City of Stevenson
Planning Department

(509)427-5970

7121 E Loop Road, PO Box 371
Stevenson, Washington 98648

TO: **City Council**
FROM: **Ben Shumaker**
DATE: **July 15th, 2021**
SUBJECT: **Rock Creek Drive Run-Off Testing—Summary Report—Request for Direction**

Introduction

This memo summarizes the results of the stormwater run-off at Rock Creek Drive and Foster Creek Road which leaves orange-stains on roadside vegetation and soils. Public concerns brought this issue to the City Council's attention. The intersection's proximity to the 2 capped landfills led to the Council's decision to test the stormwater run-off to determine if pollutants from the landfill threatened the community's environmental and/or human health.

The City's underlying hypothesis for the testing was: "The orange-staining is an indicator of high-levels of pollutants associated with the capped landfills". This hypothesis builds on the previous hypothesis promoted by Skamania County's engineering staff which can be summarized as: "The orange-staining is the result of naturally occurring iron-related bacteria and no cause for concern." Both hypotheses are addressed through the testing program which sampled for iron related bacteria and pollutants commonly associated with landfills.

The memo includes an action item seeking Council direction on next steps.

Were Pollutants Discovered?

Water quality tests were performed on 21 containers (12 containers contained grab samples, 7 contained composite samples collected once per hour for 4 hours, and 2 were trip blanks sent by the laboratory for control purposes). The containers were tested according to 12 types of parameters and 655 analytes are reported in Attachment 1.

Broadly, the results show little cause for concern. Total Organic Carbon, Biochemical Oxygen Demand, Total Suspended Solids, Ammonia as N, Iron Related Bacteria were observed. No other analytes were detected. Of the analytes observed only Iron Related Bacteria appeared outside of the expected range.

As a result, the City's hypothesis went largely unproven, and the County's hypothesis was confirmed.

The Underwood Conservation District helped the City analyze the report via Attachment 1. Guidance based on their analysis states:

> "Iron bacteria are naturally occurring in soil, shallow groundwater and surface waters. These bacteria combined oxygen and iron to form deposits of rust-colored bacteria cells. I am not familiar with any water quality criteria for iron related bacteria. Issues with these bacteria are usually related to wells and pumps where the biofilm that is left behind by the bacteria can cause equipment fouling, clogging and color/taste issues. I don't believe there is any cause for concern related to the presence of these bacteria at this location, but I recommend reaching out to your Department of Ecology contact to ask if the level detected (2200mg/L) is indicative of a seepage issue from the uncapped landfill.

To show that there are not adverse effects to downstream surface waters (Rock Cove) it may be worthwhile to conduct one additional sampling event during wet conditions when active seepage from the landfill area is evident."

How Were Pollutants Investigated?

City staff researched past testing related to the capped landfills and discovered a 1991 summary of 1990 sampling efforts. This summary described the presence of 1,1,1 – Trichloroethane at 0.9 ug/l, concentrations of lead and zinc which were below the National Drinking Water Standards (NDWS) at the time, and concentrations of iron and manganese which were above the secondary NDWS suggested levels.

City staff consulted with a) the water quality professionals from the Department of Ecology's non-point source and point source (landfill) divisions, b) civil/environmental engineering professionals from the Underwood Conservation District, and c) water quality testing professionals from BSK laboratories, the private firm conducting the water quality analysis.

This consultation lead to a range of sampling options, including sampling for one water quality parameter at one location to sampling for several water quality and soil quality parameters at multiple locations. Based on the quoted costs for sampling, staff selected to sample for several water quality parameters at and at only one location.

What is the Next Step?

Staff envisions 3 possible courses of action related to these results. In increasing order of involvement:

- Take no additional action.
- Advocate for other agencies to perform on-going testing.
- Establish an on-going testing program.

Verbal analysis of these course of action can be given upon request at the meeting.

Prepared by,

Ben Shumaker
Community Development Director

Attachment

1. Laboratory Report (41 pages)
2. UCD Analysis (13 pages)

BSK Associates Vancouver
2517 E. Evergreen Blvd.
Vancouver, WA 98661
360-750-0055 (Main)
360-750-0057 (FAX)

VED0391
5/04/2021

Ben Shumaker
City of Stevenson - 842502
PO Box 371
Stevenson, WA 98648

RE: Report for VED0391 Toxic Water

Dear Ben Shumaker,

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 4/19/2021. 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 2016 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.

If additional clarification of any information is required, please contact your Project Manager, Debra Karlsson , at (360) 750-0055.

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

Sincerely,

Debra Karlsson, Project Manager

Accredited in Accordance with NELAP
ORELAP #WA100008-010

Case Narrative

Project and Report Details		Invoice Details	
Client:	City of Stevenson - 842502	**Invoice To:**	City of Stevenson - 842502
Report To:	Ben Shumaker	**Invoice Attn:**	Ben Shumaker
Project #:	Toxic Water	**Project PO#:**	-
Received:	4/19/2021 - 12:32		
Report Due:	5/03/2021		

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt ºC: 7.6

Containers Intact
COC/Labels Agree
Received On Blue Ice
Sample(s) arrived at lab on same day sampled.
Packing Material - Other
Sample(s) were received in temperature range.
Initial receipt at BSK-VAL

Data Qualifiers

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

B2.0	Analyte present in the method blank above the method detection limit (MDL). Laboratory does not determine batch acceptance on detections below the reporting limit (RL).
CV0.0	CCV recovery was above method acceptance limits; no material impact on reported result as sample detection is below the reporting limit for this parameter.
DP1.1	Sample Duplicate RPD exceeded method acceptance criteria.
MS1.0	Matrix spike recoveries exceed control limits.
MS2.0	MS/MSD RPD exceeds control limit. No material impact as both sets of recovery data meet control criteria.
SR1.0	Surrogate recovery exceeds upper control limit. No material impact as associated analytes are Non-Detect.

Report Distribution

Recipient(s)	Report Format	CC:
Ben Shumaker	FINAL.RPT	

Certificate of Analysis

Sample ID: VED0391-01
Sampled By: Carly Lemon
Sample Description: Foster and Rock Cr.Seep

Sample Date - Time: 04/19/2021 - 08:30
Matrix: Water
Sample Type: Grab

BSK Associates Laboratory Fresno

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Cyanide (total)	SM 4500-CN E	ND	0.050	mg/L	1	AED1354	04/22/21	04/29/21	
Total Organic Carbon	SM 5310C	**1.5**	0.70	mg/L	1	AED1553	04/27/21	04/27/21	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
1,1,1-Trichloroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
1,1,2,2-Tetrachloroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
1,1,2-Trichloroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
1,1-Dichloroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
1,1-Dichloroethene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
1,2-Dibromoethane (EDB)	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
1,2-Dichlorobenzene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
1,2-Dichloroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
1,2-Dichloropropane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
1,3-Dichlorobenzene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
1,4-Dichlorobenzene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
2-Hexanone	EPA 624.1	ND	20	ug/L	1	AED1389	04/22/21	04/23/21	
4-Methyl-2-pentanone	EPA 624.1	ND	20	ug/L	1	AED1389	04/22/21	04/23/21	
Acetone	EPA 624.1	ND	20	ug/L	1	AED1389	04/22/21	04/23/21	
Benzene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Bromodichloromethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Bromoform	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Bromomethane	EPA 624.1	ND	1.0	ug/L	1	AED1389	04/22/21	04/23/21	
Carbon disulfide	EPA 624.1	ND	50	ug/L	1	AED1389	04/22/21	04/23/21	
Carbon Tetrachloride	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Chlorobenzene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Chloroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Chloroform	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Chloromethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
cis-1,2-Dichloroethene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
cis-1,3-Dichloropropene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Dibromochloromethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Dichloromethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Ethylbenzene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
p-Isopropyltoluene	EPA 624.1	ND	5.0	ug/L	1	AED1389	04/22/21	04/23/21	
m,p-Xylenes	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Methyl-t-butyl ether	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
o-Xylene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Styrene	EPA 624.1	ND	5.0	ug/L	1	AED1389	04/22/21	04/23/21	
Tetrachloroethene (PCE)	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	

Certificate of Analysis

Sample ID: VED0391-01
Sampled By: Carly Lemon
Sample Description: Foster and Rock Cr.Seep

Sample Date - Time: 04/19/2021 - 08:30
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
Toluene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
trans-1,2-Dichloroethene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
trans-1,3-Dichloropropene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Trichloroethene (TCE)	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Trichlorofluoromethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	
Vinyl Chloride	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/23/21	CV0.0
Surrogate: 1,2-Dichloroethane-d4	EPA 624.1	112 %	*Acceptable range:*		*70-130 %*				
Surrogate: Bromofluorobenzene	EPA 624.1	103 %	*Acceptable range:*		*70-130 %*				
Surrogate: Toluene-d8	EPA 624.1	98 %	*Acceptable range:*		*70-130 %*				
2-CEVE by EPA 624.1									
2-Chloroethyl vinyl ether	EPA 624.1	ND	1.0	ug/L	1	AED1389	04/22/21	04/23/21	
Surrogate: 1,2-Dichloroethane-d4	EPA 624.1	105 %	*Acceptable range:*		*70-130 %*				
Surrogate: Bromofluorobenzene	EPA 624.1	93 %	*Acceptable range:*		*70-130 %*				
Surrogate: Toluene-d8	EPA 624.1	96 %	*Acceptable range:*		*70-130 %*				
Acrolein and Acrylonitrile by EPA 624									
Acrolein	EPA 624.1	ND	2.0	ug/L	1	AED1389	04/22/21	04/23/21	
Acrylonitrile	EPA 624.1	ND	2.0	ug/L	1	AED1389	04/22/21	04/23/21	
Surrogate: 1,2-Dichloroethane-d4	EPA 624.1	118 %	*Acceptable range:*		*70-130 %*				
Surrogate: Bromofluorobenzene	EPA 624.1	101 %	*Acceptable range:*		*70-130 %*				
Surrogate: Toluene-d8	EPA 624.1	99 %	*Acceptable range:*		*70-130 %*				

BSK Associates Vancouver

Microbiology

Analyte	Method	Result	RL	Units	Batch	Prepared	Qual
Iron Related Bacteria (IRB-BART)							
Iron Related Bacteria	IRB-BART	**2200**	25	CFU/ml	VED0074	04/19/21 14:50	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Total Trihalomethanes		ND	0.50	ug/L					
Total 1,3-Dichloropropene	EPA 624.1	ND	0.50	ug/L					
Total Xylenes	EPA 624.1	ND	0.50	ug/L					

Certificate of Analysis

Sample ID: VED0391-02
Sampled By: Carly Lemon
Sample Description: Rock Cr. and Foster Seep

Sample Date - Time: 04/19/2021 - 11:00
Matrix: Water
Sample Type: Composite

Composite Start: 04/18/2021 - 11:00

BSK Associates Laboratory Fresno

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Ammonia as N	EPA 350.1	**0.16**	0.10	mg/L	1	AED1296	04/22/21	04/22/21	

Metals

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Antimony, 3010	EPA 6020B	ND	0.20	mg/L	1	AED1646	04/28/21	04/29/21	
Arsenic, 3010	EPA 6020B	ND	0.020	mg/L	1	AED1646	04/28/21	04/29/21	
Beryllium, 3010	EPA 6020B	ND	0.010	mg/L	1	AED1646	04/28/21	04/29/21	
Cadmium, 3010	EPA 6020B	ND	0.020	mg/L	1	AED1646	04/28/21	04/29/21	
Chromium, 3010	EPA 6020B	ND	0.10	mg/L	1	AED1646	04/28/21	04/29/21	
Copper, 3010	EPA 6020B	ND	0.10	mg/L	1	AED1646	04/28/21	04/29/21	
Lead, 3010	EPA 6020B	ND	0.050	mg/L	1	AED1646	04/28/21	04/29/21	
Mercury, 3010	EPA 6020B	ND	0.0040	mg/L	1	AED1646	04/28/21	04/29/21	
Nickel, 3010	EPA 6020B	ND	0.10	mg/L	1	AED1646	04/28/21	04/29/21	
Selenium, 3010	EPA 6020B	ND	0.020	mg/L	1	AED1646	04/28/21	04/29/21	
Silver, 3010	EPA 6020B	ND	0.10	mg/L	1	AED1646	04/28/21	04/29/21	
Thallium, 3010	EPA 6020B	ND	0.20	mg/L	1	AED1646	04/28/21	04/29/21	
Zinc, 3010	EPA 6020B	ND	0.50	mg/L	1	AED1646	04/28/21	04/29/21	

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Washington SVOC by GC-MS									
1,2,4-Trichlorobenzene	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
1,2-Diphenylhydrazine (as Azobenzene)	EPA 625.1	ND	20	ug/L	1	AED1195	04/21/21	04/26/21	
2,2'-oxybis(1-chloropropane) (2)	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
2,4,6-Trichlorophenol	EPA 625.1	ND	4.0	ug/L	1	AED1195	04/21/21	04/26/21	
2,4-Dichlorophenol	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
2,4-Dimethylphenol	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
2,4-Dinitrophenol	EPA 625.1	ND	2.0	ug/L	1	AED1195	04/21/21	04/26/21	
2,4-Dinitrotoluene	EPA 625.1	ND	0.40	ug/L	1	AED1195	04/21/21	04/26/21	
2,6-Dinitrotoluene	EPA 625.1	ND	0.40	ug/L	1	AED1195	04/21/21	04/26/21	
2-Chloronaphthalene	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
2-Chlorophenol	EPA 625.1	ND	2.0	ug/L	1	AED1195	04/21/21	04/26/21	
2-Nitrophenol	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
3,3-Dichlorobenzidine	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
4,6-Dinitro-2-methylphenol	EPA 625.1	ND	2.0	ug/L	1	AED1195	04/21/21	04/26/21	
4-Bromophenyl phenyl ether	EPA 625.1	ND	0.40	ug/L	1	AED1195	04/21/21	04/26/21	
4-Chloro-3-methylphenol	EPA 625.1	ND	2.0	ug/L	1	AED1195	04/21/21	04/26/21	
4-Chlorophenyl phenyl ether	EPA 625.1	ND	0.50	ug/L	1	AED1195	04/21/21	04/26/21	
4-Nitrophenol	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
Acenaphthene	EPA 625.1	ND	0.40	ug/L	1	AED1195	04/21/21	04/26/21	

Certificate of Analysis

Sample ID: VED0391-02
Sampled By: Carly Lemon
Sample Description: Rock Cr. and Foster Seep

Sample Date - Time: 04/19/2021 - 11:00
Matrix: Water
Sample Type: Composite

Composite Start: 04/18/2021 - 11:00

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Washington SVOC by GC-MS									
Acenaphthylene	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
Anthracene	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
Benzidine	EPA 625.1	ND	24	ug/L	1	AED1195	04/21/21	04/26/21	
Benzo(a)anthracene	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
Benzo(a)pyrene	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
Benzo(b)fluoranthene	EPA 625.1	ND	1.6	ug/L	1	AED1195	04/21/21	04/26/21	
Benzo(g,h,i)perylene	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
Benzo(k)fluoranthene	EPA 625.1	ND	1.6	ug/L	1	AED1195	04/21/21	04/26/21	
Bis(2-chloroethoxy)methane	EPA 625.1	ND	21	ug/L	1	AED1195	04/21/21	04/26/21	
Bis(2-chloroethyl) ether	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
Bis(2-ethylhexyl) phthalate	EPA 625.1	ND	0.50	ug/L	1	AED1195	04/21/21	04/26/21	
Butyl benzyl phthalate	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
Chrysene	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
Dibenzo(a,h)anthracene	EPA 625.1	ND	1.6	ug/L	1	AED1195	04/21/21	04/26/21	
Diethyl phthalate	EPA 625.1	ND	7.6	ug/L	1	AED1195	04/21/21	04/26/21	
Dimethyl phthalate	EPA 625.1	ND	6.4	ug/L	1	AED1195	04/21/21	04/26/21	
Di-n-butyl phthalate	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
Di-n-octyl phthalate	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
Fluoranthene	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
Fluorene	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
Hexachlorobenzene	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
Hexachlorobutadiene	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
Hexachlorocyclopentadiene	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
Hexachloroethane	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
Indeno(1,2,3-cd)pyrene	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
Isophorone	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
Naphthalene	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
Nitrobenzene	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
N-Nitrosodimethylamine (NDMA)	EPA 625.1	ND	4.0	ug/L	1	AED1195	04/21/21	04/26/21	
N-Nitrosodi-n-propylamine (NDPA)	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
N-Nitrosodiphenylamine (as DPA)	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
Pentachlorophenol	EPA 625.1	ND	1.0	ug/L	1	AED1195	04/21/21	04/26/21	
Phenanthrene	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
Phenol	EPA 625.1	ND	4.0	ug/L	1	AED1195	04/21/21	04/26/21	
Pyrene	EPA 625.1	ND	0.60	ug/L	1	AED1195	04/21/21	04/26/21	
Surrogate: 2,4,6-Tribromophenol	EPA 625.1	112 %	*Acceptable range: 53-200 %*						
Surrogate: 2-Fluorobiphenyl	EPA 625.1	70 %	*Acceptable range: 40-127 %*						
Surrogate: 2-Fluorophenol	EPA 625.1	78 %	*Acceptable range: 42-123 %*						
Surrogate: Nitrobenzene-d5	EPA 625.1	74 %	*Acceptable range: 15-200 %*						
Surrogate: Phenol-d6	EPA 625.1	84 %	*Acceptable range: 10-200 %*						
Surrogate: p-Terphenyl-d14	EPA 625.1	71 %	*Acceptable range: 50-150 %*						

Certificate of Analysis

Sample ID: VED0391-02
Sampled By: Carly Lemon
Sample Description: Rock Cr. and Foster Seep

Sample Date - Time: 04/19/2021 - 11:00
Matrix: Water
Sample Type: Composite

Composite Start: 04/18/2021 - 11:00

BSK Associates Vancouver

General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Biochemical Oxygen Demand	SM 5210B	**9.7**	1.2	mg/L	1.2	VED0094	04/21/21 10:30	04/26/21	
Total Suspended Solids	SM 2540D	**56**	5.0	mg/L	1	VED0096	04/22/21	04/22/21	

Certificate of Analysis

Sample ID: VED0391-03
Sampled By: BSK VAL
Sample Description: Trip Blank - Lot #0321050

Sample Date - Time: 04/19/2021 - 00:00
Matrix: Water
Sample Type: Grab

BSK Associates Laboratory Fresno

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Volatile Organics by GC-MS									
1,1,1-Trichloroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
1,1,2,2-Tetrachloroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
1,1,2-Trichloro-1,2,2-trifluoroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
1,1,2-Trichloroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
1,1-Dichloroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
1,1-Dichloroethene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
1,2-Dibromoethane (EDB)	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
1,2-Dichlorobenzene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
1,2-Dichloroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
1,2-Dichloropropane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
1,3-Dichlorobenzene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
1,4-Dichlorobenzene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
2-Hexanone	EPA 624.1	ND	20	ug/L	1	AED1389	04/22/21	04/22/21	
4-Methyl-2-pentanone	EPA 624.1	ND	20	ug/L	1	AED1389	04/22/21	04/22/21	
Acetone	EPA 624.1	ND	20	ug/L	1	AED1389	04/22/21	04/22/21	
Benzene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Bromodichloromethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Bromoform	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Bromomethane	EPA 624.1	ND	1.0	ug/L	1	AED1389	04/22/21	04/22/21	
Carbon disulfide	EPA 624.1	ND	50	ug/L	1	AED1389	04/22/21	04/22/21	
Carbon Tetrachloride	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Chlorobenzene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Chloroethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Chloroform	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Chloromethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
cis-1,2-Dichloroethene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
cis-1,3-Dichloropropene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Dibromochloromethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Dichloromethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Ethylbenzene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
p-Isopropyltoluene	EPA 624.1	ND	5.0	ug/L	1	AED1389	04/22/21	04/22/21	
m,p-Xylenes	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Methyl-t-butyl ether	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
o-Xylene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Styrene	EPA 624.1	ND	5.0	ug/L	1	AED1389	04/22/21	04/22/21	
Tetrachloroethene (PCE)	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Toluene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
trans-1,2-Dichloroethene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
trans-1,3-Dichloropropene	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Trichloroethene (TCE)	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Trichlorofluoromethane	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	
Vinyl Chloride	EPA 624.1	ND	0.50	ug/L	1	AED1389	04/22/21	04/22/21	CV0.0

Certificate of Analysis

Sample ID: VED0391-03
Sampled By: BSK VAL
Sample Description: Trip Blank - Lot #0321050

Sample Date - Time: 04/19/2021 - 00:00
Matrix: Water
Sample Type: Grab

Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Surrogate: 1,2-Dichloroethane-d4	EPA 624.1	111 %	*Acceptable range: 70-130 %*						
Surrogate: Bromofluorobenzene	EPA 624.1	107 %	*Acceptable range: 70-130 %*						
Surrogate: Toluene-d8	EPA 624.1	99 %	*Acceptable range: 70-130 %*						

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Organics

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Total Trihalomethanes		ND	0.50	ug/L					
Total 1,3-Dichloropropene	EPA 624.1	ND	0.50	ug/L					
Total Xylenes	EPA 624.1	ND	0.50	ug/L					

BSK Associates Laboratory Fresno

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 350.1 - Quality Control											
Batch: AED1296										Prepared: 4/22/2021	
Prep Method: Method Specific Preparation										Analyst: CTD	
Blank (AED1296-BLK1)											
Ammonia as N	ND	0.10	mg/L							04/22/21	
Blank Spike (AED1296-BS1)											
Ammonia as N	3.8	0.10	mg/L	4.0	ND	96	90-110			04/22/21	
Blank Spike Dup (AED1296-BSD1)											
Ammonia as N	3.9	0.10	mg/L	4.0	ND	98	90-110	2	20	04/22/21	
Matrix Spike (AED1296-MS1), Source: SED0339-01											
Ammonia as N	3.9	0.10	mg/L	4.0	ND	96	90-110			04/22/21	
Matrix Spike (AED1296-MS2), Source: AED2052-03											
Ammonia as N	3.7	0.10	mg/L	4.0	ND	92	90-110			04/22/21	
SM 4500-CN E - Quality Control											
Batch: AED1354										Prepared: 4/22/2021	
Prep Method: Total Cyanide Distillation										Analyst: CEG	
Blank (AED1354-BLK1)											
Cyanide (total)	ND	0.050	mg/L							04/29/21	
Blank Spike (AED1354-BS1)											
Cyanide (total)	0.25	0.050	mg/L	0.25	ND	99	80-120			04/29/21	
Blank Spike Dup (AED1354-BSD1)											
Cyanide (total)	0.23	0.050	mg/L	0.25	ND	92	80-120	8	20	04/29/21	
Matrix Spike (AED1354-MS1), Source: AED2428-01											
Cyanide (total)	0.23	0.050	mg/L	0.25	ND	89	80-120			04/29/21	
Matrix Spike Dup (AED1354-MSD1), Source: AED2428-01											
Cyanide (total)	0.23	0.050	mg/L	0.25	ND	90	80-120	1	20	04/29/21	
SM 5310C - Quality Control											
Batch: AED1553										Prepared: 4/27/2021	
Prep Method: Method Specific Preparation										Analyst: KDF	
Blank (AED1553-BLK1)											
Total Organic Carbon	ND	0.70	mg/L							04/27/21	
Blank Spike (AED1553-BS1)											
Total Organic Carbon	10	0.70	mg/L	10	ND	103	80-120			04/27/21	
Blank Spike Dup (AED1553-BSD1)											

BSK Associates Laboratory Fresno

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 5310C - Quality Control											
Batch: AED1553										Prepared: 4/27/2021	
Prep Method: Method Specific Preparation										Analyst: KDF	
Blank Spike Dup (AED1553-BSD1)											
Total Organic Carbon	10	0.70	mg/L	10	ND	102	80-120	1	20	04/27/21	
Matrix Spike (AED1553-MS1), Source: AED1911-02											
Total Organic Carbon	13	0.70	mg/L	10	3.1	103	80-120			04/27/21	
Matrix Spike (AED1553-MS2), Source: AED2011-02											
Total Organic Carbon	12	0.70	mg/L	10	1.2	105	80-120			04/27/21	
Matrix Spike Dup (AED1553-MSD1), Source: AED1911-02											
Total Organic Carbon	13	0.70	mg/L	10	3.1	103	80-120	0	20	04/27/21	
Matrix Spike Dup (AED1553-MSD2), Source: AED2011-02											
Total Organic Carbon	12	0.70	mg/L	10	1.2	105	80-120	0	20	04/27/21	

BSK Associates Laboratory Fresno

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020B - Quality Control											
Batch: AED1646										Prepared: 4/28/2021	
Prep Method: EPA 3010A										Analyst: VVW	
Blank (AED1646-BLK1)											
Beryllium, 3010	ND	0.010	mg/L							04/29/21	
Chromium, 3010	ND	0.10	mg/L							04/29/21	
Nickel, 3010	ND	0.10	mg/L							04/29/21	
Copper, 3010	ND	0.10	mg/L							04/29/21	
Zinc, 3010	ND	0.50	mg/L							04/29/21	
Arsenic, 3010	ND	0.020	mg/L							04/29/21	
Selenium, 3010	ND	0.020	mg/L							04/29/21	
Silver, 3010	ND	0.10	mg/L							04/29/21	
Cadmium, 3010	ND	0.020	mg/L							04/29/21	
Antimony, 3010	ND	0.20	mg/L							04/29/21	
Thallium, 3010	ND	0.20	mg/L							04/29/21	
Lead, 3010	ND	0.050	mg/L							04/29/21	
Mercury, 3010	ND	0.0040	mg/L							04/29/21	
Blank Spike (AED1646-BS1)											
Beryllium, 3010	4.7	0.010	mg/L	4.0	ND	117	75-125			04/29/21	
Chromium, 3010	4.2	0.10	mg/L	4.0	ND	104	75-125			04/29/21	
Nickel, 3010	3.9	0.10	mg/L	4.0	ND	97	75-125			04/29/21	
Copper, 3010	3.9	0.10	mg/L	4.0	ND	98	75-125			04/29/21	
Zinc, 3010	3.5	0.50	mg/L	4.0	ND	87	75-125			04/29/21	
Arsenic, 3010	3.7	0.020	mg/L	4.0	ND	92	75-125			04/29/21	
Selenium, 3010	3.3	0.020	mg/L	4.0	ND	83	75-125			04/29/21	
Silver, 3010	1.9	0.10	mg/L	2.0	ND	96	75-125			04/29/21	
Cadmium, 3010	3.8	0.020	mg/L	4.0	ND	96	75-125			04/29/21	
Antimony, 3010	4.1	0.20	mg/L	4.0	ND	102	75-125			04/29/21	
Thallium, 3010	3.6	0.20	mg/L	4.0	ND	90	75-125			04/29/21	
Lead, 3010	3.6	0.050	mg/L	4.0	ND	91	75-125			04/29/21	
Mercury, 3010	0.086	0.0040	mg/L	0.10	ND	86	75-125			04/29/21	
Blank Spike Dup (AED1646-BSD1)											
Beryllium, 3010	4.7	0.010	mg/L	4.0	ND	118	75-125	1	20	04/29/21	
Chromium, 3010	4.2	0.10	mg/L	4.0	ND	105	75-125	1	20	04/29/21	
Nickel, 3010	3.9	0.10	mg/L	4.0	ND	97	75-125	0	20	04/29/21	
Copper, 3010	3.9	0.10	mg/L	4.0	ND	98	75-125	1	20	04/29/21	
Zinc, 3010	3.5	0.50	mg/L	4.0	ND	88	75-125	1	20	04/29/21	
Arsenic, 3010	3.7	0.020	mg/L	4.0	ND	92	75-125	0	20	04/29/21	
Selenium, 3010	3.4	0.020	mg/L	4.0	ND	84	75-125	0	20	04/29/21	
Silver, 3010	1.9	0.10	mg/L	2.0	ND	95	75-125	1	20	04/29/21	
Cadmium, 3010	3.8	0.020	mg/L	4.0	ND	96	75-125	0	20	04/29/21	
Antimony, 3010	4.1	0.20	mg/L	4.0	ND	103	75-125	1	20	04/29/21	
Thallium, 3010	3.6	0.20	mg/L	4.0	ND	90	75-125	1	20	04/29/21	
Lead, 3010	3.6	0.050	mg/L	4.0	ND	90	75-125	1	20	04/29/21	
Mercury, 3010	0.085	0.0040	mg/L	0.10	ND	85	75-125	1	20	04/29/21	

BSK Associates Laboratory Fresno

Metals Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 6020B - Quality Control											
Batch: AED1646										Prepared: 4/28/2021	
Prep Method: EPA 3010A										Analyst: VVW	
Matrix Spike (AED1646-MS1), Source: VED0391-02											
Beryllium, 3010	4.6	0.010	mg/L	4.0	ND	116	75-125			04/29/21	
Chromium, 3010	4.1	0.10	mg/L	4.0	ND	103	75-125			04/29/21	
Nickel, 3010	3.8	0.10	mg/L	4.0	ND	95	75-125			04/29/21	
Copper, 3010	3.9	0.10	mg/L	4.0	ND	97	75-125			04/29/21	
Zinc, 3010	3.5	0.50	mg/L	4.0	ND	87	75-125			04/29/21	
Arsenic, 3010	3.6	0.020	mg/L	4.0	ND	91	75-125			04/29/21	
Selenium, 3010	3.3	0.020	mg/L	4.0	ND	83	75-125			04/29/21	
Silver, 3010	1.9	0.10	mg/L	2.0	ND	94	75-125			04/29/21	
Cadmium, 3010	3.8	0.020	mg/L	4.0	ND	95	75-125			04/29/21	
Antimony, 3010	4.1	0.20	mg/L	4.0	ND	102	75-125			04/29/21	
Thallium, 3010	3.5	0.20	mg/L	4.0	ND	88	75-125			04/29/21	
Lead, 3010	3.5	0.050	mg/L	4.0	ND	89	75-125			04/29/21	
Mercury, 3010	0.083	0.0040	mg/L	0.10	ND	83	75-125			04/29/21	
Matrix Spike Dup (AED1646-MSD1), Source: VED0391-02											
Beryllium, 3010	4.6	0.010	mg/L	4.0	ND	116	75-125	0	20	04/29/21	
Chromium, 3010	4.2	0.10	mg/L	4.0	ND	105	75-125	3	20	04/29/21	
Nickel, 3010	3.9	0.10	mg/L	4.0	ND	97	75-125	2	20	04/29/21	
Copper, 3010	3.9	0.10	mg/L	4.0	ND	98	75-125	1	20	04/29/21	
Zinc, 3010	3.5	0.50	mg/L	4.0	ND	87	75-125	0	20	04/29/21	
Arsenic, 3010	3.7	0.020	mg/L	4.0	ND	91	75-125	0	20	04/29/21	
Selenium, 3010	3.3	0.020	mg/L	4.0	ND	83	75-125	0	20	04/29/21	
Silver, 3010	1.9	0.10	mg/L	2.0	ND	94	75-125	1	20	04/29/21	
Cadmium, 3010	3.8	0.020	mg/L	4.0	ND	95	75-125	0	20	04/29/21	
Antimony, 3010	4.1	0.20	mg/L	4.0	ND	103	75-125	1	20	04/29/21	
Thallium, 3010	3.6	0.20	mg/L	4.0	ND	90	75-125	2	20	04/29/21	
Lead, 3010	3.6	0.050	mg/L	4.0	ND	90	75-125	2	20	04/29/21	
Mercury, 3010	0.087	0.0040	mg/L	0.10	ND	87	75-125	4	20	04/29/21	

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
EPA 624.1 - Quality Control											
Batch: AED1389										Prepared: 4/22/2021	
Prep Method: no prep-volatiles										Analyst: AMN	
Blank (AED1389-BLK1)											
1,1,1-Trichloroethane	ND	0.50	ug/L							04/22/21	
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L							04/22/21	
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.50	ug/L							04/22/21	
1,1,2-Trichloroethane	ND	0.50	ug/L							04/22/21	
1,1-Dichloroethane	ND	0.50	ug/L							04/22/21	
1,1-Dichloroethene	ND	0.50	ug/L							04/22/21	
1,2-Dibromoethane (EDB)	ND	0.50	ug/L							04/22/21	
1,2-Dichlorobenzene	ND	0.50	ug/L							04/22/21	
1,2-Dichloroethane	ND	0.50	ug/L							04/22/21	
1,2-Dichloropropane	ND	0.50	ug/L							04/22/21	
1,3-Dichlorobenzene	ND	0.50	ug/L							04/22/21	
1,4-Dichlorobenzene	ND	0.50	ug/L							04/22/21	
2-Chloroethyl vinyl ether	ND	1.0	ug/L							04/22/21	
2-Hexanone	ND	20	ug/L							04/22/21	
4-Methyl-2-pentanone	ND	20	ug/L							04/22/21	
Acetone	ND	20	ug/L							04/22/21	
Acrolein	ND	2.0	ug/L							04/22/21	
Acrylonitrile	ND	2.0	ug/L							04/22/21	
Benzene	ND	0.50	ug/L							04/22/21	
Bromodichloromethane	ND	0.50	ug/L							04/22/21	
Bromoform	ND	0.50	ug/L							04/22/21	
Bromomethane	ND	1.0	ug/L							04/22/21	
Carbon disulfide	ND	50	ug/L							04/22/21	
Carbon Tetrachloride	ND	0.50	ug/L							04/22/21	
Chlorobenzene	ND	0.50	ug/L							04/22/21	
Chloroethane	ND	0.50	ug/L							04/22/21	
Chloroform	ND	0.50	ug/L							04/22/21	
Chloromethane	ND	0.50	ug/L							04/22/21	
cis-1,2-Dichloroethene	ND	0.50	ug/L							04/22/21	
cis-1,3-Dichloropropene	ND	0.50	ug/L							04/22/21	
Dibromochloromethane	ND	0.50	ug/L							04/22/21	
Dichloromethane	ND	0.50	ug/L							04/22/21	
Ethylbenzene	ND	0.50	ug/L							04/22/21	
p-Isopropyltoluene	ND	5.0	ug/L							04/22/21	
m,p-Xylenes	ND	0.50	ug/L							04/22/21	
Methyl-t-butyl ether	ND	0.50	ug/L							04/22/21	
o-Xylene	ND	0.50	ug/L							04/22/21	
Styrene	ND	5.0	ug/L							04/22/21	
Tetrachloroethene (PCE)	ND	0.50	ug/L							04/22/21	
Toluene	ND	0.50	ug/L							04/22/21	
trans-1,2-Dichloroethene	ND	0.50	ug/L							04/22/21	
trans-1,3-Dichloropropene	ND	0.50	ug/L							04/22/21	
Trichloroethene (TCE)	ND	0.50	ug/L							04/22/21	

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
EPA 624.1 - Quality Control											
Batch: AED1389										Prepared: 4/22/2021	
Prep Method: no prep-volatiles										Analyst: AMN	
Blank (AED1389-BLK1)											
Trichlorofluoromethane	ND	0.50	ug/L							04/22/21	
Vinyl Chloride	ND	0.50	ug/L							04/22/21	
Surrogate: 1,2-Dichloroethane-d4	*60*			*50*		*121*	*70-130*			04/22/21	
Surrogate: Bromofluorobenzene	*48*			*50*		*97*	*70-130*			04/22/21	
Surrogate: Toluene-d8	*45*			*50*		*90*	*70-130*			04/22/21	
Blank Spike (AED1389-BS1)											
1,1,1-Trichloroethane	10	0.50	ug/L	10	ND	103	52-162			04/22/21	
1,1,2,2-Tetrachloroethane	9.7	0.50	ug/L	10	ND	97	46-157			04/22/21	
1,1,2-Trichloro-1,2,2-trifluoroethane	12	0.50	ug/L	10	ND	118	59-161			04/22/21	
1,1,2-Trichloroethane	9.8	0.50	ug/L	10	ND	98	52-150			04/22/21	
1,1-Dichloroethane	9.8	0.50	ug/L	10	ND	98	59-155			04/22/21	
1,1-Dichloroethene	10	0.50	ug/L	10	ND	102	10-234			04/22/21	
1,2-Dibromoethane (EDB)	9.4	0.50	ug/L	10	ND	94	77-125			04/22/21	
1,2-Dichlorobenzene	9.7	0.50	ug/L	10	ND	97	18-190			04/22/21	
1,2-Dichloroethane	9.7	0.50	ug/L	10	ND	97	49-155			04/22/21	
1,2-Dichloropropane	9.3	0.50	ug/L	10	ND	93	10-210			04/22/21	
1,3-Dichlorobenzene	9.7	0.50	ug/L	10	ND	97	59-156			04/22/21	
1,4-Dichlorobenzene	9.7	0.50	ug/L	10	ND	97	18-190			04/22/21	
2-Chloroethyl vinyl ether	11	1.0	ug/L	10	ND	113	10-305			04/22/21	
2-Hexanone	8.3	20	ug/L	10	ND	83	62-141			04/22/21	
4-Methyl-2-pentanone	7.9	20	ug/L	10	ND	79	72-134			04/22/21	
Acetone	8.9	20	ug/L	10	ND	89	49-165			04/22/21	
Acrolein	100	2.0	ug/L	100	ND	102	44-144			04/22/21	
Acrylonitrile	9.5	2.0	ug/L	10	ND	95	54-140			04/22/21	
Benzene	9.9	0.50	ug/L	10	ND	99	37-151			04/22/21	
Bromodichloromethane	9.4	0.50	ug/L	10	ND	94	80-127			04/22/21	
Bromoform	8.5	0.50	ug/L	10	ND	85	45-169			04/22/21	
Bromomethane	11	1.0	ug/L	10	ND	108	10-242			04/22/21	
Carbon disulfide	11	50	ug/L	10	ND	108	78-140			04/22/21	
Carbon Tetrachloride	10	0.50	ug/L	10	ND	104	70-140			04/22/21	
Chlorobenzene	9.8	0.50	ug/L	10	ND	98	37-160			04/22/21	
Chloroethane	9.5	0.50	ug/L	10	ND	95	14-230			04/22/21	
Chloroform	9.9	0.50	ug/L	10	ND	99	51-138			04/22/21	
Chloromethane	12	0.50	ug/L	10	ND	115	10-273			04/22/21	
cis-1,2-Dichloroethene	9.5	0.50	ug/L	10	ND	95	77-132			04/22/21	
cis-1,3-Dichloropropene	8.8	0.50	ug/L	10	ND	88	10-227			04/22/21	
Dibromochloromethane	9.1	0.50	ug/L	10	ND	91	53-149			04/22/21	
Dichloromethane	10	0.50	ug/L	10	ND	101	10-221			04/22/21	
Ethylbenzene	9.5	0.50	ug/L	10	ND	95	37-162			04/22/21	
p-Isopropyltoluene	9.6	5.0	ug/L	10	ND	96	50-150			04/22/21	
m,p-Xylenes	19	0.50	ug/L	20	ND	97	76-123			04/22/21	
Methyl-t-butyl ether	18	0.50	ug/L	20	ND	90	76-133			04/22/21	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 624.1 - Quality Control											
Batch: AED1389										Prepared: 4/22/2021	
Prep Method: no prep-volatiles										Analyst: AMN	
Blank Spike (AED1389-BS1)											
o-Xylene	9.0	0.50	ug/L	10	ND	90	84-121			04/22/21	
Styrene	9.1	5.0	ug/L	10	ND	91	79-124			04/22/21	
Tetrachloroethene (PCE)	10	0.50	ug/L	10	ND	104	64-148			04/22/21	
Toluene	9.8	0.50	ug/L	10	ND	98	47-150			04/22/21	
trans-1,2-Dichloroethene	10	0.50	ug/L	10	ND	101	54-156			04/22/21	
trans-1,3-Dichloropropene	9.0	0.50	ug/L	10	ND	90	17-183			04/22/21	
Trichloroethene (TCE)	9.2	0.50	ug/L	10	ND	92	71-157			04/22/21	
Trichlorofluoromethane	11	0.50	ug/L	10	ND	105	17-181			04/22/21	
Vinyl Chloride	12	0.50	ug/L	10	ND	121	10-251			04/22/21	
Surrogate: 1,2-Dichloroethane-d4	*50*			*50*		*101*	*70-130*			04/22/21	
Surrogate: Bromofluorobenzene	*49*			*50*		*99*	*70-130*			04/22/21	
Surrogate: Toluene-d8	*50*			*50*		*100*	*70-130*			04/22/21	
Blank Spike Dup (AED1389-BSD1)											
1,1,1-Trichloroethane	10	0.50	ug/L	10	ND	103	52-162	1	30	04/22/21	
1,1,2,2-Tetrachloroethane	9.8	0.50	ug/L	10	ND	98	46-157	0	30	04/22/21	
1,1,2-Trichloro-1,2,2-trifluoroethane	12	0.50	ug/L	10	ND	117	59-161	1	30	04/22/21	
1,1,2-Trichloroethane	9.7	0.50	ug/L	10	ND	97	52-150	1	30	04/22/21	
1,1-Dichloroethane	9.9	0.50	ug/L	10	ND	99	59-155	1	30	04/22/21	
1,1-Dichloroethene	10	0.50	ug/L	10	ND	103	10-234	1	30	04/22/21	
1,2-Dibromoethane (EDB)	9.5	0.50	ug/L	10	ND	95	77-125	1	30	04/22/21	
1,2-Dichlorobenzene	9.6	0.50	ug/L	10	ND	96	18-190	1	30	04/22/21	
1,2-Dichloroethane	9.7	0.50	ug/L	10	ND	97	49-155	0	30	04/22/21	
1,2-Dichloropropane	9.6	0.50	ug/L	10	ND	96	10-210	3	30	04/22/21	
1,3-Dichlorobenzene	9.6	0.50	ug/L	10	ND	96	59-156	1	30	04/22/21	
1,4-Dichlorobenzene	9.6	0.50	ug/L	10	ND	96	18-190	1	30	04/22/21	
2-Chloroethyl vinyl ether	12	1.0	ug/L	10	ND	117	10-305	3	30	04/22/21	
2-Hexanone	8.4	20	ug/L	10	ND	84	62-141	1	30	04/22/21	
4-Methyl-2-pentanone	8.0	20	ug/L	10	ND	80	72-134	2	30	04/22/21	
Acetone	9.0	20	ug/L	10	ND	90	49-165	1	30	04/22/21	
Acrolein	110	2.0	ug/L	100	ND	110	44-144	8	30	04/22/21	
Acrylonitrile	9.6	2.0	ug/L	10	ND	96	54-140	1	30	04/22/21	
Benzene	9.4	0.50	ug/L	10	ND	94	37-151	5	30	04/22/21	
Bromodichloromethane	9.5	0.50	ug/L	10	ND	95	80-127	1	30	04/22/21	
Bromoform	8.7	0.50	ug/L	10	ND	87	45-169	1	30	04/22/21	
Bromomethane	10	1.0	ug/L	10	ND	103	10-242	5	30	04/22/21	
Carbon disulfide	11	50	ug/L	10	ND	108	78-140	0	30	04/22/21	
Carbon Tetrachloride	10	0.50	ug/L	10	ND	105	70-140	1	30	04/22/21	
Chlorobenzene	9.8	0.50	ug/L	10	ND	98	37-160	0	30	04/22/21	
Chloroethane	9.2	0.50	ug/L	10	ND	92	14-230	3	30	04/22/21	
Chloroform	10	0.50	ug/L	10	ND	100	51-138	1	30	04/22/21	
Chloromethane	11	0.50	ug/L	10	ND	114	10-273	1	30	04/22/21	
cis-1,2-Dichloroethene	9.6	0.50	ug/L	10	ND	96	77-132	1	30	04/22/21	

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Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 624.1 - Quality Control											
Batch: AED1389										Prepared: 4/22/2021	
Prep Method: no prep-volatiles										Analyst: AMN	
Blank Spike Dup (AED1389-BSD1)											
cis-1,3-Dichloropropene	9.0	0.50	ug/L	10	ND	90	10-227	2	30	04/22/21	
Dibromochloromethane	9.1	0.50	ug/L	10	ND	91	53-149	0	30	04/22/21	
Dichloromethane	10	0.50	ug/L	10	ND	101	10-221	1	30	04/22/21	
Ethylbenzene	9.5	0.50	ug/L	10	ND	95	37-162	1	30	04/22/21	
p-Isopropyltoluene	9.4	5.0	ug/L	10	ND	94	50-150	2	30	04/22/21	
m,p-Xylenes	19	0.50	ug/L	20	ND	97	76-123	1	30	04/22/21	
Methyl-t-butyl ether	18	0.50	ug/L	20	ND	92	76-133	2	30	04/22/21	
o-Xylene	9.1	0.50	ug/L	10	ND	91	84-121	1	30	04/22/21	
Styrene	9.0	5.0	ug/L	10	ND	90	79-124	1	30	04/22/21	
Tetrachloroethene (PCE)	10	0.50	ug/L	10	ND	101	64-148	2	30	04/22/21	
Toluene	9.8	0.50	ug/L	10	ND	98	47-150	0	30	04/22/21	
trans-1,2-Dichloroethene	10	0.50	ug/L	10	ND	102	54-156	0	30	04/22/21	
trans-1,3-Dichloropropene	9.1	0.50	ug/L	10	ND	91	17-183	1	30	04/22/21	
Trichloroethene (TCE)	10	0.50	ug/L	10	ND	100	71-157	9	30	04/22/21	
Trichlorofluoromethane	9.6	0.50	ug/L	10	ND	96	17-181	10	30	04/22/21	
Vinyl Chloride	12	0.50	ug/L	10	ND	121	10-251	0	30	04/22/21	
Surrogate: 1,2-Dichloroethane-d4	*48*			*50*		*96*	*70-130*			04/22/21	
Surrogate: Bromofluorobenzene	*48*			*50*		*95*	*70-130*			04/22/21	
Surrogate: Toluene-d8	*49*			*50*		*98*	*70-130*			04/22/21	
EPA 625.1 - Quality Control											
Batch: AED1195										Prepared: 4/21/2021	
Prep Method: EPA 3520C										Analyst: YNV	
Blank (AED1195-BLK1)											
1,2,4-Trichlorobenzene	ND	0.60	ug/L							04/23/21	
1,2-Diphenylhydrazine (as Azobenzene)	ND	20	ug/L							04/23/21	
2,2'-oxybis(1-chloropropane) (2)	ND	0.60	ug/L							04/23/21	
2,4,6-Trichlorophenol	ND	4.0	ug/L							04/23/21	
2,4-Dichlorophenol	ND	1.0	ug/L							04/23/21	
2,4-Dimethylphenol	ND	1.0	ug/L							04/23/21	
2,4-Dinitrophenol	ND	2.0	ug/L							04/23/21	
2,4-Dinitrotoluene	ND	0.40	ug/L							04/23/21	
2,6-Dinitrotoluene	ND	0.40	ug/L							04/23/21	
2-Chloronaphthalene	ND	0.60	ug/L							04/23/21	
2-Chlorophenol	ND	2.0	ug/L							04/23/21	
2-Nitrophenol	ND	1.0	ug/L							04/23/21	
3,3-Dichlorobenzidine	ND	1.0	ug/L							04/23/21	
4,6-Dinitro-2-methylphenol	ND	2.0	ug/L							04/23/21	
4-Bromophenyl phenyl ether	ND	0.40	ug/L							04/23/21	
4-Chloro-3-methylphenol	ND	2.0	ug/L							04/23/21	
4-Chlorophenyl phenyl ether	ND	0.50	ug/L							04/23/21	
4-Nitrophenol	ND	1.0	ug/L							04/23/21	

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 625.1 - Quality Control											
Batch: AED1195										Prepared: 4/21/2021	
Prep Method: EPA 3520C										Analyst: YNV	
Blank (AED1195-BLK1)											
Acenaphthene	ND	0.40	ug/L							04/23/21	
Acenaphthylene	ND	0.60	ug/L							04/23/21	
Anthracene	ND	0.60	ug/L							04/23/21	
Benzidine	ND	24	ug/L							04/23/21	
Benzo(a)anthracene	ND	0.60	ug/L							04/23/21	
Benzo(a)pyrene	ND	1.0	ug/L							04/23/21	
Benzo(b)fluoranthene	ND	1.6	ug/L							04/23/21	
Benzo(g,h,i)perylene	ND	1.0	ug/L							04/23/21	
Benzo(k)fluoranthene	ND	1.6	ug/L							04/23/21	
Bis(2-chloroethoxy)methane	ND	21	ug/L							04/23/21	
Bis(2-chloroethyl) ether	ND	1.0	ug/L							04/23/21	
Bis(2-ethylhexyl) phthalate	ND	0.50	ug/L							04/23/21	B2.0
Butyl benzyl phthalate	ND	0.60	ug/L							04/23/21	
Chrysene	ND	0.60	ug/L							04/23/21	
Dibenzo(a,h)anthracene	ND	1.6	ug/L							04/23/21	
Diethyl phthalate	ND	7.6	ug/L							04/23/21	
Dimethyl phthalate	ND	6.4	ug/L							04/23/21	
Di-n-butyl phthalate	ND	1.0	ug/L							04/23/21	B2.0
Di-n-octyl phthalate	ND	0.60	ug/L							04/23/21	
Fluoranthene	ND	0.60	ug/L							04/23/21	
Fluorene	ND	0.60	ug/L							04/23/21	
Hexachlorobenzene	ND	0.60	ug/L							04/23/21	
Hexachlorobutadiene	ND	1.0	ug/L							04/23/21	
Hexachlorocyclopentadiene	ND	1.0	ug/L							04/23/21	
Hexachloroethane	ND	1.0	ug/L							04/23/21	
Indeno(1,2,3-cd)pyrene	ND	1.0	ug/L							04/23/21	
Isophorone	ND	1.0	ug/L							04/23/21	
Naphthalene	ND	0.60	ug/L							04/23/21	
Nitrobenzene	ND	1.0	ug/L							04/23/21	
N-Nitrosodimethylamine (NDMA)	ND	4.0	ug/L							04/23/21	
N-Nitrosodi-n-propylamine (NDPA)	ND	1.0	ug/L							04/23/21	
N-Nitrosodiphenylamine (as DPA)	ND	1.0	ug/L							04/23/21	
Pentachlorophenol	ND	1.0	ug/L							04/23/21	
Phenanthrene	ND	0.60	ug/L							04/23/21	
Phenol	ND	4.0	ug/L							04/23/21	
Pyrene	ND	0.60	ug/L							04/23/21	
Surrogate: 2,4,6-Tribromophenol	*5.3*			*5.0*		*107*	*53-200*			04/23/21	
Surrogate: 2-Fluorobiphenyl	*3.6*			*5.0*		*72*	*40-127*			04/23/21	
Surrogate: 2-Fluorophenol	*4.0*			*5.0*		*80*	*42-123*			04/23/21	
Surrogate: Nitrobenzene-d5	*3.8*			*5.0*		*76*	*15-200*			04/23/21	
Surrogate: Phenol-d6	*4.4*			*5.0*		*87*	*10-200*			04/23/21	
Surrogate: p-Terphenyl-d14	*3.9*			*5.0*		*79*	*50-150*			04/23/21	
Blank Spike (AED1195-BS1)											

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Organics Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
EPA 625.1 - Quality Control											
Batch: AED1195										Prepared: 4/21/2021	
Prep Method: EPA 3520C										Analyst: YNV	
Blank Spike (AED1195-BS1)											
1,2,4-Trichlorobenzene	2.7	0.60	ug/L	5.0	ND	55	44-142			04/26/21	
1,2-Diphenylhydrazine (as Azobenzene)	3.7	20	ug/L	5.0	ND	75	30-130			04/26/21	
2,2'-oxybis(1-chloropropane) (2)	3.6	0.60	ug/L	5.0	ND	72	36-166			04/26/21	
2,4,6-Trichlorophenol	4.1	4.0	ug/L	5.0	ND	82	37-144			04/26/21	
2,4-Dichlorophenol	3.9	1.0	ug/L	5.0	ND	78	39-135			04/26/21	
2,4-Dimethylphenol	4.2	1.0	ug/L	5.0	ND	83	32-120			04/26/21	
2,4-Dinitrophenol	4.8	2.0	ug/L	5.0	ND	95	10-191			04/26/21	
2,4-Dinitrotoluene	4.2	0.40	ug/L	5.0	ND	84	39-139			04/26/21	
2,6-Dinitrotoluene	4.0	0.40	ug/L	5.0	ND	79	50-158			04/26/21	
2-Chloronaphthalene	3.4	0.60	ug/L	5.0	ND	69	60-120			04/26/21	
2-Chlorophenol	3.5	2.0	ug/L	5.0	ND	70	23-134			04/26/21	
2-Nitrophenol	4.0	1.0	ug/L	5.0	ND	80	29-182			04/26/21	
3,3-Dichlorobenzidine	9.5	1.0	ug/L	20	ND	47	10-200			04/26/21	
4,6-Dinitro-2-methylphenol	5.0	2.0	ug/L	5.0	ND	99	10-181			04/26/21	
4-Bromophenyl phenyl ether	3.7	0.40	ug/L	5.0	ND	73	53-127			04/26/21	
4-Chloro-3-methylphenol	4.4	2.0	ug/L	5.0	ND	89	22-147			04/26/21	
4-Chlorophenyl phenyl ether	3.6	0.50	ug/L	5.0	ND	72	25-158			04/26/21	
4-Nitrophenol	4.4	1.0	ug/L	5.0	ND	88	10-132			04/26/21	
Acenaphthene	0.077	0.40	ug/L	0.10	ND	77	47-145			04/26/21	
Acenaphthylene	0.076	0.60	ug/L	0.10	ND	76	33-145			04/26/21	
Anthracene	0.080	0.60	ug/L	0.10	ND	80	27-133			04/26/21	
Benzidine	3.0	24	ug/L	20	ND	15	10-200			04/26/21	
Benzo(a)anthracene	0.087	0.60	ug/L	0.10	ND	87	33-143			04/26/21	
Benzo(a)pyrene	0.083	1.0	ug/L	0.10	ND	83	17-163			04/26/21	
Benzo(b)fluoranthene	0.085	1.6	ug/L	0.10	ND	85	24-159			04/26/21	
Benzo(g,h,i)perylene	0.077	1.0	ug/L	0.10	ND	77	10-200			04/26/21	
Benzo(k)fluoranthene	0.080	1.6	ug/L	0.10	ND	80	11-162			04/26/21	
Bis(2-chloroethoxy)methane	3.6	21	ug/L	5.0	ND	72	33-184			04/26/21	
Bis(2-chloroethyl) ether	3.8	1.0	ug/L	5.0	ND	75	12-158			04/26/21	
Bis(2-ethylhexyl) phthalate	3.9	0.50	ug/L	5.0	ND	77	8-158			04/26/21	
Butyl benzyl phthalate	3.2	0.60	ug/L	5.0	ND	64	10-152			04/26/21	
Chrysene	0.081	0.60	ug/L	0.10	ND	81	17-168			04/26/21	
Dibenzo(a,h)anthracene	0.072	1.6	ug/L	0.10	ND	72	10-200			04/26/21	
Diethyl phthalate	2.6	7.6	ug/L	5.0	ND	51	10-120			04/26/21	
Dimethyl phthalate	1.3	6.4	ug/L	5.0	ND	25	10-120			04/26/21	
Di-n-butyl phthalate	3.6	1.0	ug/L	5.0	ND	72	10-120			04/26/21	
Di-n-octyl phthalate	3.3	0.60	ug/L	5.0	ND	67	10-146			04/26/21	
Fluoranthene	0.082	0.60	ug/L	0.10	ND	82	26-137			04/26/21	
Fluorene	0.078	0.60	ug/L	0.10	ND	78	59-121			04/26/21	
Hexachlorobenzene	3.6	0.60	ug/L	5.0	ND	73	10-152			04/26/21	
Hexachlorobutadiene	2.2	1.0	ug/L	5.0	ND	45	24-120			04/26/21	
Hexachlorocyclopentadiene	2.7	1.0	ug/L	5.0	ND	55	10-130			04/26/21	
Hexachloroethane	2.2	1.0	ug/L	5.0	ND	43	40-120			04/26/21	

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
EPA 625.1 - Quality Control											
Batch: AED1195										Prepared: 4/21/2021	
Prep Method: EPA 3520C										Analyst: YNV	
Blank Spike (AED1195-BS1)											
Indeno(1,2,3-cd)pyrene	0.070	1.0	ug/L	0.10	ND	70	10-171			04/26/21	
Isophorone	3.9	1.0	ug/L	5.0	ND	77	21-196			04/26/21	
Naphthalene	0.069	0.60	ug/L	0.10	ND	69	21-133			04/26/21	
Nitrobenzene	3.7	1.0	ug/L	5.0	ND	74	35-180			04/26/21	
N-Nitrosodimethylamine (NDMA)	3.6	4.0	ug/L	5.0	ND	73	10-130			04/26/21	
N-Nitrosodi-n-propylamine (NDPA)	4.0	1.0	ug/L	5.0	ND	80	10-200			04/26/21	
N-Nitrosodiphenylamine (as DPA)	3.5	1.0	ug/L	5.0	ND	71	10-130			04/26/21	
Pentachlorophenol	4.2	1.0	ug/L	5.0	ND	83	14-176			04/26/21	
Phenanthrene	0.078	0.60	ug/L	0.10	ND	78	54-120			04/26/21	
Phenol	3.6	4.0	ug/L	5.0	ND	72	10-120			04/26/21	
Pyrene	0.083	0.60	ug/L	0.10	ND	83	52-120			04/26/21	
Surrogate: 2,4,6-Tribromophenol	*5.5*			*5.0*		*109*	*53-200*			04/26/21	
Surrogate: 2-Fluorobiphenyl	*3.5*			*5.0*		*70*	*40-127*			04/26/21	
Surrogate: 2-Fluorophenol	*3.6*			*5.0*		*72*	*42-123*			04/26/21	
Surrogate: Nitrobenzene-d5	*3.8*			*5.0*		*76*	*15-200*			04/26/21	
Surrogate: Phenol-d6	*4.0*			*5.0*		*80*	*10-200*			04/26/21	
Surrogate: p-Terphenyl-d14	*3.9*			*5.0*		*79*	*50-150*			04/26/21	
Matrix Spike (AED1195-MS1), Source: AED1476-02											
1,2,4-Trichlorobenzene	3.0	0.60	ug/L	4.8	ND	63	44-142			04/23/21	
1,2-Diphenylhydrazine (as Azobenzene)	3.5	20	ug/L	4.8	ND	73	30-130			04/23/21	
2,2'-oxybis(1-chloropropane) (2)	3.5	0.60	ug/L	4.8	ND	72	36-166			04/23/21	
2,4,6-Trichlorophenol	3.9	4.0	ug/L	4.8	ND	82	37-144			04/23/21	
2,4-Dichlorophenol	3.9	1.0	ug/L	4.8	ND	81	39-135			04/23/21	
2,4-Dimethylphenol	3.9	1.0	ug/L	4.8	ND	75	32-120			04/23/21	
2,4-Dinitrophenol	4.4	2.0	ug/L	4.8	ND	86	10-191			04/23/21	
2,4-Dinitrotoluene	4.0	0.40	ug/L	4.8	ND	84	39-139			04/23/21	
2,6-Dinitrotoluene	3.8	0.40	ug/L	4.8	ND	80	50-158			04/23/21	
2-Chloronaphthalene	3.4	0.60	ug/L	4.8	ND	71	60-120			04/23/21	
2-Chlorophenol	3.3	2.0	ug/L	4.8	ND	70	23-134			04/23/21	
2-Nitrophenol	3.9	1.0	ug/L	4.8	ND	82	29-182			04/23/21	
3,3-Dichlorobenzidine	ND	1.0	ug/L	19	ND	0	10-200			04/23/21	MS1.0 ***Low***
4,6-Dinitro-2-methylphenol	4.6	2.0	ug/L	4.8	ND	96	10-181			04/23/21	
4-Bromophenyl phenyl ether	3.4	0.40	ug/L	4.8	ND	72	53-127			04/23/21	
4-Chloro-3-methylphenol	4.4	2.0	ug/L	4.8	ND	91	22-147			04/23/21	
4-Chlorophenyl phenyl ether	3.4	0.50	ug/L	4.8	ND	72	25-158			04/23/21	
4-Nitrophenol	4.5	1.0	ug/L	4.8	ND	94	10-132			04/23/21	
Acenaphthene	0.076	0.40	ug/L	0.096	ND	80	47-145			04/23/21	
Acenaphthylene	0.075	0.60	ug/L	0.096	ND	79	33-145			04/23/21	
Anthracene	0.077	0.60	ug/L	0.096	ND	80	27-133			04/23/21	
Benzidine	ND	24	ug/L	19	ND	0	10-200			04/23/21	MS1.0 ***Low***
Benzo(a)anthracene	0.075	0.60	ug/L	0.096	ND	78	33-143			04/23/21	
Benzo(a)pyrene	0.082	1.0	ug/L	0.096	ND	86	17-163			04/23/21	
Benzo(b)fluoranthene	0.082	1.6	ug/L	0.096	ND	86	24-159			04/23/21	

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
EPA 625.1 - Quality Control											
Batch: AED1195										Prepared: 4/21/2021	
Prep Method: EPA 3520C										Analyst: YNV	
Matrix Spike (AED1195-MS1), Source: AED1476-02											
Benzo(g,h,i)perylene	0.048	1.0	ug/L	0.096	ND	50	10-200			04/23/21	
Benzo(k)fluoranthene	0.089	1.6	ug/L	0.096	ND	93	11-162			04/23/21	
Bis(2-chloroethoxy)methane	3.5	21	ug/L	4.8	ND	73	33-184			04/23/21	
Bis(2-chloroethyl) ether	3.5	1.0	ug/L	4.8	ND	74	12-158			04/23/21	
Bis(2-ethylhexyl) phthalate	3.7	0.50	ug/L	4.8	ND	75	8-158			04/23/21	
Butyl benzyl phthalate	2.2	0.60	ug/L	4.8	ND	46	10-152			04/23/21	
Chrysene	0.075	0.60	ug/L	0.096	ND	78	17-168			04/23/21	
Dibenzo(a,h)anthracene	0.055	1.6	ug/L	0.096	ND	57	10-200			04/23/21	
Diethyl phthalate	1.8	7.6	ug/L	4.8	ND	37	10-120			04/23/21	
Dimethyl phthalate	0.88	6.4	ug/L	4.8	ND	18	10-120			04/23/21	
Di-n-butyl phthalate	2.6	1.0	ug/L	4.8	ND	54	10-120			04/23/21	
Di-n-octyl phthalate	3.9	0.60	ug/L	4.8	ND	81	10-146			04/23/21	
Fluoranthene	0.080	0.60	ug/L	0.096	ND	83	26-137			04/23/21	
Fluorene	0.079	0.60	ug/L	0.096	ND	83	59-121			04/23/21	
Hexachlorobenzene	3.5	0.60	ug/L	4.8	ND	73	10-152			04/23/21	
Hexachlorobutadiene	2.7	1.0	ug/L	4.8	ND	56	24-120			04/23/21	
Hexachlorocyclopentadiene	2.4	1.0	ug/L	4.8	ND	50	10-130			04/23/21	
Hexachloroethane	2.6	1.0	ug/L	4.8	ND	55	40-120			04/23/21	
Indeno(1,2,3-cd)pyrene	0.051	1.0	ug/L	0.096	ND	53	10-171			04/23/21	
Isophorone	3.7	1.0	ug/L	4.8	ND	77	21-196			04/23/21	
Naphthalene	0.073	0.60	ug/L	0.096	ND	76	21-133			04/23/21	
Nitrobenzene	3.6	1.0	ug/L	4.8	ND	74	35-180			04/23/21	
N-Nitrosodimethylamine (NDMA)	3.6	4.0	ug/L	4.8	ND	75	10-130			04/23/21	
N-Nitrosodi-n-propylamine (NDPA)	3.8	1.0	ug/L	4.8	ND	79	10-200			04/23/21	
N-Nitrosodiphenylamine (as DPA)	3.7	1.0	ug/L	4.8	ND	78	10-130			04/23/21	
Pentachlorophenol	4.1	1.0	ug/L	4.8	ND	87	14-176			04/23/21	
Phenanthrene	0.076	0.60	ug/L	0.096	ND	79	54-120			04/23/21	
Phenol	3.4	4.0	ug/L	4.8	ND	72	10-120			04/23/21	
Pyrene	0.082	0.60	ug/L	0.096	ND	85	52-120			04/23/21	
Surrogate: 2,4,6-Tribromophenol	*5.5*			*4.8*		*115*	*53-200*			04/23/21	
Surrogate: 2-Fluorobiphenyl	*3.4*			*4.8*		*71*	*40-127*			04/23/21	
Surrogate: 2-Fluorophenol	*3.5*			*4.8*		*73*	*42-123*			04/23/21	
Surrogate: Nitrobenzene-d5	*3.6*			*4.8*		*76*	*15-200*			04/23/21	
Surrogate: Phenol-d6	*3.8*			*4.8*		*79*	*10-200*			04/23/21	
Surrogate: p-Terphenyl-d14	*3.6*			*4.8*		*76*	*50-150*			04/23/21	
Matrix Spike Dup (AED1195-MSD1), Source: AED1476-02											
1,2,4-Trichlorobenzene	3.1	0.60	ug/L	4.8	ND	64	44-142	1	30	04/23/21	
1,2-Diphenylhydrazine (as Azobenzene)	3.6	20	ug/L	4.8	ND	74	30-130	1	30	04/23/21	
2,2'-oxybis(1-chloropropane) (2)	3.4	0.60	ug/L	4.8	ND	70	36-166	3	30	04/23/21	
2,4,6-Trichlorophenol	3.9	4.0	ug/L	4.8	ND	80	37-144	1	30	04/23/21	
2,4-Dichlorophenol	3.8	1.0	ug/L	4.8	ND	80	39-135	1	30	04/23/21	
2,4-Dimethylphenol	3.8	1.0	ug/L	4.8	ND	74	32-120	2	30	04/23/21	
2,4-Dinitrophenol	4.3	2.0	ug/L	4.8	ND	83	10-191	3	30	04/23/21	

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
EPA 625.1 - Quality Control											
Batch: AED1195										Prepared: 4/21/2021	
Prep Method: EPA 3520C										Analyst: YNV	
Matrix Spike Dup (AED1195-MSD1), Source: AED1476-02											
2,4-Dinitrotoluene	4.1	0.40	ug/L	4.8	ND	85	39-139	1	30	04/23/21	
2,6-Dinitrotoluene	3.9	0.40	ug/L	4.8	ND	80	50-158	1	30	04/23/21	
2-Chloronaphthalene	3.4	0.60	ug/L	4.8	ND	72	60-120	1	30	04/23/21	
2-Chlorophenol	3.3	2.0	ug/L	4.8	ND	69	23-134	1	30	04/23/21	
2-Nitrophenol	3.7	1.0	ug/L	4.8	ND	78	29-182	4	30	04/23/21	
3,3-Dichlorobenzidine	0.56	1.0	ug/L	19	ND	3	10-200		30	04/23/21	MS1.0 ***Low***
4,6-Dinitro-2-methylphenol	4.5	2.0	ug/L	4.8	ND	94	10-181	2	30	04/23/21	
4-Bromophenyl phenyl ether	3.5	0.40	ug/L	4.8	ND	73	53-127	2	30	04/23/21	
4-Chloro-3-methylphenol	4.4	2.0	ug/L	4.8	ND	91	22-147	1	30	04/23/21	
4-Chlorophenyl phenyl ether	3.5	0.50	ug/L	4.8	ND	74	25-158	2	30	04/23/21	
4-Nitrophenol	4.5	1.0	ug/L	4.8	ND	93	10-132	0	30	04/23/21	
Acenaphthene	0.075	0.40	ug/L	0.096	ND	79	47-145	1	30	04/23/21	
Acenaphthylene	0.075	0.60	ug/L	0.096	ND	78	33-145	0	30	04/23/21	
Anthracene	0.078	0.60	ug/L	0.096	ND	81	27-133	2	30	04/23/21	
Benzidine	ND	24	ug/L	19	ND	0	10-200		30	04/23/21	MS1.0 ***Low***
Benzo(a)anthracene	0.077	0.60	ug/L	0.096	ND	80	33-143	3	30	04/23/21	
Benzo(a)pyrene	0.084	1.0	ug/L	0.096	ND	87	17-163	2	30	04/23/21	
Benzo(b)fluoranthene	0.087	1.6	ug/L	0.096	ND	90	24-159	5	30	04/23/21	
Benzo(g,h,i)perylene	0.049	1.0	ug/L	0.096	ND	51	10-200	2	30	04/23/21	
Benzo(k)fluoranthene	0.084	1.6	ug/L	0.096	ND	88	11-162	6	30	04/23/21	
Bis(2-chloroethoxy)methane	3.5	21	ug/L	4.8	ND	72	33-184	1	30	04/23/21	
Bis(2-chloroethyl) ether	3.5	1.0	ug/L	4.8	ND	73	12-158	1	30	04/23/21	
Bis(2-ethylhexyl) phthalate	4.0	0.50	ug/L	4.8	ND	79	8-158	6	30	04/23/21	
Butyl benzyl phthalate	2.6	0.60	ug/L	4.8	ND	54	10-152	15	30	04/23/21	
Chrysene	0.077	0.60	ug/L	0.096	ND	80	17-168	3	30	04/23/21	
Dibenzo(a,h)anthracene	0.056	1.6	ug/L	0.096	ND	58	10-200	2	30	04/23/21	
Diethyl phthalate	2.2	7.6	ug/L	4.8	ND	46	10-120	23	30	04/23/21	
Dimethyl phthalate	1.3	6.4	ug/L	4.8	ND	27	10-120	38	30	04/23/21	MS2.0
Di-n-butyl phthalate	3.0	1.0	ug/L	4.8	ND	63	10-120	15	30	04/23/21	
Di-n-octyl phthalate	4.0	0.60	ug/L	4.8	ND	83	10-146	3	30	04/23/21	
Fluoranthene	0.081	0.60	ug/L	0.096	ND	84	26-137	1	30	04/23/21	
Fluorene	0.080	0.60	ug/L	0.096	ND	83	59-121	1	30	04/23/21	
Hexachlorobenzene	3.5	0.60	ug/L	4.8	ND	72	10-152	1	30	04/23/21	
Hexachlorobutadiene	2.9	1.0	ug/L	4.8	ND	60	24-120	7	30	04/23/21	
Hexachlorocyclopentadiene	2.7	1.0	ug/L	4.8	ND	55	10-130	10	30	04/23/21	
Hexachloroethane	2.7	1.0	ug/L	4.8	ND	57	40-120	4	30	04/23/21	
Indeno(1,2,3-cd)pyrene	0.053	1.0	ug/L	0.096	ND	55	10-171	3	30	04/23/21	
Isophorone	3.6	1.0	ug/L	4.8	ND	75	21-196	1	30	04/23/21	
Naphthalene	0.070	0.60	ug/L	0.096	ND	73	21-133	4	30	04/23/21	
Nitrobenzene	3.5	1.0	ug/L	4.8	ND	72	35-180	2	30	04/23/21	
N-Nitrosodimethylamine (NDMA)	3.6	4.0	ug/L	4.8	ND	75	10-130	0	30	04/23/21	
N-Nitrosodi-n-propylamine (NDPA)	3.8	1.0	ug/L	4.8	ND	79	10-200	1	30	04/23/21	
N-Nitrosodiphenylamine (as DPA)	3.8	1.0	ug/L	4.8	ND	79	10-130	1	30	04/23/21	

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
EPA 625.1 - Quality Control											
Batch: AED1195										Prepared: 4/21/2021	
Prep Method: EPA 3520C										Analyst: YNV	
Matrix Spike Dup (AED1195-MSD1), Source: AED1476-02											
Pentachlorophenol	4.1	1.0	ug/L	4.8	ND	86	14-176	1	30	04/23/21	
Phenanthrene	0.076	0.60	ug/L	0.096	ND	79	54-120	0	30	04/23/21	
Phenol	3.4	4.0	ug/L	4.8	ND	71	10-120	0	30	04/23/21	
Pyrene	0.084	0.60	ug/L	0.096	ND	88	52-120	3	30	04/23/21	
Surrogate: 2,4,6-Tribromophenol	*5.5*			*4.8*		*115*	*53-200*			04/23/21	
Surrogate: 2-Fluorobiphenyl	*3.4*			*4.8*		*70*	*40-127*			04/23/21	
Surrogate: 2-Fluorophenol	*3.4*			*4.8*		*70*	*42-123*			04/23/21	
Surrogate: Nitrobenzene-d5	*3.6*			*4.8*		*75*	*15-200*			04/23/21	
Surrogate: Phenol-d6	*3.8*			*4.8*		*78*	*10-200*			04/23/21	
Surrogate: p-Terphenyl-d14	*3.7*			*4.8*		*78*	*50-150*			04/23/21	

BSK Associates Vancouver

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Date Analyzed	Qual
SM 2540D - Quality Control											
Batch: VED0096										Prepared: 4/22/2021	
Prep Method: Method Specific Preparation										Analyst: PYA	
Blank (VED0096-BLK1)											
Total Suspended Solids	ND	5.0	mg/L							04/22/21	
Duplicate (VED0096-DUP1), Source: VED0425-01											
Total Suspended Solids	33	5.0	mg/L		33			0	10	04/22/21	
Duplicate (VED0096-DUP2), Source: VED0459-01											
Total Suspended Solids	52	5.0	mg/L		42			21	10	04/22/21	DP1.1
SM 5210B - Quality Control											
Batch: VED0094										Prepared: 4/21/2021	
Prep Method: Method Specific Preparation										Analyst: PYA	
Blank (VED0094-BLK1)											
Biochemical Oxygen Demand	ND	1.0	mg/L							04/26/21	
Blank Spike (VED0094-BS1)											
Biochemical Oxygen Demand	210	1.0	mg/L	200	ND	105	85-115			04/26/21	
Duplicate (VED0094-DUP1), Source: VED0425-01											
Biochemical Oxygen Demand	320	50	mg/L		290			9	10	04/26/21	

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.
- Field tests are outside the scope of laboratory accreditation and there is no certification available for field testing.
- 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.
- (2) - Formerly known as Bis(2-Chloroisopropyl) ether.

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 below MRL/MDL	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	U:	The analyte was not detected at or above the reported sample quantitation limit.

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

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

Iron Related Bacteria

Certificate of Analysis

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

Fresno

State of California - ELAP	1180	State of Hawaii	4021
Los Angeles CSD	9254479	NELAP certified	4021-017
State of Nevada	CA000792020-2	State of Oregon - NELAP	4021-017
EPA - UCMR4	CA00079	State of Washington	C997-21

Sacramento

State of California - ELAP	2435

San Bernardino

State of California - ELAP	2993	Los Angeles CSD	9254478
NELAP certified	4119-005	State of Oregon - NELAP	4119-005

Vancouver

NELAP certified	WA100008-014	State of Oregon - NELAP	WA100008-014
State of Washington	C824-20		

BSK ASSOCIATES

2517 E. Evergreen Blvd.
Vancouver, WA 98661
P 360.750.0055
F 360.750.0057
www.bskassociates.com

Turnaround Time Request
☒ Standard - 10 business days
☐ Rush (Surcharge may apply)
Date needed:

VED0391 Steve5970 04/19/2021 10

*Required Fields

Temp: 7.6°C IR#: 401

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
City of Stevenson	Karl Russell Additional cc's:	On File PO#:	509-427-5970 E-mail*: Karl@ci.stevenson.wa.us	

Address*:	City*:	State*:	Zip*:
PO Box 371	Stevenson	WA	98648

Project: Toxic Water
Project #:
Reporting Options: ☒ E-Mail ☐ Fax ☐ Mail ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type:
Sampler Name (Printed/Signature)*: CARLY LEMON Carly B. Lemon

Compliance?: ☐ Yes ☒ No State: ☑ WA ☐ OR System/PWS ID: _____ DOH Source/Source ID: _____
Water System Name: _____ County: Skamania
Sample Composition: ☑ Single Source ☐ **Blended ☐ **Composite ☐ Distribution Sample
**List sources in Source ID field
Sample Taken: ☐ Before Treatment ☐ After Treatment ☑ No Treatment Group (WA only): ☐ A ☐ B

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description/Location*	Sampled* Date	Sampled* Time	Matrix*	Comments	# of cont.	EPA 624.1 - Extended List Package ✓	EPA 624.1 - 2-CVE ✓	EPA 624.1 - Acroleiin and Acrylonitrile ✓	Cyanide, WA ✓	Iron Bacteria ✓	NWTPH-Dx ✓	TOC ✓		
1	Foster and Rock Cr. Seep	4/19/21	0830	W	Grab	12	✓	✓	✓	✓	✓	✓	✓		
2	Trip Blank - Lot# 0321050			W		2	✓								

Receipt Conditions in Vancouver: Temp: Received Via: UPS WALK-IN FED EX Courier: _____

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Ben Shumaker	City of Stevenson	4/19	12:32		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received for Lab by: (Signature and Printed Name)	
		4/19/21	1232	D. Karlsson	

Payment Received at Delivery: Check / Cash Date: Amount: PIA#: Init.
Shipping Method: ONTRAC UPS GSO (WALK-IN) FED EX Alaskan Airlines Courier: _____ Custody Seal: Y (N)
Cooling Method: Wet (Blue) None Chilling Process Begun: (Y) N

VAL-FL-0001-10

BSK ASSOCIATES

2517 E. Evergreen Blvd.
Vancouver, WA 98661
P 360.750.0055
F 360.750.0057
www.bskassociates.com

Turnaround Time Request
☒ Standard - 10 business days
☐ Rush (Surcharge may apply)
Date needed:

VED0391 Steve5970 04/19/2021 10

*Required Fields Temp: IR#:

Company/Client Name*:	Report Attention*:	Invoice To*:	Phone*:	Fax*:
City of Stevenson	Karl Russell Additional cc's:	On File PO#:	509-427-5970 E-mail*: Karl@ci.stevenson.wa.us	

Address*:	City*:	State*:	Zip*:
PO Box 371	Stevenson	WA	98648

Project: Toxic Water
Project #:
Reporting Options: ☒ E-Mail ☐ Fax ☐ Mail ☐ Trace (J-Flag) ☐ Swamp ☐ EDD Type:
Sampler Name (Printed/Signature)*: CARLY LEMON Carly B Lemon

Compliance?: ☐ Yes ☒ No State: ☑ WA ☐ OR System/PWS ID: _____ DOH Source/Source ID: _____
Water System Name: _____ County: Skamania
Sample Composition: ☑ Single Source ☐ **Blended ☐ **Composite ☐ Distribution Sample
**List sources in Source ID field
Sample Taken: ☐ Before Treatment ☐ After Treatment ☑ No Treatment Group (WA only): ☐ A ☐ B

Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid

#	Sample Description/Location*	Sampled* Date	Sampled* Time	Matrix*	Comments	# of cont.	Ammonia	BOD	Metals, PP Haz Waste (Liquid), WA	TSS	EPA 625.1, WA - Short List
2 X	Rock Cr & Foster Seep	4/19/21	11:00	W	Composite	7	✓	✓	✓	✓	✓

Receipt Conditions in Vancouver: Temp: Received Via: UPS WALK-IN FED EX Courier: _____

Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Ben Shumaker	City of Stevenson	4/19	12:32		
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received by: (Signature and Printed Name)	Company
Relinquished by: (Signature and Printed Name)	Company	Date	Time	Received for Lab by: (Signature and Printed Name)	
		4/19/21	1232	D.Thorsson	

Payment Received at Delivery: Check / Cash Date: Amount: PIA#: Init.
Shipping Method: ONTRAC UPS GSO WALK-IN FED EX Alaskan Airlines Courier: _____ Custody Seal: Y / N
Packing Method: Wet Blue None Chilling Process Begun: Y / N

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

VED0391 Steve5970 04/19/2021

10

BSK Associates VAL-FL-0048-02

Sample Integrity

BSK Bottles: (Yes) No Page ____ of ____

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro < 8°C	Yes (No) NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
If samples were taken today, is there evidence that chilling has begun?	(Yes) No NA	Were there bubbles in the VOA vials? (Volatiles Only)	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: AF 4/19/21	Yes No NA

Bottles Received

"_" means preservation/chlorine checks are either N/A or are performed in the lab

	Checks						
250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)		1	3	2			
Bacti $Na_2S_2O_3$	—	1		—			
None (P) White Cap	—			2C			
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **DW**	Cl, pH > 8						
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **WW**	pH 9.3-9.7						
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)_2SO_4$ **7199** ***24 HOUR HOLD TIME***	pH 9.0-9.5						
HNO_3 (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—			1B			
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2			1A			
NaOH (P) Green Cap	Cl, pH >10	1A		5			
NaOH + ZnAc (P)	pH > 9	5					
Dissolved Oxygen 300ml (g)	—	5		3C			
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	1V		K			
HCl (AG) Lt. Blue Label O&G, Diesel	—	1C					
Ascorbic, EDTA, KH_2Ct (AG) Pink Label 525	—						
Na_2O_3S 250mL (AG) Neon Green Label 515	—						
$Na_2S_2O_3$ 1 Liter (Brown P) 549	—					PK 4/19/2021	
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	—						
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	—						
$Na_2S_2O_3$ + MCAA (CG) Orange Label 531	pH < 3						
NH_4Cl (AG) Purple Label 552	—						
EDA (AG) Brown Label DBPs	—						
HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	3V	2V				
Buffer pH 4 (CG)	—	1V					
H_3PO_4 (CG) Salmon Label	—	3V					
Other:							
Asbestos 1Liter Plastic w/ Foil	—						
Low Level Hg / Metals Double Baggie	—						
Bottled Water	—						
Clear Glass 250mL / 500mL / 1 Liter	—						
Soil Tube Brass / Steel / Plastic	—						
Tedlar Bag / Plastic Bag	—						

Split

	Container	Preservative	Date/Time/Initials		Container	Preservative	Date/Time/Initials
S P				S P			
S P				S P			

Comments

Labeled by: _____ @ _____

SAMPLE TRANSIT ORDER

VED0391

Debra Karlsson

Receipt temp @ FAL: 5.1 Thermometer/ IR Gun ID: 66

SENDING LABORATORY:

BSK Associates Vancouver
2517 E. Evergreen Blvd.
Vancouver, WA 98661
360-750-0055 (Main)
360-750-0057 (FAX)

Project Manager: Debra Karlsson
E-mail: dkarlsson@bskassociates.com

RECEIVING LABORATORY:

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

Turnaround (Days): Standard
QC Deliverables: I Std III IV

Client: City of Stevenson - 842502

Sample ID	Samp Desc		Sample Date
VED0391-01	**Foster and Rock Cr.Seep**	**Client Matrix** Water	**04/19/2021 08:30**

Lab Matrix: Water

Analysis:

Cyanide, WA
EPA 624.1 - 2-chloroethyl vinyl ether
EPA 624.1 - Acrolein and Acrylonitrile
EPA 624.1 - Extended List
TOC, WA

VED0391-02	**Rock Cr. and Foster Seep**	**Client Matrix** Water	**04/19/2021 11:00**

Lab Matrix: Water

Analysis:

Ammonia, CFA
Antimony, 3010 ICPMS, WA
Arsenic, 3010 ICPMS, WA
Beryllium, 3010 ICPMS, WA
Cadmium, 3010 ICPMS, WA
Chromium, 3010 ICPMS, WA
Copper, 3010 ICPMS, WA
EPA 625.1, WA - Short List
Lead, 3010 ICPMS, WA
Mercury, 3010 ICPMS, WA
Nickel, 3010 ICPMS, WA
Selenium, 3010 ICPMS, WA
Silver, 3010 ICPMS, WA
Thallium, 3010 ICPMS, WA
Zinc, 3010 ICPMS, WA

VED0391-03	**Trip Blank - Lot #0321050**	**Client Matrix** Water	**04/19/2021 00:00**

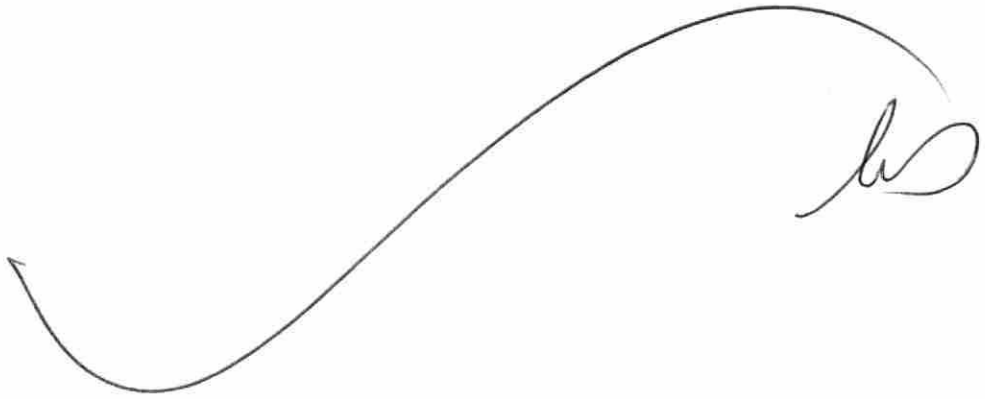
Lab Matrix: Water

Analysis:

EPA 624.1 - Extended List

Containers Included

VED0391-01	B	250mL P / NaOH	
VED0391-01	C	40mL VOA / None	
VED0391-01	E	40mL VOA / HCL	
VED0391-01	F	40mL VOA / HCL	
VED0391-01	G	40mL VOA / HCL	
VED0391-01	H	40mL VOA / HCL	
VED0391-01	I	40mL VOA / PH4-5 Buffer	40mL CG pH4 buffer voa
VED0391-01	J	40mL VOA / H3PO4	
VED0391-01	K	40mL VOA / H3PO4	
VED0391-01	L	40mL VOA / H3PO4	
VED0391-02	C	500mL P / HNO3	
VED0391-02	D	250mL P / H2SO4	
VED0391-02	E	1L AG / None	
VED0391-02	F	1L AG / None	
VED0391-02	G	1L AG / None	
VED0391-03	A	40mL VOA / HCL	
VED0391-03	B	40mL VOA / HCL	



Dwayne VanNoste
4/19/2021

Released By	Date	Received By	Date
			4-20-21 1600
Released By	Date	Received By	Date

AA BI BW

SAMPLE TRANSIT INTEGRITY

PM: Debra Karlsson

VED0391
04/19/2021
Steve5970
10

BSK Bottles: (Yes) No Page 1 of 1

COC Info

Was temperature within range? Chemistry ≤ 6°C Micro< 8°C	(Yes) No NA	Were correct containers and preservatives received for the tests requested?	(Yes) No NA
Did all bottles arrive unbroken and intact?	(Yes) No	Bubbles Present VOAs (524.2/TCP/TTHM)?	Yes (No) NA
Was a sufficient amount of sample received?	(Yes) No	TB Received? (Check Method Below)	(Yes) No NA
Do samples have a hold time <72 hours?	(Yes) No	Was PM notified of discrepancies? PM: By/Time:	Yes No (NA)
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes No (NA)		

Bottles Received

"---" means preservation/chlorine checks are either N/A or are performed in the lab

250ml(A) 500ml(B) 1Liter(C) 40ml VOA(V)	Checks	Passed?	1	2	3			
Bacti $Na_2S_2O_3$	---	---						
None (P) White Cap	---	---						
Cr6 (P) Lt. Green Label/Blue Cap $NH_4OH(NH_4)SO_4$ **DW**	Cl, pH> 8	P F						
Cr6 (P) Pink Label/Blue Cap $NH_4OH(NH_4)SO_4$ **WW**	pH 9.3 - 9.7	P F						
Cr6 (P) Black Label/Blue Cap $NH_4OH(NH_4)SO_4$ **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	---	---		1B				
H_2SO_4 (P) or (AG) Yellow Cap/Label	pH < 2	(P) F		1A				
NaOH (P) Green Cap	Cl, pH> 10	(P) F	1A					
NaOH + ZnAc (P)	pH > 9	P F						
Dissolved Oxygen 300ml (g)	---	---						
None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	---	---		3C				
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	---	---						
$Na_2S_2O_3$ 1 Liter (Brown P) 549	---	---						
$Na_2S_2O_3$ (AG) Blue Label 548, THM, 524	---	---						
$Na_2S_2O_3$ (CG) Blue Label 504, 505, 547	---	---						
$Na_2S_2O_3$ + 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	---	---	4V		2V			
Buffer pH 4 (CG)	---	---	1V				JMP	
H_3PO_4 (CG) Salmon Label	---	---	3V					
250mL P / Trizma 531.1	---	---					4.20-21	
Other: CG None			1V					
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			
S P				S P			

Comments

✓ **Indicates Blanks Received**

504_____ 524.2_____ TCP_____

TTHM_____ 537_____ 8260/624_____

Labels Checked by: JMP @_____ Scanned by: JMP @ 1620 RUSH Paged by:_____ @_____

Specialty Analytical

9011 SE Jannsen Rd
Clackamas, OR 97015
TEL: (503) 607-1331
Website: www.specialtyanalytical.com

April 28, 2021

Debra Karlsson
BSK Associates
1414 Stanislaus Street
Frenso, CA 93706
TEL: (559) 497-2888
FAX (559) 485-6935

RE: VED0391 Order No.: 2104175

Dear Debra Karlsson:

There were no problems with the analysis and all data for associated QC met EPA or laboratory specifications, except where noted in the Case Narrative, or as qualified with flags. Results apply only to the samples analyzed. Without approval of the laboratory, the reproduction of this report is only permitted in its entirety.

If you have any questions regarding these tests, please feel free to call.

Sincerely,

Marty French
Lab Director

Specialty Analytical

WO#: **2104175**
Date Reported: **4/28/2021**

CLIENT: BSK Associates
Project: VED0391
Lab ID: 2104175-001
Client Sample ID VED0391-01

Collection Date: 4/19/2021 8:30:00 AM
Matrix: WATER

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
NWTPH-DX - RBC				**NWTPH-DX**	**SW 3510C**	Analyst: **TB**
Diesel	ND	0.0766		mg/L	1	4/23/2021 6:11:00 PM
Lube Oil	ND	0.191		mg/L	1	4/23/2021 6:11:00 PM
Surr: o-Terphenyl	104	50 - 150		%Rec	1	4/23/2021 6:11:00 PM

QC SUMMARY REPORT

Specialty Analytical

WO#: **2104175**

4/28/2021

Client: BSK Associates

Project: VED0391 **TestCode:** **NWTPHDXLL_W**

Sample ID **CCV-1**	SampType: **CCV**	TestCode: **NWTPHDXLL**	Units: **mg/L**	Prep Date:	RunNo: **40128**
Client ID: **CCV**	Batch ID: **17782**	TestNo: **NWTPH-Dx**	**SW 3510C**	Analysis Date: **4/23/2021**	SeqNo: **516371**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	6.39	0.0800	6.000	0	107	85	115				
Lube Oil	2.88	0.200	3.000	0	96.1	85	115				

Sample ID **MB-17782**	SampType: **MBLK**	TestCode: **NWTPHDXLL**	Units: **mg/L**	Prep Date: **4/22/2021**	RunNo: **40128**
Client ID: **PBW**	Batch ID: **17782**	TestNo: **NWTPH-Dx**	**SW 3510C**	Analysis Date: **4/23/2021**	SeqNo: **516372**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	0.0800									
Lube Oil	ND	0.200									
Surr: o-Terphenyl	0.204		0.2000		102	50	150				

Sample ID **LCS-17782**	SampType: **LCS**	TestCode: **NWTPHDXLL**	Units: **mg/L**	Prep Date: **4/22/2021**	RunNo: **40128**
Client ID: **LCSW**	Batch ID: **17782**	TestNo: **NWTPH-Dx**	**SW 3510C**	Analysis Date: **4/23/2021**	SeqNo: **516373**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1.04	0.0800	1.000	0	104	60.7	121				
Lube Oil	0.725	0.200	1.000	0	72.5	64	126				

QC SUMMARY REPORT

Specialty Analytical

WO#: **2104175**

4/28/2021

Client: BSK Associates

Project: VED0391 **TestCode:** **NWTPHDXLL_W**

Sample ID **CCV-2**	SampType: **CCV**	TestCode: **NWTPHDXLL**	Units: **mg/L**	Prep Date:	RunNo: **40128**
Client ID: **CCV**	Batch ID: **17782**	TestNo: **NWTPH-Dx**	**SW 3510C**	Analysis Date: **4/23/2021**	SeqNo: **516376**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	8.30	0.0800	8.000	0	104	85	115				
Lube Oil	3.56	0.200	4.000	0	89.0	85	115				

Specialty Analytical
9011 SE Jannsen Rd
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Sample Receipt Checklist

Client Name BSK_ASSOCIATES Work Order Numbe 2104175

RcptNo: 1 Date and Time Receive 4/21/2021 2:29:07 PM Received by Mandy Wehe

Completed by Reviewed by:

Completed Date: 4/21/2021 2:30:34 PM Reviewed Date: 4/21/2021 2:41:21 PM

Carrier name UPS

Chain of custody present?	Yes ☑	No ☐		
Chain of custody signed when relinquished and received?	Yes ☑	No ☐		
Chain of custody agrees with sample labels?	Yes ☑	No ☐	Not Presen	☐
Are matrices correctly identified on Chain of custody?	Yes ☑	No ☐		
Is it clear what analyses were requested?	Yes ☑	No ☐		
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Presen	☑
Samples in proper container/bottle?	Yes ☑	No ☐		
Were correct preservatives used and noted?	Yes ☑	No ☐	NA	☐
Sample containers intact?	Yes ☑	No ☐		
Sufficient sample volume for indicated test?	Yes ☑	No ☐		
Were container lables complete (ID, Pres, Date)?	Yes ☑	No ☐		
All samples received within holding time?	Yes ☑	No ☐		
Was an attempt made to cool the samples?	Yes ☑	No ☐	NA	☐
All samples received at a temp. of > 0° C to 6.0° C?	Yes ☑	No ☐	NA	☐
Response when temperature is outside of range:				
Preservative added to bottles:				
Sample Temp. taken and recorded upon receipt?	Yes ☑	No ☐	To	2.6 º
Water - Were bubbles absent in VOC vials?	Yes ☐	No ☐	No Vials	☑
Water - Was there Chlorine Present?	Yes ☐	No ☐	NA	☑
Water - pH acceptable upon receipt?	Yes ☑	No ☐	NA	☐
Are Samples considered acceptable?	Yes ☑	No ☐		
Custody Seals present?	Yes ☐	No ☑		
Traffic Report or Packing Lists present?	Yes ☐	No ☑		
Airbill or Sticker?	Air Bill ☐	Sticker ☐	Not Present	☑
Airbill No:				
Sample Tags Present?	Yes ☐	No ☑		
Sample Tags Listed on COC?	Yes ☐	No ☑		
Tag Numbers:				
Sample Condition?	Intact ☑	Broken ☐	Leaking	☐

Case Number: SDG: SAS:

Adjusted? _____ Checked b

Any No and/or NA (not applicable) response must be detailed in the comments section be

Specialty Analytical
9011 SE Jannsen Rd
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Sample Receipt Checklist

Client Contacted? ☐ Yes ☑ No ☐ NA Person Contacted: Comments:

Contact Mode: ☐ Phone: ☐ Fax: ☐ Email: ☐ In Person:

Client Instructions:

Date Contacted: Contacted By:

Regarding:

CorrectiveAction:

BSK ASSOCIATES

SUBCONTRACT ORDER

VED0391

2104175

SENDING LABORATORY:

BSK Associates Vancouver
2517 E. Evergreen Blvd.
Vancouver, WA 98661
Phone: 360-750-0055
Fax: 360-750-0057
Project Manager: Debra Karlsson
E-mail: dkarlsson@bskassociates.com

RECEIVING LABORATORY:

Specialty Analytical
9011 SE Jannsen Road
Clackamas, OR 97015
Phone :(503) 607-1331
Fax: -
Turnaround (Days): Standard
QC Deliverables: I Std III IV

Sample ID	Samp Desc		Sample Date
VED0391-01	**Foster and Rock Cr.Seep**	**Client Matrix** Water	**04/19/2021 08:30**

Lab Matrix: Water

Analysis:
V-EXT-NWTPH-Dx

Containers Included
VED0391-01 D 1L AG / HCl

UPS
2.6°C ice
no cust seal

Released By	Date	Received By	Date
Dwayne VanVleet	4/20/2021		4/21/21 1332
Released By	Date	Received By	Date

Specialty Analytical
9011 SE Jannsen Rd
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Definition Only

WO#: **2104175**
Date: **4/28/2021**

Definitions:

KEY TO FLAGS

A: This sample contains a Gasoline Range Organic not identified as a specific hydrocarbon product. The result was qualified against gasoline calibration standards.

A1: This sample contains a Diesel Range Organic not identified as a specific hydrocarbon product. The result was qualified against diesel calibration standards.

A2: This sample contains a Lube Oil Range Organic not identified as a specific hydrocarbon product. The result was qualified against lube oil calibration standards.

A3: The results was determined to be Non-Detect based on hydrocarbon pattern recognition. The product was carry-over from another hydrocarbon type.

A4: The product appears to be aged or degraded.

B: The blank exhibited a positive result greater than the reporting limit for this compound.

CN: See Case Narrative.

E: Result exceeds the calibration range for this compound. The result should be considered an estimate.

F: The positive result for this hydrocarbon is due to single component contamination. The product does not match any hydrocarbon in the fuels library.

FS: Follow-up testing is suggested.

G: Result may be biased high due to biogenic interferences. Clean up is recommended.

H: Sample was analyzed outside recommended holding time.

HT: At client's request, samples was analyzed outside of recommended holding time.

HP: Sample was analyzed outside recommended holding time due to VOA having pH >2.

J: The results for this analyte is between the MDL and the PQL and should be considered an

Specialty Analytical
9011 SE Jannsen Rd
Clackamas, Oregon 97015
TEL: 503-607-1331 FAX: 503-607-1336
Website: www.specialtyanalytical.com

Definition Only

WO#: **2104175**
Date: **4/28/2021**

Definitions:

estimated concentration.

K: Diesel result is biased high due to amount of Oil contained in the sample.

L: Diesel result is biased high due to amount of Gasoline contained in the sample.

M: Oil result is biased high due to amount of Diesel contained in the sample.

N: Gasoline result is biased high due to amount of Diesel contained in the sample.

MC: Sample concentration is greater than 4x the spiked value, the spiked value is considered insignificant.

MI: Result is outside control limits due to matrix interference.

NH: Sample matrix is non-homogeneous

MSA: Value determined by Method of Standard Addition.

O: Laboratory Control Standard (LCS) exceeded laboratory control limits but meets CCV criteria. Data meets EPA requirements.

Q: Detection levels elevated due to sample matrix.

R: RPD control limits were exceeded

RF: Duplicate failed due to result being at or near the method-reporting limit.

RP: Matrix spike values exceed established QC limits; post digestion spike is in control.

S: Recovery is outside control limits.

SC: CCV or LCS exceeded high recovery control limits, but associated samples are non-detect. Data meets EPA requirements.

SL: LCS exceeded recovery control limits, but associated MS/MSD passing. Data meets EPA requirements.

From: Carly Lemon
To: Ben Shumaker
Subject: RE: old dump in stevenson
Date: Monday, June 21, 2021 12:09:21 PM
Attachments: image001.png
20210419_072813.jpg
20210419_072810.jpg

Hi Ben, here are the photos I took of the seepage site on April 19, 2021 during our sampling event. The water was stagnant on the day of our sampling event. There was no visual evidence of active seepage from the old dump site and no overflow from the ponded area toward Rock Cove. The water level was down approximately 1 ft lower than it was when we visited the site on April 12th. The water and surrounding soil had a rusty colored surface and there was a sheen along the eastern edge on the water surface. It is my understanding that the sampling is a response to a citizen complaint and that the sampling parameters were selected based on guidance from Department of Ecology. I reviewed the laboratory results; here is a summary of what samples were collected and the results. Grab samples were collected at 8:30am in laboratory supplied bottles. Composite samples were collected hourly from 8am to 11am. After the final composite was collected, composite sample was split in the field into laboratory supplied containers.

Sampling Parameters:

- EPA 624.1 – grab
- EPA 624.1 2-CVE – grab
- EPA 624.1 – Acroleiin and Acrylonitrile– grab
- Cyanide, WA– grab. Cyanide is associated with extraction of metals from ores, electroplating, steel and chemical industries.
- Iron Bacteria– grab
- NWTPH – Dx– grab. Diesel petroleum products (diesel oils, hydraulic fluids, lubricating oils)
- TOC– grab. Total organic carbon, a general measure of water cleanliness.
- Ammonia – Composite. Ammonia is a form of nitrogen that has toxic effects on aquatic life.
- BOD– Composite. Biological oxygen demand, a general measure of organic pollution
- Metals, PP Haz Waste (liquid) – Composite
- TSS– Composite. Measure of particles larger than 2 microns suspended in water column. General measure of water clarity/quality
- EPA 625.1, WA short list– Composite

A summary of results:

General Chemistry:
Cyanide – non detect.
Total Organic Carbon – 1.5mg/L within the expected range, no cause for concern.
Biochemical Oxygen Demand – 9.7 mg/L within the range for a polluted river, considering this water is stagnant the results are as expected.
Total Suspended Solids – 56mg/L – within the expected range for stagnant water along a roadside, results are as expected.
Ammonia as N = 0.16 mg/L – within expected range

Organics:
Organics by EPA 624.1. EPA 624.1 is a laboratory method for determining the concentration of Volatile Organic Compounds (VOCs) is water. All EPA 624.1 results were non-detect.
Organics by EPA 625.1. EPA 625.1 is a laboratory method to determine the concentrations of Semivolatile Organic Compounds (SVOCs) in water. All EPA 625.1 results were non-detect.

Microbiology:
Iron Related Bacteria – Result =2200 cfu/ml (more on this below)

Metals:
All results are non-detect.

Diesel petroleum products:
All results are non-detect.

Iron bacteria are naturally occurring in soil, shallow groundwater and surface waters. These bacteria combined oxygen and iron to form deposits of rust-colored bacteria cells. I am not familiar with any water quality criteria for iron related bacteria. Issues with these bacteria are usually related to wells and pumps where the biofilm that is left behind by the bacteria can cause equipment fouling, clogging and color/taste issues. I don't believe there is any cause for concern related to the presence of these bacteria at this location, but I recommend reaching out to your Department of Ecology contact to ask if the level detected (2200mg/L) is indicative of a seepage issue from the uncapped landfill.

To show that there are not adverse effects to downstream surface waters (Rock Cove) it may be worthwhile to conduct one additional sampling event during wet conditions when active seepage from the landfill area is evident.

I hope this helps,
Carly

From: Ben Shumaker <ben@ci.stevenson.wa.us>
Sent: Friday, June 11, 2021 8:40 AM
To: Carly Lemon <carly@ucdwa.org>
Subject: RE: old dump in stevenson

I understand.
Thanks, Carly.

Ben Shumaker

From: Carly Lemon [mailto:carly@ucdwa.org]
Sent: Thursday, June 10, 2021 8:44 PM
To: Ben Shumaker <ben@ci.stevenson.wa.us>
Subject: Re: old dump in stevenson

Hi Ben,
I won't be able to send a summary until next week. Very busy with other tasks tomorrow.

Carly

Thank you,

Carly Lemon, EIT

Underwood Conservation District

509-637-7002

From: Ben Shumaker <ben@ci.stevenson.wa.us>
Sent: Wednesday, June 9, 2021 8:43:21 AM
To: Carly Lemon <carly@ucdwa.org>
Subject: RE: old dump in stevenson

Hi Carly-
If possible could I have this by midday Friday?
Thank you,

Ben Shumaker

From: Ben Shumaker [mailto:ben@ci.stevenson.wa.us]
Sent: Tuesday, May 25, 2021 12:42 PM
To: 'Carly Lemon' <carly@ucdwa.org>
Subject: FW: old dump in stevenson

Hi Carly-
Here's where this conversation stands at the moment.
Thank you for discussing more with me the sampling results.
My understanding is that I will prepare a summary report to the City Council outlining:

- The overall number of parameters tested,
- The number of parameters that were non-detect,
- The number of parameters with detected pollutants,
- The number of parameters with detected pollutants outside of acceptable ranges.

To help me with that, I'm hoping you can provide:

- A list of the parameters with detected pollutants,
- The results of your review of iron related bacteria,
- The photos you took on the day of the sampling.

I will also layout options for their future action. I'd appreciate any options you can think of in addition to these:

- No action,
- Follow-up testing as suggested below,
- Joint meeting between the city, county, and Ecology on the topic.

Thanks again for your help with this. I would still be lost without it.

Ben Shumaker

From: Mitch Patton [mailto:nwtsrinc@gmail.com]
Sent: Friday, May 21, 2021 5:35 PM
To: Adams, Miranda (ECY) <Miad461@ecy.wa.gov>
Cc: Ben Shumaker <ben@ci.stevenson.wa.us>; City Council <citycouncil@ci.stevenson.wa.us>; Leana Kinley <leana@ci.stevenson.wa.us>; Scott Anderson <scott.anderson@ci.stevenson.wa.us>
Subject: Re: old dump in stevenson

thank you that is a great idea i have been asking for that for over 4 years now so lets hope it will get done soon its a old landfill unmonitored for years it has issues
On Fri, May 21, 2021 at 5:28 PM Adams, Miranda (ECY) <Miad461@ecy.wa.gov> wrote:

> Mitch and others,
>
> As someone who has an extensive background in water quality sampling and analysis, I've reviewed the data and didn't see anything that surprised me. Iron-associated bacteria often
>
> cause alarm because the bright orange color seems so unnatural to people. That's why there are so many informational brochures on the topic.

As far as toxins evaporating from a stagnant ponded area goes, the opposite is actually true; toxins (i.e. heavy metals) accumulate in sediments as water evaporates. The same

is true for salts.

While water quality monitoring should be done under an approved monitoring plan that contains quality assurance/quality control procedures, I have faith that the City put forth

a good effort in collecting grab samples to address the concerns brought forth by Mr. Patton.

As environmental professionals and stewards, we are all committed to the health and safety of our communities and the environment in which we live. I do not think it's helpful

to suggest otherwise.

In order to facilitate a more productive conversation, I would like to suggest that Mr. Patton engage the Conservation District to develop a water quality monitoring plan for

review and approval by our water quality staff to ensure its efficacy in resolving this matter. I can refer you to Devan Rostorfer, of our water quality program, for further assistance.

Sincerely,

Miranda Adams - Shorelands/Wetlands Specialist

Shorelands and Environmental Assistance Program

12121 NE 99th St., Suite 2100

| Vancouver, WA 98682

(360) 210-2783

| miranda.adams@ecy.wa.gov

Ecology's offices are closed until further notice as we adhere to a statewide effort to slow the spread of the coronavirus (COVID-19). Regional staff are available

by telephone and email, and information is also available on our

website. We remain committed to service, so don't hesitate to reach out to us.

From: Mitch Patton <nwtsrinc@gmail.com>

Sent: Friday, May 21, 2021 4:57 PM

To: Ben Shumaker <ben@ci.stevenson.wa.us>

Cc: Adams, Miranda (ECY) <Miad461@ECY.WA.GOV>; City Council <citycouncil@ci.stevenson.wa.us>; Leana Kinley <leana@ci.stevenson.wa.us>; Scott Anderson <scott.anderson@ci.stevenson.wa.us>

Subject: Re: old dump in stevenson

Thanks for the info. it was bad timing that water is not what needs to be tested it had sat with no flow for to long and toxins will evaporate into the air so your test if flawed

On Fri, May 21, 2021 at 4:51 PM Ben Shumaker <ben@ci.stevenson.wa.us> wrote:

> Hi Mitch-
>
> I didn't get any photos during the testing on April 19th, and will check with the Underwood Conservation
>
> District to see if they got any that day. If they did, I will get them and forward to you.
>
> The first attachment shows a photo from March 2nd and a photo from today. It's not super
>
> easy to interpret things, but I've called out where there is a common tree in both the photos and where there are boot prints from our sampling effort. At the time the samples were taken, there was a ponded area approximately 18-24" deep. At the time, no surface
>
> flow was continuing beyond this area to the culvert under Foster Creek Road.
>
> The second attachment is the picture you sent on April 18th. I believe the pond in that
>
> picture is the same one we took the samples from.

Thank you,

Ben

Shumaker

From: Mitch Patton [mailto:nwtsrinc@gmail.com]

Sent: Thursday, May 20, 2021 6:25 PM

To: Ben Shumaker <ben@ci.stevenson.wa.us>; Adams, Miranda (ECY) <Miad461@ecy.wa.gov>

Cc: Leana Kinley <leana@ci.stevenson.wa.us>; City Council <citycouncil@ci.stevenson.wa.us>; Scott Anderson <scott.anderson@ci.stevenson.wa.us>

Subject: Re: old dump in stevenson

So Ben, do you have pics showing that spot ? it had no water a week before you took the test so not sure how you did that? Did you take pics at the test site with the time and

date ? and scott you don't seem to answer my question but at this point i think it's time to step up and do your job

On Thu, May 20, 2021 at 4:51 PM Ben Shumaker <ben@ci.stevenson.wa.us> wrote:

Hi Mitch-

Unfortunately, I won't be able to coordinate with the Underwood Conservation District to help me understand

the results until next week. Once I do, I will include you on the summary report we prepare. Until then:

1.

The tests were taken and results obtained. I don't know enough about things to provide a qualitative review of how it went.

2.

The tests were taken here:

3.

Unknown at this time. The answer will likely be given by the City Council when they understand the results of this round of testing.

4.

No.

Thank you,

Ben

Shumaker

From: Mitch Patton [mailto:nwtsrinc@gmail.com]

Sent: Wednesday, May 19, 2021 9:54 AM

To: Ben Shumaker <ben@ci.stevenson.wa.us>; Leana Kinley <leana@ci.stevenson.wa.us>; City of Stevenson <citycouncil@ci.stevenson.wa.us>;

scott.anderson@ci.stevenson.wa.us

Subject: old dump in stevenson

ben or scott i am checking in as i cant make the meeting tomorrow i have started a new job in appleton and i have to be loading trucks at 3 AM and will be in bed for the meeting

so my questions are

#1 how do you think your water test went

#2 did you test the water above the foster creek road or below it

#3 are you going to test the water again

#4 have you found anything that talks about monitoring the site and who is to do the monitoring

this is all i have for now but i hear we may have new vision coming to the city soon this will help get things back on line working for the public not doing what is best for the

city government and staff you can't keep getting grant money all the time it just increases all of our taxes and takes away from affordable housing we need new vision now what a mess

--

Mitch Patton

360-903-9040

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Mitch Patton

360-903-9040

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360-903-9040

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Mitch Patton
360-903-9040