



Thursday, October 07, 2021

Randy Evans
Randy Evans
328 South Overland Tr.
Fort Collins, CO 80521

Re: ALS Workorder: 2109415
Project Name: WPWT Facility
Project Number:

Dear Mr. Evans:

Five water samples were received from Randy Evans, on 9/16/2021. The samples were scheduled for the following analyses:

Inorganics

Metals

The results for these analyses are contained in the enclosed reports.

The data contained in the following report have been reviewed and approved by the personnel listed below. In addition, ALS certifies that the analyses reported herein are true, complete and correct within the limits of the methods employed. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental.

Thank you for your confidence in ALS Environmental. Should you have any questions, please call.

Sincerely,

ALS Environmental
Katie M. O'Brien
Project Manager

Accreditations: ALS Environmental – Fort Collins is accredited by the following accreditation bodies for various testing scopes in accordance with requirements of each accreditation body. All testing is performed under the laboratory management system, which is maintained to meet these requirement and regulations. Please contact the laboratory or accreditation body for the current scope testing parameters.

ALS Environmental – Fort Collins	
Accreditation Body	License or Certification Number
California (CA)	2926
Colorado (CO)	CO01099
Florida (FL)	E87914
Idaho (ID)	CO01099
Kansas (KS)	E-10381
Kentucky (KY)	90137
PJ-LA (DoD ELAP/ISO 170250)	95377
Maryland (MD)	285
Missouri (MO)	175
Nebraska(NE)	NE-OS-24-13
Nevada (NV)	CO010992018-1
New York (NY)	12036
North Dakota (ND)	R-057
Oklahoma (OK)	1301
Pennsylvania (PA)	68-03116
Tennessee (TN)	TN02976
Texas (TX)	T104704241
Utah (UT)	CO01099
Washington (WA)	C1280

40 CFR Part 136: All analyses for Clean Water Act samples are analyzed using the 40 CFR Part 136 specified method and include all the QC requirements.



2109415

Metals:

The samples were analyzed following SW-846, 3rd Edition procedures. Analysis by Trace ICP followed method 6010D and the current revision of SOP 834. Analysis by ICPMS followed method 6020B and the current revision of SOP 827.

All acceptance criteria were met.

Inorganics:

The samples were analyzed following EMSL and Standard Method procedures for the current revisions of the following SOPs and methods:

<u>Analyte</u>	<u>Method</u>	<u>SOP #</u>
TDS	SM2540C	1101
Chloride	300.0 Revision 2.1	1113
Fluoride	300.0 Revision 2.1	1113
Sulfate	300.0 Revision 2.1	1113

All acceptance criteria were met.

ALS -- Fort Collins

Sample Number(s) Cross-Reference Table

OrderNum: 2109415

Client Name: Randy Evans

Client Project Name: WPWT Facility

Client Project Number:

Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Outfall 050A	2109415-1		WATER	16-Sep-21	8:00
Outfall 050B	2109415-2		WATER	16-Sep-21	9:00
Outfall 050C	2109415-3		WATER	16-Sep-21	11:30
Outfall 050D	2109415-4		WATER	16-Sep-21	12:15
Outfall 050E	2109415-5		WATER	16-Sep-21	14:00



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CONDITION OF SAMPLE UPON RECEIPT FORM

Client: WOC Workorder No: 2109415
Project Manager: kmo Initials: CXT Date: 09/17/2021

	N/A	YES	NO
1. Are airbills / shipping documents present and/or removable?	X		
Tracking number:			
2. Are custody seals on shipping containers intact?	X		
3. Are custody seals on sample containers intact?	X		
4. Is there a COC (chain-of-custody) present?		X	
5. Is the COC in agreement with samples received? (IDs, dates, times, # of samples, # of containers, matrix, requested analyses, etc.)		X	
6. Are short-hold samples present?			X
7. Are all samples within holding times for the requested analyses?		X	
8. Were all sample containers received intact? (not broken or leaking)		X	
9. Is there sufficient sample for the requested analyses?		X	
10. Are samples in proper containers for requested analyses? (form 250, Sample Handling Guidelines)		X	
11. Are all aqueous samples preserved correctly, if required? (excluding volatiles)		X	
12. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, radon) free of bubbles > 6 mm (1/4 inch) diameter? (i.e. size of green pea)	X		
13. Were the samples shipped on ice?		X	
14. Were cooler temperatures measured at 0.1-6.0°C?	IR gun used*: #5	RAD ONLY	X
Cooler #: <u>1</u>			
Temperature (°C): <u>5.1</u>			
# of custody seals on cooler: <u>1</u>			
External µR/hr reading: <u>NA</u>			
Background µR/hr reading: <u>10</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES (If no, see Form 008.)			

* Please provide details here for NO responses to boxes above - for 2 thru 5 & 7 thru 12, notify PM & continue w/ login.

Were unpreserved bottles pH checked? NA All client bottle ID's vs ALS lab ID's double-checked by: CT

If applicable, was the client contacted? YES / NO / NA Contact: _____ Date/Time: _____

Project Manager Signature / Date: [Signature] 9/17/21

Client: Randy Evans
Project: WPWT Facility
Sample ID: Outfall 050A
Legal Location:
Collection Date: 9/16/2021 08:00

Date: 07-Oct-21
Work Order: 2109415
Lab ID: 2109415-1
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Total Recoverable ICP Metals			SW6010		Prep Date: 9/24/2021	PrepBy: WJS
BORON	0.21		0.1	MG/L	1	9/28/2021 11:53
BARIUM	ND		0.1	MG/L	1	9/28/2021 11:53
SODIUM	53		1	MG/L	1	9/28/2021 11:53
Total Recoverable ICPMS Metals			SW6020		Prep Date: 9/24/2021	PrepBy: WJS
THALLIUM	ND		0.15	UG/L	10	10/4/2021 20:10
Ion Chromatography			EPA300.0		Prep Date: 9/27/2021	PrepBy: AOW
CHLORIDE	20		2	MG/L	10	9/27/2021 14:11
FLUORIDE	ND		1	MG/L	10	9/27/2021 14:11
SULFATE	870		10	MG/L	10	9/27/2021 14:11
Total Dissolved Solids			SM2540C		Prep Date: 9/21/2021	PrepBy: BMK
TOTAL DISSOLVED SOLIDS	1400		40	MG/L	1	9/28/2021

Client: Randy Evans
Project: WPWT Facility
Sample ID: Outfall 050B
Legal Location:
Collection Date: 9/16/2021 09:00

Date: 07-Oct-21
Work Order: 2109415
Lab ID: 2109415-2
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Total Recoverable ICP Metals			SW6010		Prep Date: 9/24/2021	PrepBy: WJS
BORON	0.72		0.1	MG/L	1	9/28/2021 11:54
BARIUM	ND		0.1	MG/L	1	9/28/2021 11:54
SODIUM	120		1	MG/L	1	9/28/2021 11:54
Total Recoverable ICPMS Metals			SW6020		Prep Date: 9/24/2021	PrepBy: WJS
THALLIUM	ND		0.15	UG/L	10	10/4/2021 20:13
Ion Chromatography			EPA300.0		Prep Date: 9/27/2021	PrepBy: AOW
CHLORIDE	200		2	MG/L	10	9/27/2021 14:17
FLUORIDE	ND		1	MG/L	10	9/27/2021 14:17
SULFATE	230		10	MG/L	10	9/27/2021 14:17
Total Dissolved Solids			SM2540C		Prep Date: 9/21/2021	PrepBy: BMK
TOTAL DISSOLVED SOLIDS	1200		40	MG/L	1	9/28/2021

Client: Randy Evans
Project: WPWT Facility
Sample ID: Outfall 050C
Legal Location:
Collection Date: 9/16/2021 11:30

Date: 07-Oct-21
Work Order: 2109415
Lab ID: 2109415-3
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Total Recoverable ICP Metals			SW6010		Prep Date: 9/24/2021	PrepBy: WJS
BORON	0.19		0.1	MG/L	1	9/28/2021 11:55
BARIUM	ND		0.1	MG/L	1	9/28/2021 11:55
SODIUM	46		1	MG/L	1	9/28/2021 11:55
Total Recoverable ICPMS Metals			SW6020		Prep Date: 9/24/2021	PrepBy: WJS
THALLIUM	ND		0.15	UG/L	10	10/4/2021 20:16
Ion Chromatography			EPA300.0		Prep Date: 9/27/2021	PrepBy: AOW
CHLORIDE	33		2	MG/L	10	9/27/2021 14:23
FLUORIDE	ND		1	MG/L	10	9/27/2021 14:23
SULFATE	430		10	MG/L	10	9/27/2021 14:23
Total Dissolved Solids			SM2540C		Prep Date: 9/21/2021	PrepBy: BMK
TOTAL DISSOLVED SOLIDS	900		20	MG/L	1	9/28/2021

Client: Randy Evans
Project: WPWT Facility
Sample ID: Outfall 050D
Legal Location:
Collection Date: 9/16/2021 12:15

Date: 07-Oct-21
Work Order: 2109415
Lab ID: 2109415-4
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Total Recoverable ICP Metals			SW6010		Prep Date: 9/24/2021	PrepBy: WJS
BORON	0.18		0.1	MG/L	1	9/28/2021 11:56
BARIUM	0.13		0.1	MG/L	1	9/28/2021 11:56
SODIUM	40		1	MG/L	1	9/28/2021 11:56
Total Recoverable ICPMS Metals			SW6020		Prep Date: 9/24/2021	PrepBy: WJS
THALLIUM	ND		0.15	UG/L	10	10/4/2021 20:19
Ion Chromatography			EPA300.0		Prep Date: 9/27/2021	PrepBy: AOW
CHLORIDE	15		2	MG/L	10	9/27/2021 14:29
FLUORIDE	ND		1	MG/L	10	9/27/2021 14:29
SULFATE	710		10	MG/L	10	9/27/2021 14:29
Total Dissolved Solids			SM2540C		Prep Date: 9/21/2021	PrepBy: BMK
TOTAL DISSOLVED SOLIDS	1300		40	MG/L	1	9/28/2021

Client: Randy Evans
Project: WPWT Facility
Sample ID: Outfall 050E
Legal Location:
Collection Date: 9/16/2021 14:00

Date: 07-Oct-21
Work Order: 2109415
Lab ID: 2109415-5
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Total Recoverable ICP Metals			SW6010		Prep Date: 9/24/2021	PrepBy: WJS
BORON	0.16		0.1	MG/L	1	9/28/2021 11:57
BARIUM	ND		0.1	MG/L	1	9/28/2021 11:57
SODIUM	41		1	MG/L	1	9/28/2021 11:57
Total Recoverable ICPMS Metals			SW6020		Prep Date: 9/24/2021	PrepBy: WJS
THALLIUM	ND		0.15	UG/L	10	10/4/2021 20:22
Ion Chromatography			EPA300.0		Prep Date: 9/27/2021	PrepBy: AOW
CHLORIDE	28		2	MG/L	10	9/27/2021 14:35
FLUORIDE	ND		1	MG/L	10	9/27/2021 14:35
SULFATE	21		10	MG/L	10	9/27/2021 14:35
Total Dissolved Solids			SM2540C		Prep Date: 9/21/2021	PrepBy: BMK
TOTAL DISSOLVED SOLIDS	1100		40	MG/L	1	9/28/2021

Client: Randy Evans
Project: WPWT Facility
Sample ID: Outfall 050E
Legal Location:
Collection Date: 9/16/2021 14:00

Date: 07-Oct-21
Work Order: 2109415
Lab ID: 2109415-5
Matrix: WATER
Percent Moisture:

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
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Explanation of Qualifiers

Radiochemistry:

- "Report Limit" is the MDC	M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
U or ND - Result is less than the sample specific MDC.	L - LCS Recovery below lower control limit.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.	H - LCS Recovery above upper control limit.
Y2 - Chemical Yield outside default limits.	P - LCS, Matrix Spike Recovery within control limits.
W - DER is greater than Warning Limit of 1.42	N - Matrix Spike Recovery outside control limits
* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.	NC - Not Calculated for duplicate results less than 5 times MDC
# - Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.	B - Analyte concentration greater than MDC.
G - Sample density differs by more than 15% of LCS density.	B3 - Analyte concentration greater than MDC but less than Requested MDC.
D - DER is greater than Control Limit	
M - Requested MDC not met.	

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
 U or ND - Indicates that the compound was analyzed for but not detected.
 E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
 M - Duplicate injection precision was not met.
 N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
 Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
 * - Duplicate analysis (relative percent difference) not within control limits.
 S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.
 B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
 E - Analyte concentration exceeds the upper level of the calibration range.
 J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
 A - A tentatively identified compound is a suspected aldol-condensation product.
 X - The analyte was diluted below an accurate quantitation level.
 * - The spike recovery is equal to or outside the control criteria used.
 + - The relative percent difference (RPD) equals or exceeds the control criteria.
 G - A pattern resembling gasoline was detected in this sample.
 D - A pattern resembling diesel was detected in this sample.
 M - A pattern resembling motor oil was detected in this sample.
 C - A pattern resembling crude oil was detected in this sample.
 4 - A pattern resembling JP-4 was detected in this sample.
 5 - A pattern resembling JP-5 was detected in this sample.
 H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
 L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
 Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
 - gasoline
 - JP-8
 - diesel
 - mineral spirits
 - motor oil
 - Stoddard solvent
 - bunker C

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Client: Randy Evans
Work Order: 2109415
Project: WPWT Facility

Date: 10/7/2021 10:10**QC BATCH REPORT**

Batch ID: **IP210924-6-3** Instrument ID **ICPTTrace2** Method: **SW6010**

LCS Sample ID: **IP210924-6** Units: **MG/L** Analysis Date: **9/28/2021 11:52**

Client ID: Run ID: **IT210928-1A9** Prep Date: **9/24/2021** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
BARIUM	0.99	0.1	1		99	80-120				20	
BORON	1.01	0.1	1		101	80-120				20	
SODIUM	39.3	1	40		98	80-120				20	

MB Sample ID: **IP210924-6** Units: **MG/L** Analysis Date: **9/28/2021 11:51**

Client ID: Run ID: **IT210928-1A9** Prep Date: **9/24/2021** DF: **1**

Analyte	Result	ReportLimit	Qual
BARIUM	ND	0.1	
BORON	ND	0.1	
SODIUM	ND	1	

The following samples were analyzed in this batch:

2109415-1	2109415-2	2109415-3
2109415-4	2109415-5	

Client: Randy Evans
Work Order: 2109415
Project: WPWT Facility

QC BATCH REPORT

Batch ID: **IP210924-6-4** Instrument ID **ICPMS2** Method: **SW6020**

LCS Sample ID: **IM210924-6** Units: **UG/L** Analysis Date: **10/4/2021 19:40**

Client ID: Run ID: **IM211004-10A10** Prep Date: **9/24/2021** DF: **10**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
THALLIUM	2.1	0.15	2		105	80-120				20	

MB Sample ID: **IP210924-6** Units: **UG/L** Analysis Date: **10/4/2021 19:37**

Client ID: Run ID: **IM211004-10A10** Prep Date: **9/24/2021** DF: **10**

Analyte	Result	ReportLimit	Qual
THALLIUM	ND	0.15	

The following samples were analyzed in this batch:

2109415-1	2109415-2	2109415-3
2109415-4	2109415-5	

Client: Randy Evans
 Work Order: 2109415
 Project: WPWT Facility

QC BATCH REPORT

Batch ID: **IC210927-2-1** Instrument ID **IC3** Method: **EPA300.0**

LCS	Sample ID: IC210927-2				Units: MG/L		Analysis Date: 9/27/2021 12:34				
Client ID:	Run ID: IC210927-1A1				Prep Date: 9/27/2021			DF: 1			
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
FLUORIDE	5	0.1	5		100	90-110				15	
CHLORIDE	10	0.2	10		100	90-110				15	
SULFATE	47.4	1	50		95	90-110				15	

LCSD	Sample ID: IC210927-2			Units: MG/L			Analysis Date: 9/27/2021 13:47				
Client ID:	Run ID: IC210927-1A1			Prep Date: 9/27/2021			DF: 1				
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
FLUORIDE	5.05	0.1	5		101	90-110		5	1	15	
CHLORIDE	10.1	0.2	10		101	90-110		10	1	15	
SULFATE	50.4	1	50		101	90-110		47.4	6	15	

MB	Sample ID: IC210927-2			Units: MG/L			Analysis Date: 9/27/2021 12:40		
Client ID:		Run ID: IC210927-1A1			Prep Date: 9/27/2021			DF: 1	
Analyte		Result	ReportLimit		Qual				
FLUORIDE		ND	0.1						
CHLORIDE		ND	0.2						
SULFATE		ND	1						

The following samples were analyzed in this batch:

2109415-1	2109415-2	2109415-3
2109415-4	2109415-5	

Client: Randy Evans
Work Order: 2109415
Project: WPWT Facility

QC BATCH REPORT

Batch ID: **TD210921-1-1** Instrument ID **Balance** Method: **SM2540C**

LCS		Sample ID: TD210921-1		Units: MG/L			Analysis Date: 9/28/2021				
Client ID:		Run ID: TD210928-1A1				Prep Date: 9/21/2021			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	402	20	400		100	85-115				14	

LCSD		Sample ID: TD210921-1		Units: MG/L			Analysis Date: 9/28/2021				
Client ID:		Run ID: TD210928-1A1				Prep Date: 9/21/2021			DF: 1		
Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	Decision Level	RPD Ref	RPD	RPD Limit	Qual
TOTAL DISSOLVED SOLIDS	405	20	400		101	85-115		402	1	14	

MB		Sample ID: TD210921-1		Units: MG/L			Analysis Date: 9/28/2021				
Client ID:		Run ID: TD210928-1A1				Prep Date: 9/21/2021			DF: 1		
Analyte	Result	ReportLimit									Qual
TOTAL DISSOLVED SOLIDS	ND	20									

The following samples were analyzed in this batch:

2109415-1	2109415-2	2109415-3
2109415-4	2109415-5	