certificate of Analysis

Enclosed are the analytical results for samples received by the laboratory on Dec 23, 2021.

The ALS Environmental laboratory in Middletown, Pennsylvania is a National Environmental Laboratory Accreditation Program (NELAP) accredited laboratory and as such, certifies that all applicable test results meet the requirements of NELAP.

If you have any questions regarding this certificate of analysis, please contact Sarah Leung (Project Coordinator) at (717) 944-5541.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program and any applicable state requirements. The test results meet requirements of the current NELAP standards or state requirements, where applicable. For a specific list of accredited analytes, refer to the certifications section of the ALS website at www.alsglobal.com/en/Our-Services/Life-Sciences/Environmental/Downloads.

This laboratory report may not be reproduced, except in full, without the written approval of ALS Global.
ALS Middletown: 301 Fulling Mill Road, Middletown, PA 17057 : 717-944-5541.

Recipient(s):

ALKLS Data - ALS Environmental-Kelso
Kelley Lovejoy - ALS Environmental-Kelso

Sarah Leung

Sarah Leung
Project Coordinator

(ALS Digital Signature)

This page is included as part of the Analytical Report and must be retained as a permanent record thereof.



Sample Summary

Lab ID	Sample ID	Matrix	Date Collected	Date Received	Collector	Collection Company
3219133001	K2114552-001	Water	12/15/2021 10:00 AM	12/23/2021 9:48 AM	CBC	Collected By Client

Reference

Notes

- Samples collected by ALS personnel are done so in accordance with the procedures set forth in the ALS Field Sampling Plan (20 - Field Services Sampling Plan).
- All Waste Water analyses comply with methodology requirements of 40 CFR Part 136.
- All Drinking Water analyses comply with methodology requirements of 40 CFR Part 141.
- The Chain of Custody document is included as part of this report.
- All Library Search analytes should be regarded as tentative identifications based on the presumptive evidence of the mass spectra. Concentrations reported are estimated values.
- Parameters identified as "analyze immediately" require analysis within 15 minutes of collection. Any "analyze immediately" parameters not listed under the header "Field Parameters" are preformed in the laboratory and are therefore analyzed out of hold time.
- Method references listed on this report beginning with the prefix "S" followed by a method number (such as S2310B-97) refer to methods from "Standard Methods for the Examination of Water and Wastewater".
- For microbiological analyses, the "Prepared" value is the date/time into the incubator and the "Analyzed" value is the date/time out the incubator.
- An Analysis-Prep Method Cross Reference Table is included after Analytical Results & Qualifiers section in this report.

Standard Acronyms/Flags

C	Please reference the Project Summary section of this Certificate of Analysis for case narrative comments.
J	Indicates an estimated value between the Method Detection Limit (MDL) and the Practical Quantitation Limit (PQL) for the analyte
U	Indicates that the analyte was Not Detected (ND)
N	Indicates presumptive evidence of the presence of a compound
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
RDL	Reporting Detection Limit
ND	Not Detected - indicates that the analyte was Not Detected at the RDL
Cntr	Analysis was performed using this container
RegLmt	Regulatory Limit
LCS	Laboratory Control Sample
MS	Matrix Spike
MSD	Matrix Spike Duplicate
DUP	Sample Duplicate
%Rec	Percent Recovery
RPD	Relative Percent Difference
LOD	DoD Limit of Detection
LOQ	DoD Limit of Quantitation
DL	DoD Detection Limit
I	Indicates reported value is greater than or equal to the Method Detection Limit (MDL) but less than the Report Detection Limit (RDL)
(S)	Surrogate Compound
NC	Not Calculated
*	Result outside of QC limits



Project Notations

Sample Notations

Lab IDSample ID

Result Notations

Notation #

0



Client Sample ID	K2114552-001	Collected	12/15/2021 10:00 AM
Lab Sample ID	3219133001	Lab Receipt	12/23/2021 9:48 AM

Wet Chemistry (General)
EPA 218.6

Prep

Method	N/A	Container	3219133001-A(NH4OH + NH4SO3)
Batch	N/A	Aliquot	5 mL
Date	N/A	Tech.	N/A

Analysis

Method	EPA 218.6	Fraction	
Batch	808680	Dilution	1
Date	01/07/2022 1:31 PM	Analyst	DMG

RESULTS

Compound	CAS No	Result	Units	RDL	MDL	Qualifiers
Hexavalent Chromium	CR6	ND	ug/L	0.020	0.014	C,ND



Sample - Method Cross Reference Table

Lab ID	Sample ID	Analysis Method	Preparation Method	Leachate Method
3219133001	K2114552-001	EPA 218.6	N/A	



QUALITY CONTROL SAMPLES

Wet Chemistry (General)
EPA 218.6

QC Batch

QC Batch808680

Prep MethodN/A

DateN/A

TechN/A

Analysis MethodEPA 218.6

Matrix Spike3444325 (MS)Aliquot from 3218417001For QC Batch 808680

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate3444326 (MSD)Aliquot from 3218417001For QC Batch 808680

RESULTS

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
Hexavalent Chromium	CR6	MS	5.30	5.13	103	90 - 110	
Hexavalent Chromium	CR6	MSD	5.20	5.13	102	90 - 110RPD0.99 (Max-20)	

Matrix Spike3444650 (MS)Aliquot from 3221108001For QC Batch 808680

****NOTE - The Original Result shown below is a raw result and is only used for the purpose of calculating Matrix Spike percent recoveries. This result is not a final value and cannot be used as such.

Matrix Spike Duplicate3444651 (MSD)Aliquot from 3221108001For QC Batch 808680

RESULTS

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
Hexavalent Chromium	CR6	MS	5.50	5	110	90 - 110	
Hexavalent Chromium	CR6	MSD	5.50	5	110	90 - 110RPD0.24 (Max-20)	

Continuing Calib. Low Range3444322 (CCVL)Created on 01/06/2022 3:34 PMFor QC Batch 808680

RESULTS

Compound	CAS No				Rec. (%)	Limits (%)	Qualifiers
Hexavalent Chromium	CR6	OTHER	5.20	5	104	90 - 110	

Lab Control Standard3444324 (LCS)Created on 01/06/2022 3:34 PMFor QC Batch 808680



RESULTS

Compound	CAS No		Result (ug/L)	Expected (ug/L)	Rec. (%)	Limits (%)	Qualifiers
Hexavalent Chromium	CR6	LCS	9.80	10	98.50	90 - 110	

Method Blank 3444327 (MB) Created on 01/06/2022 3:34 PM For QC Batch 808680

RESULTS

Compound	CAS No		Result	Units	RDL		Qualifiers
Hexavalent Chromium	CR6	BLK	ND	ug/L	0.020		ND

Continuing Calib. High Range 3444328 (CCVH) Created on 01/06/2022 3:34 PM For QC Batch 808680

RESULTS

Compound	CAS No				Rec. (%)	Limits (%)	Qualifiers
Hexavalent Chromium	CR6	OTHER	19.90	20	99.60	90 - 110	

Continuing Calib. Low Range 3446380 (CCVL) Created on 01/12/2022 11:22 AM For QC Batch 808680

RESULTS

Compound	CAS No				Rec. (%)	Limits (%)	Qualifiers
Hexavalent Chromium	CR6	OTHER	5.10	5	103	90 - 110	

