



Silver State Labs-Reno
1135 Financial Blvd
Reno, NV 89502
(775) 857-2400 FAX: (888) 398-7002
www.ssalabs.com

December 04, 2018
Workorder **18110703**

Jay Flakus
CITY OF YERINGTON
102 South Main Street
Yerington, NV 89447

Project: DS01 35 Whiteface

Dear Jay Flakus:

It is the policy of Silver State Analytical Laboratory - Reno to strictly adhere to a comprehensive Quality Assurance Plan that ensures the data presented in this report are both accurate and precise. Silver State Analytical Laboratory - Reno maintains accreditation in the State of Nevada (NV-00015) and the State of California (ELAP 2990).

The data presented in this report was obtained from the analysis of samples received under a chain of custody. Unless otherwise noted below, samples were received in good condition, properly preserved and within the hold time for the requested analyses. Any anomalies associated with the analysis of the samples have been flagged with an appropriate explanation in the Analysis Report section of the Laboratory Report.

18110703: TTHM/HAA5 has been Sub Contracted.

Sincerely,

Carly Wood
Laboratory Director
1135 Financial Blvd
Reno, NV 89502



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Analytical Report

Workorder#: 18110703
Date Reported: 12/4/2018

Client: CITY OF YERINGTON

Sampled By J. Flakus

Project Name: DS01 35 Whiteface

PO #:

Laboratory Accreditation Number NV015/CA2990

Laboratory ID	Client Sample ID	Date/Time Sampled	Date Received
18110703-01	DS01 35 Whiteface	11/14/2018 10:48	11/14/2018

Parameter	Method	Result	Units	MCL	Analyst	Date/Time Analyzed	Data Flag
HAA5	EPA 552	See Report			CW		
TTHM	EPA 524	See Report			CW		

Original



BSK Associates Laboratory Fresno
1414 Stanislaus St
Fresno, CA 93706
559-497-2888 (Main)
559-485-6935 (FAX)

A8K2041

12/04/2018

Invoice: A835672

Joe Nava
Sierra Environmental Monitoring
1135 Financial Blvd
Reno, NV 89502

RE: Report for A8K2041 Drinking Water Organics - NV

Dear Joe Nava,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 11/16/2018. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2009 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

This certificate of analysis shall not be reproduced except in full, without written approval of the laboratory.

If additional clarification of any information is required, please contact your Project Manager, Heather S. White, at 559-497-2888.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP
ORELAP #4021-009

Case Narrative

Project and Report Details

Client: Sierra Environmental Monitoring
Report To: Joe Nava
Project #: 18110703
Received: 11/16/2018 - 10:55
Report Due: 12/04/2018

Invoice Details

Invoice To: Sierra Environmental Monitoring
Invoice Attn: Kimberly Grover
Project PO#: 18110703

Sample Receipt Conditions

Cooler: Default Cooler	Containers Intact
Temperature on Receipt °C: 1.0	COC/Labels Agree
	Received On Blue Ice
	Packing Material - Bubble Wrap
	Sample(s) were received in temperature range.
	Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

None applied

Report Distribution

Recipient(s)	Report Format	CC:
Joe Nava	NEVADA.RPT	cwood@ssalabs.com
Kimberly Grover	NEVADA.RPT	

Sample Summary

Sierra Environmental Monitoring
1135 Financial Blvd
Reno, NV 89502

Analysis	Method	Laboratory Container ID	Client Container ID
A8K2041-01			
SampleName: 18110703-01A		Sampled: 11/14/2018 10:48	
Matrix: Water		Received: 11/16/2018 10:55	
Trihalomethanes by GC-MS	EPA 524.2	B	
Haloacetic Acids by GC-ECD, GC-MS	EPA 552.3	E	
A8K2041-02			
SampleName: Trip Blank 0918035		Sampled: 11/14/2018 00:00	
Matrix: Water		Received: 11/16/2018 10:55	
Trihalomethanes by GC-MS	EPA 524.2	A	

Certificate of Analysis

Sample ID: A8K2041-01

Sampled By: J Flakus

Sample Description: 18110703-01A // DS01 35 Whiteface

Sample Date - Time: 11/14/18 - 10:48

Matrix: Drinking Water

Sample Type: Grab

BSK Associates Laboratory Fresno Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<u>Trihalomethanes by GC-MS</u>									
Bromodichloromethane	EPA 524.2	3.0	0.50	ug/L	1	A817374	11/18/18	11/19/18	
Bromoform	EPA 524.2	2.6	0.50	ug/L	1	A817374	11/18/18	11/19/18	
Chloroform	EPA 524.2	0.68	0.50	ug/L	1	A817374	11/18/18	11/19/18	
Dibromochloromethane	EPA 524.2	4.2	0.50	ug/L	1	A817374	11/18/18	11/19/18	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	112 %	Acceptable range: 70-130 %						
Surrogate: Bromofluorobenzene	EPA 524.2	116 %	Acceptable range: 70-130 %						
Total Trihalomethanes		10	0.50	ug/L					
<u>Haloacetic Acids by GC-ECD, GC-MS</u>									
Dibromoacetic Acid (DBAA)	EPA 552.3	1.7	1.0	ug/L	1	A817706	11/27/18	11/28/18	
Dichloroacetic Acid (DCAA)	EPA 552.3	ND	1.0	ug/L	1	A817706	11/27/18	11/28/18	
Monobromoacetic Acid (MBAA)	EPA 552.3	ND	1.0	ug/L	1	A817706	11/27/18	11/28/18	
Monochloroacetic Acid (MCAA)	EPA 552.3	ND	2.0	ug/L	1	A817706	11/27/18	11/28/18	
Trichloroacetic Acid (TCAA)	EPA 552.3	ND	1.0	ug/L	1	A817706	11/27/18	11/28/18	
Surrogate: 2-Bromobutanoic Acid	EPA 552.3	94 %	Acceptable range: 70-130 %						
Total Haloacetic Acids		ND	2.0	ug/L					

Certificate of Analysis

Sample ID: A8K2041-02

Sampled By: BSK

Sample Description: Trip Blank 0918035

Sample Date - Time: 11/14/18 - 00:00

Matrix: Water

Sample Type: Trip Blank

BSK Associates Laboratory Fresno Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
<u>Trihalomethanes by GC-MS</u>									
Bromodichloromethane	EPA 524.2	ND	0.50	ug/L	1	A817374	11/18/18	11/19/18	
Bromoform	EPA 524.2	ND	0.50	ug/L	1	A817374	11/18/18	11/19/18	
Chloroform	EPA 524.2	ND	0.50	ug/L	1	A817374	11/18/18	11/19/18	
Dibromochloromethane	EPA 524.2	ND	0.50	ug/L	1	A817374	11/18/18	11/19/18	
Surrogate: 1,2-Dichlorobenzene-d4	EPA 524.2	110 %	<i>Acceptable range: 70-130 %</i>						
Surrogate: Bromofluorobenzene	EPA 524.2	112 %	<i>Acceptable range: 70-130 %</i>						
Total Trihalomethanes		ND	0.50	ug/L					

BSK Associates Laboratory Fresno
Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
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EPA 524.2 - Quality Control

Batch: A817374

Prepared: 11/18/2018

Prep Method: EPA 524.2

Analyst: ANM

Blank (A817374-BLK1)

Bromodichloromethane	ND	0.50	ug/L							11/19/18	
Bromoform	ND	0.50	ug/L							11/19/18	
Chloroform	ND	0.50	ug/L							11/19/18	
Dibromochloromethane	ND	0.50	ug/L							11/19/18	
Surrogate: 1,2-Dichlorobenzene-d4	51			50		102	70-130			11/19/18	
Surrogate: Bromofluorobenzene	53			50		107	70-130			11/19/18	

Blank Spike (A817374-BS1)

Bromodichloromethane	9.6	0.50	ug/L	10	ND	96	70-130			11/19/18	
Bromoform	9.0	0.50	ug/L	10	ND	90	70-130			11/19/18	
Chloroform	9.5	0.50	ug/L	10	ND	95	70-130			11/19/18	
Dibromochloromethane	9.4	0.50	ug/L	10	ND	94	70-130			11/19/18	
Surrogate: 1,2-Dichlorobenzene-d4	51			50		102	70-130			11/19/18	
Surrogate: Bromofluorobenzene	52			50		105	70-130			11/19/18	

Blank Spike Dup (A817374-BSD1)

Bromodichloromethane	9.6	0.50	ug/L	10	ND	96	70-130	1	30	11/19/18	
Bromoform	9.1	0.50	ug/L	10	ND	91	70-130	1	30	11/19/18	
Chloroform	9.6	0.50	ug/L	10	ND	96	70-130	0	30	11/19/18	
Dibromochloromethane	9.4	0.50	ug/L	10	ND	94	70-130	0	30	11/19/18	
Surrogate: 1,2-Dichlorobenzene-d4	51			50		103	70-130			11/19/18	
Surrogate: Bromofluorobenzene	53			50		106	70-130			11/19/18	

Matrix Spike (A817374-MS1), Source: A8K1415-01

Bromodichloromethane	10	0.50	ug/L	10	ND	97	47-151			11/19/18	
Bromoform	9.2	0.50	ug/L	10	ND	92	29-162			11/19/18	
Chloroform	52	0.50	ug/L	10	46	63	52-148			11/19/18	
Dibromochloromethane	9.2	0.50	ug/L	10	ND	92	44-149			11/19/18	
Surrogate: 1,2-Dichlorobenzene-d4	52			50		103	70-130			11/19/18	
Surrogate: Bromofluorobenzene	52			50		105	70-130			11/19/18	

EPA 552.3 - Quality Control

Batch: A817706

Prepared: 11/27/2018

Prep Method: EPA 552.3

Analyst: PNN

Blank (A817706-BLK1)

Dibromoacetic Acid (DBAA)	ND	1.0	ug/L							11/27/18	
Dichloroacetic Acid (DCAA)	ND	1.0	ug/L							11/27/18	
Monobromoacetic Acid (MBAA)	ND	1.0	ug/L							11/27/18	
Monochloroacetic Acid (MCAA)	ND	2.0	ug/L							11/27/18	
Trichloroacetic Acid (TCAA)	ND	1.0	ug/L							11/27/18	
Surrogate: 2-Bromobutanoic Acid	9.4			10		94	70-130			11/27/18	

Duplicate (A817706-DUP1), Source: A8K2628-03

Dibromoacetic Acid (DBAA)	ND	1.0	ug/L		ND				30	11/28/18	
Dichloroacetic Acid (DCAA)	38	1.0	ug/L		39			3	30	11/28/18	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

A8K2041 FINAL 12042018 1508

BSK Associates Laboratory Fresno
Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
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EPA 552.3 - Quality Control

Batch: A817706

Prepared: 11/27/2018

Prep Method: EPA 552.3

Analyst: PNN

Duplicate (A817706-DUP1), Source: A8K2628-03

Monobromoacetic Acid (MBAA)	ND	1.0	ug/L		ND				30	11/28/18	
Monochloroacetic Acid (MCAA)	4.5	2.0	ug/L		3.3			29	30	11/28/18	
Trichloroacetic Acid (TCAA)	15	1.0	ug/L		16			2	30	11/28/18	
Surrogate: 2-Bromobutanoic Acid	9.2			10		92	70-130			11/28/18	

Matrix Spike (A817706-MS1), Source: A8K1967-01

Dibromoacetic Acid (DBAA)	12	1.0	ug/L	10	2.4	93	70-130			11/27/18	
Dichloroacetic Acid (DCAA)	14	1.0	ug/L	10	4.3	92	70-130			11/27/18	
Monobromoacetic Acid (MBAA)	10	1.0	ug/L	10	ND	96	70-130			11/27/18	
Monochloroacetic Acid (MCAA)	21	2.0	ug/L	20	ND	101	70-130			11/27/18	
Trichloroacetic Acid (TCAA)	12	1.0	ug/L	10	2.7	91	70-130			11/27/18	
Surrogate: 2-Bromobutanoic Acid	9.2			10		92	70-130			11/27/18	

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected at RL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit		

Please see the individual Subcontract Lab's report for applicable certifications.

BSK is not accredited under the NELAP program for the following parameters:

****NA****

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno

EPA - UCMR4	CA00079	Los Angeles CSD	9254479	NELAP certified	4021-010
State of California - ELAP	1180	State of Hawaii	4021	State of Nevada	CA000792019-1
State of Oregon - NELAP	4021-010	State of Washington	C997-18		

Sacramento

State of California - ELAP	2435
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San Bernardino

Los Angeles CSD	9254478	NELAP certified	4119-003	State of California - ELAP	2993
State of Oregon - NELAP	4119-003				

Vancouver

NELAP certified	WA100008-011	State of Oregon - NELAP	WA100008-011	State of Washington	C824-18b
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A8K2041



11162018

Sierr2400

Turnaround: Standard

Due Date: 12/4/2018



Sierra Environmental Monitoring



Printed: 11/16/2018 5:03:47PM

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Page 11 of 11
Page 9 of 11



1. The first step is to identify the problem or question that needs to be addressed. This involves understanding the context and the specific requirements of the task.

2. Next, it is important to gather relevant information and data. This can be done through research, consultation with experts, or by analyzing existing resources.

3. Once the information is gathered, the next step is to develop a plan or strategy. This involves breaking down the problem into smaller, manageable parts and determining the best approach to solve each part.

4. After the plan is developed, the next step is to implement the solution. This involves putting the plan into action and monitoring the progress to ensure that the solution is effective.

5. Finally, it is important to evaluate the results of the solution. This involves comparing the actual outcomes with the expected results and identifying any areas for improvement.

Website: www.ssalabs.com

N.V. Sample 3

22

0918035

begin

Sample Integrity

BSK Bottles: Yes NoPage 1 of 1

COC Info	Was temperature within range? Chemistry $\leq 6^{\circ}\text{C}$ Micro $< 8^{\circ}\text{C}$	Yes No NA	Were samples received for the tests requested?	Yes No NA		
	If samples were taken today, is there evidence that chilling has begun?	Yes No NA	Bubbles Present VOAs (524.2/TCP/TTHM)? TB Received? (Check Method Below)	Yes No NA		
	Did all bottles arrive unbroken and intact?	Yes No	Was a sufficient amount of sample received?	Yes No		
	Did all bottle labels agree with COC?	Yes No	Do samples have a hold time <72 hours?	Yes No		
	Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No NA	Was PM notified of discrepancies? PM: By/Time:	Yes No NA		
Bottles Received Bottles preservation/chlorine checks are either N/A or are performed in the lab	250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?			
	Bacti $\text{Na}_2\text{S}_2\text{O}_3$	—	—			
	None (P) White Cap	—	—			
	Cr6 (P) Lt. Green Label/Blue Cap $\text{NH}_4\text{OH}(\text{NH}_4)_2\text{SO}_4$ DW	Cl, pH > 8	P F			
	Cr6 (P) Pink Label/Blue Cap $\text{NH}_4\text{OH}(\text{NH}_4)_2\text{SO}_4$ WW	pH 9.3-9.7	P F			
	Cr6 (P) Black Label/Blue Cap $\text{NH}_4\text{OH}(\text{NH}_4)_2\text{SO}_4$ 7199 ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F			
	HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—			
	H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	P F			
	NaOH (P) Green Cap	Cl, pH > 10	P F			
	$\text{NaOH} + \text{ZnAc}$ (P)	pH > 9	P F			
	Dissolved Oxygen 300ml (g)	—	—			
	None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—			
	HCl (AG) Lt. Blue Label O&G, Diesel, TCP	—	—			
	Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—	—			
	Na_2SO_3 250mL (AG) Neon Green Label 515	—	—			
	$\text{Na}_2\text{S}_2\text{O}_3$ 1 Liter (Brown P) 549	—	—			
	$\text{Na}_2\text{S}_2\text{O}_3$ (AG) Blue Label 548, TTHM, 524	—	—			
	$\text{Na}_2\text{S}_2\text{O}_3$ (CG) Blue Label 504, 505, 547	—	—			
	$\text{Na}_2\text{S}_2\text{O}_3 + \text{MCAA}$ (CG) Orange Label 531	pH < 3	P F			
	NH_4Cl (AG) Purple Label 552	—	—			
	EDA (AG) Brown Label DBPs	—	—			
	HCL (CG) 524.2, BTEX, Gas, MTBE, 8260/624	—	—			
	Buffer pH 4 (CG)	—	—			
	H_3PO_4 (CG) Salmon Label	—	—			
	Other:					
	Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—			
	Bottled Water	—	—			
	Clear Glass 250mL / 500mL / 1 Liter	—	—			
Solids: Brass / Steel / Plastic Bag	—	—				
Split	Container	Preservative	Date/Time/Initials	Container	Preservative	Date/Time/Initials
	S P			S P		
Comments	✓ Indicates Blanks Received 504 ___ 524.2 ___ TCP ___ TTHM ___ 537 ___ 8260/624 ___					

Labeled by: DR @ 1442Labels checked by: JMO @ 1644RUSH Paged by: Page 13 of 5

Definitions:

LCS: Laboratory Control Sample; prepared by adding a known mass of target analytes to a specified amount of de-ionized water and prepared with the batch of samples, used to calculate Accuracy (%REC).

LCSD: LCS Duplicate; used to calculate both Accuracy (%REC) and Precision (%RPD)

MBLK: Method Blank; a sample of similar matrix that is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedure, and in which no target analytes or interferences are present at concentrations that impact the analytical results for sample analyses.

MS: Matrix Spike; prepared by adding a known mass of target analytes to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available, used to calculate Accuracy (%REC)

MSD: Matrix Spike Duplicate; used to calculate both Accuracy (%REC) and Precision (%RPD)

RPD: Relative Percent Difference; comparison between sample and duplicate and/or MS and MSD.

PQL: Practical Quantitation Limit; the limit to which data is quantitated for reporting.

MDL: Method Detection Limit; the limit to which the instrument can reliably detect.

MCL: Maximum Contaminant Level; value set according to EPA guidelines.

Qualifiers:

* - Analyte exceeds Safe Drinking Water Act MCL, does not meet drinking water standards.

C - Analyte value below Safe Drinking Water Act MCL, does not meet drinking water standards.

B - Analyte found above the PQL in associated method blank.

G - Calibration blank analyte detected above PQL.

H - Sample analyzed beyond holding time for this parameter.

J - Estimated Value; Analyte found between MDL and PQL limits.

L - Sample concentration is at least 5 times greater than spike contribution. Spike recovery criteria do not apply.

R - RPD between sample and duplicate sample outside the RPD acceptance limits.

S - Batch MS and/or MSD were outside acceptance limits, batch LCS was acceptable.

W - Sample temperature when received was out of limit as specified by method.