Analytical Resources, Incorporated
Analytical Chemists and Consultants

10 September 2021

Dominic Yballe
US Army Corps of Engineers (Portland)
333 SW First Avenue P.O. BOX 2946
Portland, OR 97208

RE: Bonneville Nav Lock Sampling

Please find enclosed sample receipt documentation and analytical results for samples from the project referenced above.

Sample analyses were performed according to ARI's Quality Assurance Plan and any provided project specific Quality Assurance Plan. Each analytical section of this report has been approved and reviewed by an analytical peer, the appropriate Laboratory Supervisor or qualified substitute, and a technical reviewer.

Should you have any questions or problems, please feel free to contact us at your convenience.

Associated Work Order(s)	Associated SDG ID(s)
21H0219	N/A

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the enclose Narrative. ARI, an accredited laboratory, certifies that the report results for which ARI is accredited meets all the requirements of the accrediting body. A list of certified analyses, accreditations, and expiration dates is included in this report.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.

Analytical Resources, Inc.

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

Kelly Bottem, Client Services Manager

Cert# 100006-012

4611 S. 134th Place, Suite 100 • Tukwila, WA 98168 • Ph: (206) 695-6200 • Fax: (206) 695-6202

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 21H0219	Turn-around Requested: Std, 20 Days
ARI Client Company: USACE Portland District	Phone:
Client Contact: Dominic Yballe 503-593-9792	
Client Project Name: Bonneville Nav Lock 1	
Client Project #:	Samplers: JH BDY

Page: 1 of 1

Date: 12 Aug 2021 | Ice Present? melted ice

No. of Coolers: 1 | Cooler Temps: 11.4

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)
www.arilabs.com

Sample ID	Date	Time	Matrix	No. Containers	TBT 8270SIM	Metal + Hg 6020 + 7471	TOC PSEP, Total Solids	SVOCs, PAHs 8270 E	PCB Aroclors 8082 A	Pesticides 8081 B			Notes/Comments
NL1-COMP	12 Aug 2021	1200	Sed	6	X	X	X	X	X	X			
NL1-01	↓	1200	↓	1									Archive
NL1-02	↓	1210	↓	1									Archive

Comments/Special Instructions: SEF freshwater metals & Parameters, EDD in EIM Format, QA/QC report w/qualifiers for validation per SEF

Relinquished by:	Received by:	Relinquished by:	Received by:
(Signature)	(Signature)	(Signature)	(Signature)
Printed Name: Dominic Yballe	Printed Name: Jacob Walter	Printed Name:	Printed Name:
Company: USACE Portland	Company: ARI	Company:	Company:
Date & Time: 16 Aug 2021, 11:00 AM	Date & Time: 08/18/2021 1048	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Report

US Army Corps of Engineers (Portland)	Project:	Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number:	Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager:	Dominic Yballe	10-Sep-2021 09:25

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
NL1-Comp	21H0219-01	Solid	12-Aug-2021 12:00	18-Aug-2021 10:48

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Work Order Case Narrative

Total Metals - EPA Method 6020B and 7471B

The sample(s) were digested and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits with the exception of analytes flagged on the associated forms.

The SRM is in control.

Wet Chemistry

The sample(s) were prepared and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The reference material (SRM) percent recoveries were within control limits.

The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

Polynuclear Aromatic Hydrocarbons (PAH) - EPA Method SW8270E-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits.

The SRM is in control.

Butyl Tin(s) - EPA Method SW8270E-SIM

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits.

The SRM is in control with the exception of analytes flagged on the associated forms.

PCB Aroclors - EPA Method SW8082A

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits.

The SRM is in control.

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
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Semivolatiles - EPA Method SW8270E

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements with the exception of all associated "Q" flagged analytes which are out of control high in the CCAL. All associated samples that contain analyte have been flagged with a "Q" qualifer.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits with the exception of analytes flagged on the associated forms.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits with the exception of analytes flagged on the associated forms.

The SRM is in control.

Pesticides - EPA Method SW8081B

The sample(s) were extracted and analyzed within the recommended holding times.

Initial and continuing calibrations were within method requirements.

Internal standard areas were within limits.

The surrogate percent recoveries were within control limits.

The method blank(s) were clean at the reporting limits.

The blank spike (BS/LCS) percent recoveries were within control limits.

The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits with the exception of analytes flagged on the associated forms.

The SRM is in control with the exception of analytes flagged on the associated forms.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: USACE - Portland

Project Name: Bonneville Nav lock 1

COC No(s): _____ NA

Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: 21H0219

Tracking No: 1286 2230 2497 0481 00 NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of the cooler?	YES	NO
Were custody papers included with the cooler?	YES	NO
Were custody papers properly filled out (ink, signed, etc.)	YES	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)

Time 1048 11.4 ____ ____ ____ ____ ____

If cooler temperature is out of compliance fill out form 00070F

Temp Gun ID#: DOO 5206

Cooler Accepted by: JJ Date: 08/18/2021 Time: 1048

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	NO
What kind of packing material was used? ... Bubble Wrap Wet Ice Gel Packs Baggies Foam Block Paper Other: melted ice			
Was sufficient ice used (if appropriate)?	NA	YES	NO
How were bottles sealed in plastic bags?	Individually	Grouped	Not
Did all bottles arrive in good condition (unbroken)?		YES	NO
Were all bottle labels complete and legible?		YES	NO
Did the number of containers listed on COC match with the number of containers received?		YES	NO
Did all bottle labels and tags agree with custody papers?		YES	NO
Were all bottles used correct for the requested analyses?		YES	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs) ...	NA	YES	NO
Were all VOC vials free of air bubbles?	NA	YES	NO
Was sufficient amount of sample sent in each bottle?		YES	NO
Date VOC Trip Blank was made at ARI	NA	_____	

Were the sample(s) split by ARI? NA YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: DL Date: 08/18/21 Time: 1435 Labels checked by: _____

*** Notify Project Manager of discrepancies or concerns ***

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Temperature Compliance Form

ARI Work Order: _____

Cooler#: _____ **Temperature(°C):** 11.4

Sample ID	Bottle Count	Bottle Type
Samples received above 6°C		

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Cooler#: _____ **Temperature(°C):** _____

Sample ID	Bottle Count	Bottle Type

Completed by: SES Date: 08/18/2021 Time: 1048

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 08/12/2021 12:00
Instrument: NT10 Analyst: VTS — Analyzed: 09/04/2021 12:21

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		Extract ID: 21H0219-01 B 04
	Preparation Batch: BJH0631	Sample Size: 15.58 g (wet)	Dry Weight:10.02 g
	Prepared: 08/26/2021	Final Volume: 1 mL	% Solids: 64.29
Sample Cleanup:	Cleanup Method: GPC		Extract ID:21H0219-01 B 04
	Cleanup Batch: CJI0024	Initial Volume: 1 uL	
	Cleaned: 03-Sep-2021	Final Volume: 1 uL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Phenol	108-95-2	1	4.4	20.0	ND	ug/kg	U
bis(2-chloroethyl) ether	111-44-4	1	19.3	49.9	ND	ug/kg	U
2-Chlorophenol	95-57-8	1	13.8	20.0	ND	ug/kg	U
1,3-Dichlorobenzene	541-73-1	1	3.1	20.0	ND	ug/kg	U
1,4-Dichlorobenzene	106-46-7	1	3.1	20.0	ND	ug/kg	U
1,2-Dichlorobenzene	95-50-1	1	2.4	20.0	ND	ug/kg	U
Benzyl Alcohol	100-51-6	1	16.2	20.0	ND	ug/kg	U
2,2'-Oxybis(1-chloropropane)	108-60-1	1	3.4	20.0	ND	ug/kg	U
2-Methylphenol	95-48-7	1	6.6	20.0	ND	ug/kg	U
Hexachloroethane	67-72-1	1	3.4	20.0	ND	ug/kg	U
N-Nitroso-di-n-Propylamine	621-64-7	1	7.4	20.0	ND	ug/kg	U
4-Methylphenol	106-44-5	1	7.4	20.0	23.4	ug/kg	
Nitrobenzene	98-95-3	1	7.2	20.0	ND	ug/kg	U
Isophorone	78-59-1	1	3.9	20.0	ND	ug/kg	U
2-Nitrophenol	88-75-5	1	4.9	20.0	ND	ug/kg	U
2,4-Dimethylphenol	105-67-9	1	3.8	99.8	ND	ug/kg	U
Bis(2-Chloroethoxy)methane	111-91-1	1	4.3	20.0	ND	ug/kg	U
2,4-Dichlorophenol	120-83-2	1	15.3	99.8	ND	ug/kg	U
1,2,4-Trichlorobenzene	120-82-1	1	3.6	20.0	ND	ug/kg	U
Naphthalene	91-20-3	1	4.2	20.0	4.3	ug/kg	J
Benzoic acid	65-85-0	1	39.0	200	75.9	ug/kg	J
4-Chloroaniline	106-47-8	1	8.4	99.8	ND	ug/kg	U
Hexachlorobutadiene	87-68-3	1	4.8	20.0	ND	ug/kg	U
4-Chloro-3-Methylphenol	59-50-7	1	12.4	99.8	ND	ug/kg	U
2-Methylnaphthalene	91-57-6	1	4.5	20.0	ND	ug/kg	U
Hexachlorocyclopentadiene	77-47-4	1	24.4	99.8	ND	ug/kg	U
2,4,6-Trichlorophenol	88-06-2	1	9.0	99.8	ND	ug/kg	U
2,4,5-Trichlorophenol	95-95-4	1	25.7	99.8	ND	ug/kg	U
2-Chloronaphthalene	91-58-7	1	7.9	20.0	ND	ug/kg	U
2-Nitroaniline	88-74-4	1	16.4	99.8	ND	ug/kg	U
Acenaphthylene	208-96-8	1	6.2	20.0	ND	ug/kg	U
Dimethylphthalate	131-11-3	1	4.4	20.0	ND	ug/kg	U

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 08/12/2021 12:00

Instrument: NT10 Analyst: VTS — Analyzed: 09/04/2021 12:21

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
2,6-Dinitrotoluene	606-20-2	1	20.4	99.8	ND	ug/kg	U
Acenaphthene	83-32-9	1	5.2	20.0	ND	ug/kg	U
3-Nitroaniline	99-09-2	1	22.2	99.8	ND	ug/kg	U
2,4-Dinitrophenol	51-28-5	1	33.8	200	ND	ug/kg	U
Dibenzofuran	132-64-9	1	14.1	20.0	ND	ug/kg	U
4-Nitrophenol	100-02-7	1	32.6	99.8	ND	ug/kg	U
2,4-Dinitrotoluene	121-14-2	1	16.2	99.8	ND	ug/kg	U
Fluorene	86-73-7	1	14.5	20.0	ND	ug/kg	U
4-Chlorophenylphenyl ether	7005-72-3	1	19.1	49.9	ND	ug/kg	U
Diethyl phthalate	84-66-2	1	19.7	49.9	34.1	ug/kg	J
4-Nitroaniline	100-01-6	1	29.4	99.8	ND	ug/kg	U
4,6-Dinitro-2-methylphenol	534-52-1	1	37.9	200	ND	ug/kg	U
N-Nitrosodiphenylamine	86-30-6	1	5.3	20.0	ND	ug/kg	U
4-Bromophenyl phenyl ether	101-55-3	1	17.0	20.0	ND	ug/kg	U
Hexachlorobenzene	118-74-1	1	13.5	20.0	ND	ug/kg	U
Pentachlorophenol	87-86-5	1	31.2	99.8	ND	ug/kg	U
Phenanthrene	85-01-8	1	8.7	20.0	ND	ug/kg	U
Anthracene	120-12-7	1	7.2	20.0	ND	ug/kg	U
Carbazole	86-74-8	1	4.3	20.0	8.1	ug/kg	J
Di-n-Butylphthalate	84-74-2	1	5.6	20.0	ND	ug/kg	U
Fluoranthene	206-44-0	1	6.1	20.0	25.5	ug/kg	Q
Pyrene	129-00-0	1	5.7	20.0	31.5	ug/kg	
Butylbenzylphthalate	85-68-7	1	9.4	20.0	ND	ug/kg	U
Benzo(a)anthracene	56-55-3	1	6.0	20.0	11.3	ug/kg	J
3,3'-Dichlorobenzidine	91-94-1	1	7.1	99.8	ND	ug/kg	U
Chrysene	218-01-9	1	6.1	20.0	21.9	ug/kg	
bis(2-Ethylhexyl)phthalate	117-81-7	1	5.5	49.9	13.1	ug/kg	J
Di-n-Octylphthalate	117-84-0	1	4.4	20.0	ND	ug/kg	U
Benzofluoranthenes, Total		1	10.0	39.9	38.2	ug/kg	J
Benzo(a)pyrene	50-32-8	1	4.2	20.0	17.9	ug/kg	J
Indeno(1,2,3-cd)pyrene	193-39-5	1	14.6	20.0	ND	ug/kg	U
Dibenzo(a,h)anthracene	53-70-3	1	17.2	20.0	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	1	13.6	20.0	15.8	ug/kg	J
1-Methylnaphthalene	90-12-0	1	5.3	20.0	ND	ug/kg	U
Surrogate: 2-Fluorophenol				*27-120 %*	*63.1*	*%*	
Surrogate: Phenol-d5				*29-120 %*	*72.8*	*%*	
Surrogate: 2-Chlorophenol-d4				*31-120 %*	*87.1*	*%*	
Surrogate: 1,2-Dichlorobenzene-d4				*32-120 %*	*83.0*	*%*	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Semivolatile Organic Compounds

Method: EPA 8270E — Sampled: 08/12/2021 12:00

Instrument: NT10 Analyst: VTS — Analyzed: 09/04/2021 12:21

Analyte	CAS Number	Recovery Limits	Recovery	Units	Notes
Surrogate: Nitrobenzene-d5		*30-120 %*	*89.4*	*%*	
Surrogate: 2-Fluorobiphenyl		*35-120 %*	*89.6*	*%*	
Surrogate: 2,4,6-Tribromophenol		*24-134 %*	*111*	*%*	
Surrogate: p-Terphenyl-d14		*37-120 %*	*98.5*	*%*	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
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Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Semivolatile Organic Compounds - SIM

Method: EPA 8270E-SIM — Sampled: 08/12/2021 12:00
Instrument: NT8 Analyst: JZ — Analyzed: 09/01/2021 13:55

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		Extract ID: 21H0219-01 B 05
	Preparation Batch: BJH0632	Sample Size: 15.56 g (wet)	Dry Weight:10.00 g
	Prepared: 08/26/2021	Final Volume: 0.5 mL	% Solids: 64.29
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 21H0219-01 B 05
	Cleanup Batch: CJH0301	Initial Volume: 0.5 mL	
	Cleaned: 31-Aug-2021	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:21H0219-01 B 05
	Cleanup Batch: CJH0300	Initial Volume: 0.5 mL	
	Cleaned: 31-Aug-2021	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	1.27	5.00	1.91	ug/kg	J
2-Methylnaphthalene	91-57-6	1	1.10	5.00	ND	ug/kg	U
1-Methylnaphthalene	90-12-0	1	0.40	5.00	ND	ug/kg	U
Acenaphthylene	208-96-8	1	1.08	5.00	ND	ug/kg	U
Acenaphthene	83-32-9	1	0.57	5.00	ND	ug/kg	U
Dibenzofuran	132-64-9	1	1.38	5.00	ND	ug/kg	U
Fluorene	86-73-7	1	0.63	5.00	ND	ug/kg	U
Phenanthrene	85-01-8	1	0.72	5.00	1.72	ug/kg	J
Anthracene	120-12-7	1	0.87	5.00	ND	ug/kg	U
Fluoranthene	206-44-0	1	0.47	5.00	2.58	ug/kg	J
Pyrene	129-00-0	1	0.63	5.00	3.41	ug/kg	J
Benzo(a)anthracene	56-55-3	1	0.82	5.00	2.07	ug/kg	J
Chrysene	218-01-9	1	1.05	5.00	4.93	ug/kg	J
Benzo(b)fluoranthene	205-99-2	1	1.37	5.00	4.21	ug/kg	J
Benzo(k)fluoranthene	207-08-9	1	0.76	5.00	2.03	ug/kg	J
Benzo(j)fluoranthene	205-82-3	1	0.68	5.00	0.90	ug/kg	J
Benzofluoranthenes, Total		1	3.01	10.0	6.38	ug/kg	J
Benzo(a)pyrene	50-32-8	1	0.61	5.00	3.18	ug/kg	J
Indeno(1,2,3-cd)pyrene	193-39-5	1	1.05	5.00	2.83	ug/kg	J
Dibenzo(a,h)anthracene	53-70-3	1	0.89	5.00	ND	ug/kg	U
Benzo(g,h,i)perylene	191-24-2	1	1.06	5.00	2.90	ug/kg	J
Surrogate: 2-Methylnaphthalene-d10				*32-120 %*	*63.5*	*%*	
Surrogate: Dibenzo[a,h]anthracene-d14				*21-133 %*	*101*	*%*	
Surrogate: Fluoranthene-d10				*36-134 %*	*63.9*	*%*	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Butyl Tins

Method: EPA 8270E-SIM — Sampled: 08/12/2021 12:00
Instrument: NT12 Analyst: JZ — Analyzed: 08/24/2021 12:53

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		Extract ID: 21H0219-01 C 01
	Preparation Batch: BJH0522	Sample Size: 7.8 g (wet)	Dry Weight:5.01 g
	Prepared: 08/20/2021	Final Volume: 0.5 mL	% Solids: 64.29
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 21H0219-01 C 01
	Cleanup Batch: CJH0215	Initial Volume: 0.5 mL	
	Cleaned: 23-Aug-2021	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.449	3.85	ND	ug/kg	U
Dibutyltin Ion	14488-53-0	1	1.72	5.76	ND	ug/kg	U
Butyltin Ion	78763-54-9	1	1.88	4.07	ND	ug/kg	U
Tetrabutyltin	1461-25-2	1	4.99	4.99	ND	ug/kg	U
Surrogate: Tripentyltin				*30-160 %*	*76.7*	*%*	
Surrogate: Tripropyltin				*30-160 %*	*47.4*	*%*	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Chlorinated Pesticides

Method: EPA 8081B — Sampled: 08/12/2021 12:00
Instrument: ECD6 Analyst: YZ — Analyzed: 09/08/2021 14:43

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		Extract ID: 21H0219-01 C 02
	Preparation Batch: BJH0523	Sample Size: 19.45 g (wet)	Dry Weight:12.50 g
	Prepared: 08/20/2021	Final Volume: 2.5 mL	% Solids: 64.29
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 21H0219-01 C 02
	Cleanup Batch: CJI0049	Initial Volume: 2.5 mL	
	Cleaned: 07-Sep-2021	Final Volume: 2.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:21H0219-01 C 02
	Cleanup Batch: CJI0048	Initial Volume: 2.5 mL	
	Cleaned: 07-Sep-2021	Final Volume: 2.5 mL	
Sample Cleanup:	Cleanup Method: GPC		Extract ID:21H0219-01 C 02
	Cleanup Batch: CJI0047	Initial Volume: 2.5 uL	
	Cleaned: 07-Sep-2021	Final Volume: 2.5 uL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
alpha-BHC	319-84-6	1	0.08	0.50	ND	ug/kg	U
beta-BHC	319-85-7	1	0.09	0.50	ND	ug/kg	U
gamma-BHC (Lindane)	58-89-9	1	0.07	0.50	ND	ug/kg	U
delta-BHC	319-86-8	1	0.07	0.50	ND	ug/kg	U
Heptachlor	76-44-8	1	0.05	0.50	ND	ug/kg	U
Aldrin	309-00-2	1	0.37	0.50	ND	ug/kg	U
Heptachlor Epoxide	1024-57-3	1	0.17	0.50	ND	ug/kg	U
trans-Chlordane (beta-Chlordane)	5103-74-2	1	0.33	0.50	ND	ug/kg	U
cis-Chlordane (alpha-chlordane)	5103-71-9	1	0.11	0.50	ND	ug/kg	U
Endosulfan I	959-98-8	1	0.07	0.50	ND	ug/kg	U
4,4'-DDE	72-55-9	1	0.13	1.00	ND	ug/kg	U
Dieldrin	60-57-1	1	0.11	1.00	ND	ug/kg	U
Endrin	72-20-8	1	0.14	1.00	ND	ug/kg	U
Endosulfan II	33213-65-9	1	0.31	1.00	ND	ug/kg	U
4,4'-DDD	72-54-8	1	0.32	1.00	ND	ug/kg	U
Endrin Aldehyde	7421-93-4	1	0.39	1.00	ND	ug/kg	U
4,4'-DDT	50-29-3	1	0.32	1.00	ND	ug/kg	U
Endosulfan Sulfate	1031-07-8	1	0.12	1.00	ND	ug/kg	U
Endrin Ketone	53494-70-5	1	0.28	1.00	ND	ug/kg	U
Methoxychlor	72-43-5	1	0.30	5.00	ND	ug/kg	U
Hexachlorobutadiene	87-68-3	1	0.34	0.50	ND	ug/kg	U
Hexachlorobenzene	118-74-1	1	0.14	0.50	ND	ug/kg	U
2,4'-DDE	3424-82-6	1	0.25	1.00	ND	ug/kg	U
2,4'-DDD	53-19-0	1	0.19	1.00	ND	ug/kg	U
2,4'-DDT	789-02-6	1	0.19	1.00	ND	ug/kg	U
Oxychlordane	27304-13-8	1	0.13	1.00	ND	ug/kg	U

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Chlorinated Pesticides

Method: EPA 8081B — Sampled: 08/12/2021 12:00

Instrument: ECD6 Analyst: YZ — Analyzed: 09/08/2021 14:43

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
cis-Nonachlor	5103-73-1	1	0.21	1.00	ND	ug/kg	U
trans-Nonachlor	39765-80-5	1	0.23	1.00	ND	ug/kg	U
Mirex	2385-85-5	1	0.64	1.00	ND	ug/kg	U
Surrogate: Decachlorobiphenyl				*30-160 %*	*82.8*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*30-160 %*	*75.5*	*%*	
Surrogate: Tetrachlorometaxylene				*30-160 %*	*74.6*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*30-160 %*	*58.2*	*%*	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Aroclor PCB

Method: EPA 8082A — Sampled: 08/12/2021 12:00
Instrument: ECD7 Analyst: JGR — Analyzed: 09/02/2021 18:04

Sample Preparation:	Preparation Method: EPA 3546 (Microwave)		Extract ID: 21H0219-01 B 03
	Preparation Batch: BJH0630	Sample Size: 19.45 g (wet)	Dry Weight:12.50 g
	Prepared: 08/26/2021	Final Volume: 2.5 mL	% Solids: 64.29
Sample Cleanup:	Cleanup Method: Silica Gel		Extract ID: 21H0219-01 B 03
	Cleanup Batch: CJI0009	Initial Volume: 2.5 mL	
	Cleaned: 02-Sep-2021	Final Volume: 2.5 mL	
Sample Cleanup:	Cleanup Method: Sulfuric Acid		Extract ID:21H0219-01 B 03
	Cleanup Batch: CJI0007	Initial Volume: 2.5 mL	
	Cleaned: 02-Sep-2021	Final Volume: 2.5 mL	
Sample Cleanup:	Cleanup Method: Sulfur		Extract ID:21H0219-01 B 03
	Cleanup Batch: CJI0008	Initial Volume: 2.5 mL	
	Cleaned: 02-Sep-2021	Final Volume: 2.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Aroclor 1016	12674-11-2	1	1.6	4.0	ND	ug/kg	U
Aroclor 1221	11104-28-2	1	1.6	4.0	ND	ug/kg	U
Aroclor 1232	11141-16-5	1	1.6	4.0	ND	ug/kg	U
Aroclor 1242	53469-21-9	1	1.6	4.0	ND	ug/kg	U
Aroclor 1248	12672-29-6	1	1.6	4.0	ND	ug/kg	U
Aroclor 1254	11097-69-1	1	1.6	4.0	ND	ug/kg	U
Aroclor 1260	11096-82-5	1	0.6	4.0	ND	ug/kg	U
Aroclor 1262	37324-23-5	1	0.6	4.0	ND	ug/kg	U
Aroclor 1268	11100-14-4	1	0.6	4.0	ND	ug/kg	U
Surrogate: Decachlorobiphenyl				*40-126 %*	*71.9*	*%*	
Surrogate: Tetrachlorometaxylene				*44-120 %*	*64.8*	*%*	
Surrogate: Decachlorobiphenyl [2C]				*40-126 %*	*66.9*	*%*	
Surrogate: Tetrachlorometaxylene [2C]				*44-120 %*	*62.6*	*%*	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Metals and Metallic Compounds

Method: EPA 6020B — Sampled: 08/12/2021 12:00
Instrument: ICPMS2 Analyst: MCB — Analyzed: 08/24/2021 21:05

Sample Preparation: Preparation Method: SWN EPA 3050B — Extract ID: 21H0219-01 A 01
Preparation Batch: BJH0560 — Sample Size: 1.038 g (wet) — Dry Weight:0.60 g
Prepared: 08/23/2021 — Final Volume: 50 mL — % Solids: 57.91

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Chromium	7440-47-3	20	0.43	0.83	9.74	mg/kg	
Lead	7439-92-1	20	0.09	0.17	7.56	mg/kg	
Silver	7440-22-4	20	0.04	0.33	0.08	mg/kg	J

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Metals and Metallic Compounds

Method: EPA 6020B UCT-KED — Sampled: 08/12/2021 12:00
Instrument: ICPMS1 Analyst: MCB — Analyzed: 08/26/2021 18:31

Sample Preparation: Preparation Method: SWN EPA 3050B — Extract ID: 21H0219-01 A 01
Preparation Batch: BJH0560 — Sample Size: 1.038 g (wet) — Dry Weight:0.60 g
Prepared: 08/23/2021 — Final Volume: 50 mL — % Solids: 57.91

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Copper	7440-50-8	20	0.29	0.83	11.6	mg/kg	
Zinc	7440-66-6	20	4.9	10.0	78.7	mg/kg	

Instrument: ICPMS2 Analyst: MCB — Analyzed: 08/24/2021 21:05

Sample Preparation: Preparation Method: SWN EPA 3050B — Extract ID: 21H0219-01 A 01
Preparation Batch: BJH0560 — Sample Size: 1.038 g (wet) — Dry Weight:0.60 g
Prepared: 08/23/2021 — Final Volume: 50 mL — % Solids: 57.91

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Arsenic	7440-38-2	20	0.06	0.33	2.73	mg/kg	
Cadmium	7440-43-9	20	0.05	0.17	0.25	mg/kg	
Nickel	7440-02-0	20	0.13	0.83	11.2	mg/kg	
Selenium	7782-49-2	20	0.30	0.83	1.25	mg/kg	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Metals and Metallic Compounds

Method: EPA 7471B — Sampled: 08/12/2021 12:00
Instrument: HYDRA Analyst: ML — Analyzed: 09/03/2021 12:08

Sample Preparation: Preparation Method: SMM EPA 7471B — Extract ID: 21H0219-01 A
Preparation Batch: BJH0803 — Sample Size: 0.24 g (wet) — Dry Weight:0.14 g
Prepared: 08/31/2021 — Final Volume: 50 mL — % Solids: 57.91

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Mercury	7439-97-6	1	0.00755	0.0360	0.0496	mg/kg	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Wet Chemistry

Method: EPA 9060A m — Sampled: 08/12/2021 12:00
Instrument: TOC Cube Analyst: BF — Analyzed: 08/28/2021 10:02

Sample Preparation: Preparation Method: PSEP 1986 (modified) — Extract ID: 21H0219-01 E
Preparation Batch: BJH0513 — Sample Size: 0.5276 g (wet) — Dry Weight:0.31 g
Prepared: 08/19/2021 — Final Volume: 0.5276 mL — % Solids: 57.91

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Organic Carbon		1	0.02	0.02	0.98	%	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

NL1-Comp

21H0219-01 (Solid)

Wet Chemistry

Method: SM 2540 G-97 — Sampled: 08/12/2021 12:00
Instrument: BAL2 Analyst: DOE — Analyzed: 08/19/2021 13:36

Sample Preparation: Preparation Method: No Prep Wet Chem — Extract ID: 21H0219-01
Preparation Batch: BJH0507 — Sample Size: 5 g (wet) — Dry Weight:2.90 g
Prepared: 08/19/2021 — Final Volume: 5 g — % Solids: 57.91

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	57.91	%	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0631-BLK1)					Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 09:50						
Phenol	ND	4.4	20.0	ug/kg							U
bis(2-chloroethyl) ether	ND	19.3	50.0	ug/kg							U
2-Chlorophenol	ND	13.9	20.0	ug/kg							U
1,3-Dichlorobenzene	ND	3.1	20.0	ug/kg							U
1,4-Dichlorobenzene	ND	3.1	20.0	ug/kg							U
1,2-Dichlorobenzene	ND	2.4	20.0	ug/kg							U
Benzyl Alcohol	ND	16.3	20.0	ug/kg							U
2,2'-Oxybis(1-chloropropane)	ND	3.4	20.0	ug/kg							U
2-Methylphenol	ND	6.7	20.0	ug/kg							U
Hexachloroethane	ND	3.5	20.0	ug/kg							U
N-Nitroso-di-n-Propylamine	ND	7.5	20.0	ug/kg							U
4-Methylphenol	ND	7.4	20.0	ug/kg							U
Nitrobenzene	ND	7.2	20.0	ug/kg							U
Isophorone	ND	3.9	20.0	ug/kg							U
2-Nitrophenol	ND	4.9	20.0	ug/kg							U
2,4-Dimethylphenol	ND	3.8	100	ug/kg							U
Bis(2-Chloroethoxy)methane	ND	4.3	20.0	ug/kg							U
2,4-Dichlorophenol	ND	15.3	100	ug/kg							U
1,2,4-Trichlorobenzene	ND	3.6	20.0	ug/kg							U
Naphthalene	ND	4.2	20.0	ug/kg							U
Benzoic acid	ND	39.0	200	ug/kg							U
4-Chloroaniline	ND	8.4	100	ug/kg							U
Hexachlorobutadiene	ND	4.8	20.0	ug/kg							U
4-Chloro-3-Methylphenol	ND	12.4	100	ug/kg							U
2-Methylnaphthalene	ND	4.5	20.0	ug/kg							U
Hexachlorocyclopentadiene	ND	24.5	100	ug/kg							U
2,4,6-Trichlorophenol	ND	9.0	100	ug/kg							U
2,4,5-Trichlorophenol	ND	25.8	100	ug/kg							U
2-Chloronaphthalene	ND	8.0	20.0	ug/kg							U
2-Nitroaniline	ND	16.4	100	ug/kg							U
Acenaphthylene	ND	6.2	20.0	ug/kg							U
Dimethylphthalate	ND	4.4	20.0	ug/kg							U
2,6-Dinitrotoluene	ND	20.5	100	ug/kg							U
Acenaphthene	ND	5.2	20.0	ug/kg							U
3-Nitroaniline	ND	22.3	100	ug/kg							U

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0631-BLK1)					Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 09:50						
2,4-Dinitrophenol	ND	33.8	200	ug/kg							U
Dibenzofuran	ND	14.1	20.0	ug/kg							U
4-Nitrophenol	ND	32.6	100	ug/kg							U
2,4-Dinitrotoluene	ND	16.2	100	ug/kg							U
Fluorene	ND	14.6	20.0	ug/kg							U
4-Chlorophenylphenyl ether	ND	19.2	50.0	ug/kg							U
Diethyl phthalate	ND	19.7	50.0	ug/kg							U
4-Nitroaniline	ND	29.4	100	ug/kg							U
4,6-Dinitro-2-methylphenol	ND	38.0	200	ug/kg							U
N-Nitrosodiphenylamine	ND	5.3	20.0	ug/kg							U
4-Bromophenyl phenyl ether	ND	17.0	20.0	ug/kg							U
Hexachlorobenzene	ND	13.5	20.0	ug/kg							U
Pentachlorophenol	ND	31.3	100	ug/kg							U
Phenanthrene	ND	8.7	20.0	ug/kg							U
Anthracene	ND	7.2	20.0	ug/kg							U
Carbazole	ND	4.3	20.0	ug/kg							U
Di-n-Butylphthalate	ND	5.6	20.0	ug/kg							U
Fluoranthene	ND	6.1	20.0	ug/kg							U
Pyrene	ND	5.7	20.0	ug/kg							U
Butylbenzylphthalate	ND	9.4	20.0	ug/kg							U
Benzo(a)anthracene	ND	6.0	20.0	ug/kg							U
3,3'-Dichlorobenzidine	ND	7.1	100	ug/kg							U
Chrysene	ND	6.1	20.0	ug/kg							U
bis(2-Ethylhexyl)phthalate	10.2	5.5	50.0	ug/kg							J
Di-n-Octylphthalate	ND	4.4	20.0	ug/kg							U
Benzofluoranthenes, Total	ND	10.0	40.0	ug/kg							U
Benzo(a)pyrene	ND	4.2	20.0	ug/kg							U
Indeno(1,2,3-cd)pyrene	ND	14.7	20.0	ug/kg							U
Dibenzo(a,h)anthracene	ND	17.2	20.0	ug/kg							U
Benzo(g,h,i)perylene	ND	13.6	20.0	ug/kg							U
1-Methylnaphthalene	ND	5.3	20.0	ug/kg							U
Surrogate: 2-Fluorophenol	533			ug/kg	*750*		*71.1*	*27-120*			
Surrogate: Phenol-d5	533			ug/kg	*750*		*71.1*	*29-120*			
Surrogate: 2-Chlorophenol-d4	641			ug/kg	*750*		*85.4*	*31-120*			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0631-BLK1)					Prepared: 26-Aug-2021		Analyzed: 04-Sep-2021 09:50				
Surrogate: 1,2-Dichlorobenzene-d4	417			ug/kg	*500*		*83.4*	*32-120*			
Surrogate: Nitrobenzene-d5	458			ug/kg	*500*		*91.6*	*30-120*			
Surrogate: 2-Fluorobiphenyl	449			ug/kg	*500*		*89.8*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	710			ug/kg	*750*		*94.7*	*24-134*			
Surrogate: p-Terphenyl-d14	505			ug/kg	*500*		*101*	*37-120*			
LCS (BJH0631-BS1)					Prepared: 26-Aug-2021		Analyzed: 04-Sep-2021 10:28				
Phenol	367	4.4	20.0	ug/kg	500		73.3	34-120			
bis(2-chloroethyl) ether	381	19.3	50.0	ug/kg	500		76.3	36-120			
2-Chlorophenol	351	13.9	20.0	ug/kg	500		70.3	39-120			
1,3-Dichlorobenzene	365	3.1	20.0	ug/kg	500		73.0	40-120			
1,4-Dichlorobenzene	417	3.1	20.0	ug/kg	500		83.3	39-120			
1,2-Dichlorobenzene	390	2.4	20.0	ug/kg	500		78.0	40-120			
Benzyl Alcohol	378	16.3	20.0	ug/kg	500		75.6	19-120			
2,2'-Oxybis(1-chloropropane)	442	3.4	20.0	ug/kg	500		88.4	32-120			
2-Methylphenol	356	6.7	20.0	ug/kg	500		71.2	28-120			
Hexachloroethane	458	3.5	20.0	ug/kg	500		91.6	38-120			
N-Nitroso-di-n-Propylamine	362	7.5	20.0	ug/kg	500		72.4	34-120			
4-Methylphenol	380	7.4	20.0	ug/kg	500		76.0	29-120			
Nitrobenzene	450	7.2	20.0	ug/kg	500		90.0	36-120			
Isophorone	592	3.9	20.0	ug/kg	500		118	37-120			
2-Nitrophenol	546	4.9	20.0	ug/kg	500		109	30-120			Q
2,4-Dimethylphenol	895	3.8	100	ug/kg	1300		68.8	10-120			
Bis(2-Chloroethoxy)methane	415	4.3	20.0	ug/kg	500		83.0	39-120			
2,4-Dichlorophenol	1150	15.3	100	ug/kg	1300		88.1	28-120			
1,2,4-Trichlorobenzene	456	3.6	20.0	ug/kg	500		91.2	35-120			Q
Naphthalene	375	4.2	20.0	ug/kg	500		74.9	43-120			
Benzoic acid	2060	39.0	200	ug/kg	2300		89.6	10-120			
4-Chloroaniline	1050	8.4	100	ug/kg	1300		80.4	11-120			
Hexachlorobutadiene	415	4.8	20.0	ug/kg	500		83.1	37-120			
4-Chloro-3-Methylphenol	1500	12.4	100	ug/kg	1300		115	32-120			Q
2-Methylnaphthalene	378	4.5	20.0	ug/kg	500		75.6	43-120			
Hexachlorocyclopentadiene	916	24.5	100	ug/kg	1300		70.5	10-120			
2,4,6-Trichlorophenol	1360	9.0	100	ug/kg	1300		105	44.6-132			
2,4,5-Trichlorophenol	1360	25.8	100	ug/kg	1300		105	51.5-129			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BJH0631-BS1)					Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 10:28						
2-Chloronaphthalene	426	8.0	20.0	ug/kg	500		85.2	40-120			
2-Nitroaniline	1530	16.4	100	ug/kg	1300		118	40-152			Q
Acenaphthylene	342	6.2	20.0	ug/kg	500		68.5	42-120			
Dimethylphthalate	436	4.4	20.0	ug/kg	500		87.1	43-120			
2,6-Dinitrotoluene	1500	20.5	100	ug/kg	1300		116	31-156			
Acenaphthene	378	5.2	20.0	ug/kg	500		75.5	45-120			
3-Nitroaniline	1240	22.3	100	ug/kg	1300		95.6	22-120			
2,4-Dinitrophenol	2420	33.8	200	ug/kg	2300		105	10-120			
Dibenzofuran	380	14.1	20.0	ug/kg	500		76.0	43-120			
4-Nitrophenol	1580	32.6	100	ug/kg	1300		122	15-138			Q
2,4-Dinitrotoluene	1530	16.2	100	ug/kg	1300		118	44-150			Q
Fluorene	234	14.6	20.0	ug/kg	500		46.9	45-120			
4-Chlorophenylphenyl ether	193	19.2	50.0	ug/kg	500		38.6	36-141			
Diethyl phthalate	476	19.7	50.0	ug/kg	500		95.3	50-120			
4-Nitroaniline	1210	29.4	100	ug/kg	1300		92.8	24-168			
4,6-Dinitro-2-methylphenol	2510	38.0	200	ug/kg	2300		109	33-144			
N-Nitrosodiphenylamine	383	5.3	20.0	ug/kg	500		76.5	70-154			
4-Bromophenyl phenyl ether	472	17.0	20.0	ug/kg	500		94.5	39-120			
Hexachlorobenzene	432	13.5	20.0	ug/kg	500		86.4	33-120			
Pentachlorophenol	1150	31.3	100	ug/kg	1300		88.2	16-120			
Phenanthrene	398	8.7	20.0	ug/kg	500		79.5	49-120			
Anthracene	375	7.2	20.0	ug/kg	500		75.0	45-120			
Carbazole	404	4.3	20.0	ug/kg	500		80.8	43-135			
Di-n-Butylphthalate	503	5.6	20.0	ug/kg	500		101	48-126			
Fluoranthene	546	6.1	20.0	ug/kg	500		109	53-145			Q
Pyrene	534	5.7	20.0	ug/kg	500		107	52-134			
Butylbenzylphthalate	505	9.4	20.0	ug/kg	500		101	45-132			Q
Benzo(a)anthracene	441	6.0	20.0	ug/kg	500		88.2	49-120			
3,3'-Dichlorobenzidine	1210	7.1	100	ug/kg	1300		92.9	10-120			
Chrysene	423	6.1	20.0	ug/kg	500		84.6	47-120			
bis(2-Ethylhexyl)phthalate	480	5.5	50.0	ug/kg	500		96.1	34-130			
Di-n-Octylphthalate	441	4.4	20.0	ug/kg	500		88.1	28-124			
Benzofluoranthenes, Total	891	10.0	40.0	ug/kg	1000		89.1	30-160			
Benzo(a)pyrene	415	4.2	20.0	ug/kg	500		83.0	42-120			
Indeno(1,2,3-cd)pyrene	456	14.7	20.0	ug/kg	500		91.2	42-163			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BJH0631-BS1)					Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 10:28						
Dibenzo(a,h)anthracene	437	17.2	20.0	ug/kg	500		87.3	30-133			
Benzo(g,h,i)perylene	452	13.6	20.0	ug/kg	500		90.4	46-148			
1-Methylnaphthalene	384	5.3	20.0	ug/kg	500		76.9	42-120			
Surrogate: 2-Fluorophenol	616			ug/kg	*750*		*82.1*	*27-120*			
Surrogate: Phenol-d5	659			ug/kg	*750*		*87.9*	*29-120*			
Surrogate: 2-Chlorophenol-d4	657			ug/kg	*750*		*87.6*	*31-120*			
Surrogate: 1,2-Dichlorobenzene-d4	408			ug/kg	*500*		*81.6*	*32-120*			
Surrogate: Nitrobenzene-d5	488			ug/kg	*500*		*97.6*	*30-120*			
Surrogate: 2-Fluorobiphenyl	456			ug/kg	*500*		*91.2*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	807			ug/kg	*750*		*108*	*24-134*			
Surrogate: p-Terphenyl-d14	579			ug/kg	*500*		*116*	*37-120*			
LCS Dup (BJH0631-BSD1)					Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 11:05						
Phenol	429	4.4	20.0	ug/kg	500		85.8	34-120	15.60	30	
bis(2-chloroethyl) ether	436	19.3	50.0	ug/kg	500		87.1	36-120	13.30	30	
2-Chlorophenol	409	13.9	20.0	ug/kg	500		81.9	39-120	15.20	30	
1,3-Dichlorobenzene	423	3.1	20.0	ug/kg	500		84.7	40-120	14.90	30	
1,4-Dichlorobenzene	488	3.1	20.0	ug/kg	500		97.5	39-120	15.70	30	
1,2-Dichlorobenzene	444	2.4	20.0	ug/kg	500		88.9	40-120	13.00	30	
Benzyl Alcohol	442	16.3	20.0	ug/kg	500		88.4	19-120	15.60	30	
2,2'-Oxybis(1-chloropropane)	492	3.4	20.0	ug/kg	500		98.4	32-120	10.70	30	
2-Methylphenol	416	6.7	20.0	ug/kg	500		83.3	28-120	15.60	30	
Hexachloroethane	521	3.5	20.0	ug/kg	500		104	38-120	12.80	30	
N-Nitroso-di-n-Propylamine	427	7.5	20.0	ug/kg	500		85.4	34-120	16.40	30	
4-Methylphenol	438	7.4	20.0	ug/kg	500		87.6	29-120	14.10	30	
Nitrobenzene	541	7.2	20.0	ug/kg	500		108	36-120	18.40	30	
Isophorone	702	3.9	20.0	ug/kg	500		140	37-120	16.90	30	*
2-Nitrophenol	529	4.9	20.0	ug/kg	500		106	30-120	3.02	30	Q
2,4-Dimethylphenol	1040	3.8	100	ug/kg	1300		80.3	10-120	15.50	30	
Bis(2-Chloroethoxy)methane	487	4.3	20.0	ug/kg	500		97.3	39-120	15.90	30	
2,4-Dichlorophenol	1240	15.3	100	ug/kg	1300		95.4	28-120	7.94	30	
1,2,4-Trichlorobenzene	525	3.6	20.0	ug/kg	500		105	35-120	14.10	30	Q
Naphthalene	444	4.2	20.0	ug/kg	500		88.7	43-120	16.80	30	
Benzoic acid	2580	39.0	200	ug/kg	2300		112	10-120	22.50	30	
4-Chloroaniline	1180	8.4	100	ug/kg	1300		90.5	11-120	11.80	30	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BJH0631-BSD1)					Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 11:05						
Hexachlorobutadiene	485	4.8	20.0	ug/kg	500		97.0	37-120	15.50	30	
4-Chloro-3-Methylphenol	1670	12.4	100	ug/kg	1300		128	32-120	10.60	30	*, Q
2-Methylnaphthalene	443	4.5	20.0	ug/kg	500		88.6	43-120	15.80	30	
Hexachlorocyclopentadiene	1100	24.5	100	ug/kg	1300		84.4	10-120	18.00	30	
2,4,6-Trichlorophenol	1480	9.0	100	ug/kg	1300		114	44.6-132	8.05	30	
2,4,5-Trichlorophenol	1530	25.8	100	ug/kg	1300		118	51.5-129	11.40	30	
2-Chloronaphthalene	486	8.0	20.0	ug/kg	500		97.2	40-120	13.20	30	
2-Nitroaniline	1700	16.4	100	ug/kg	1300		131	40-152	10.50	30	Q
Acenaphthylene	388	6.2	20.0	ug/kg	500		77.7	42-120	12.60	30	
Dimethylphthalate	483	4.4	20.0	ug/kg	500		96.6	43-120	10.30	30	
2,6-Dinitrotoluene	1610	20.5	100	ug/kg	1300		124	31-156	7.12	30	
Acenaphthene	439	5.2	20.0	ug/kg	500		87.7	45-120	14.90	30	
3-Nitroaniline	1200	22.3	100	ug/kg	1300		92.3	22-120	3.49	30	
2,4-Dinitrophenol	2810	33.8	200	ug/kg	2300		122	10-120	14.90	30	*
Dibenzofuran	430	14.1	20.0	ug/kg	500		86.1	43-120	12.40	30	
4-Nitrophenol	1700	32.6	100	ug/kg	1300		131	15-138	7.15	30	Q
2,4-Dinitrotoluene	1690	16.2	100	ug/kg	1300		130	44-150	9.61	30	Q
Fluorene	390	14.6	20.0	ug/kg	500		78.1	45-120	50.00	30	*
4-Chlorophenylphenyl ether	314	19.2	50.0	ug/kg	500		62.7	36-141	47.70	30	*
Diethyl phthalate	541	19.7	50.0	ug/kg	500		108	50-120	12.80	30	
4-Nitroaniline	1230	29.4	100	ug/kg	1300		94.4	24-168	1.70	30	
4,6-Dinitro-2-methylphenol	2730	38.0	200	ug/kg	2300		119	33-144	8.29	30	
N-Nitrosodiphenylamine	446	5.3	20.0	ug/kg	500		89.2	70-154	15.40	30	
4-Bromophenyl phenyl ether	539	17.0	20.0	ug/kg	500		108	39-120	13.20	30	
Hexachlorobenzene	493	13.5	20.0	ug/kg	500		98.7	33-120	13.30	30	
Pentachlorophenol	1280	31.3	100	ug/kg	1300		98.8	16-120	11.40	30	
Phenanthrene	451	8.7	20.0	ug/kg	500		90.1	49-120	12.50	30	
Anthracene	425	7.2	20.0	ug/kg	500		85.0	45-120	12.50	30	
Carbazole	474	4.3	20.0	ug/kg	500		94.8	43-135	16.00	30	
Di-n-Butylphthalate	568	5.6	20.0	ug/kg	500		114	48-126	12.20	30	
Fluoranthene	608	6.1	20.0	ug/kg	500		122	53-145	10.70	30	Q
Pyrene	608	5.7	20.0	ug/kg	500		122	52-134	12.90	30	
Butylbenzylphthalate	585	9.4	20.0	ug/kg	500		117	45-132	14.60	30	Q
Benzo(a)anthracene	491	6.0	20.0	ug/kg	500		98.1	49-120	10.60	30	
3,3'-Dichlorobenzidine	1290	7.1	100	ug/kg	1300		98.9	10-120	6.22	30	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BJH0631-BSD1)					Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 11:05						
Chrysene	463	6.1	20.0	ug/kg	500		92.5	47-120	9.00	30	
bis(2-Ethylhexyl)phthalate	544	5.5	50.0	ug/kg	500		109	34-130	12.30	30	
Di-n-Octylphthalate	501	4.4	20.0	ug/kg	500		100	28-124	12.90	30	
Benzofluoranthenes, Total	1040	10.0	40.0	ug/kg	1000		104	30-160	15.00	30	
Benzo(a)pyrene	473	4.2	20.0	ug/kg	500		94.5	42-120	13.00	30	
Indeno(1,2,3-cd)pyrene	525	14.7	20.0	ug/kg	500		105	42-163	14.10	30	
Dibenzo(a,h)anthracene	504	17.2	20.0	ug/kg	500		101	30-133	14.40	30	
Benzo(g,h,i)perylene	502	13.6	20.0	ug/kg	500		100	46-148	10.60	30	
1-Methylnaphthalene	454	5.3	20.0	ug/kg	500		90.8	42-120	16.60	30	
Surrogate: 2-Fluorophenol	638			ug/kg	*750*		*85.1*	*27-120*			
Surrogate: Phenol-d5	685			ug/kg	*750*		*91.3*	*29-120*			
Surrogate: 2-Chlorophenol-d4	658			ug/kg	*750*		*87.7*	*31-120*			
Surrogate: 1,2-Dichlorobenzene-d4	408			ug/kg	*500*		*81.6*	*32-120*			
Surrogate: Nitrobenzene-d5	506			ug/kg	*500*		*101*	*30-120*			
Surrogate: 2-Fluorobiphenyl	450			ug/kg	*500*		*90.1*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	794			ug/kg	*750*		*106*	*24-134*			
Surrogate: p-Terphenyl-d14	573			ug/kg	*500*		*115*	*37-120*			
Matrix Spike (BJH0631-MS1)		**Source: 21H0219-01**			Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 12:59						
Phenol	413	4.4	20.0	ug/kg	499	ND	82.8	34-120			
bis(2-chloroethyl) ether	484	19.3	49.9	ug/kg	499	ND	96.9	36-120			
2-Chlorophenol	393	13.8	20.0	ug/kg	499	ND	78.8	39-120			
1,3-Dichlorobenzene	402	3.1	20.0	ug/kg	499	ND	80.6	40-120			
1,4-Dichlorobenzene	476	3.1	20.0	ug/kg	499	ND	95.3	39-120			
1,2-Dichlorobenzene	439	2.4	20.0	ug/kg	499	ND	88.0	40-120			
Benzyl Alcohol	422	16.2	20.0	ug/kg	499	ND	84.6	19-120			
2,2'-Oxybis(1-chloropropane)	488	3.4	20.0	ug/kg	499	ND	97.7	32-120			
2-Methylphenol	432	6.6	20.0	ug/kg	499	ND	86.5	28-120			
Hexachloroethane	530	3.4	20.0	ug/kg	499	ND	106	38-120			
N-Nitroso-di-n-Propylamine	440	7.4	20.0	ug/kg	499	ND	88.1	34-120			
4-Methylphenol	439	7.4	20.0	ug/kg	499	23.4	83.3	29-120			
Nitrobenzene	496	7.2	20.0	ug/kg	499	ND	99.4	36-120			
Isophorone	624	3.9	20.0	ug/kg	499	ND	125	37-120			*
2-Nitrophenol	476	4.9	20.0	ug/kg	499	ND	95.4	30-120			Q
2,4-Dimethylphenol	1150	3.8	99.8	ug/kg	1300	ND	88.6	10-120			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BJH0631-MS1)		**Source: 21H0219-01**		Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 12:59							
Bis(2-Chloroethoxy)methane	442	4.3	20.0	ug/kg	499	ND	88.5	39-120			
2,4-Dichlorophenol	1170	15.3	99.8	ug/kg	1300	ND	90.3	28-120			
1,2,4-Trichlorobenzene	503	3.6	20.0	ug/kg	499	ND	101	35-120			Q
Naphthalene	415	4.2	20.0	ug/kg	499	4.3	82.3	43-120			
Benzoic acid	2550	39.0	200	ug/kg	2300	75.9	108	10-120			
4-Chloroaniline	407	8.4	99.8	ug/kg	1300	ND	31.3	11-120			
Hexachlorobutadiene	455	4.8	20.0	ug/kg	499	ND	91.1	37-120			
4-Chloro-3-Methylphenol	1500	12.4	99.8	ug/kg	1300	ND	116	32-120			Q
2-Methylnaphthalene	398	4.5	20.0	ug/kg	499	ND	79.7	43-120			
Hexachlorocyclopentadiene	1030	24.4	99.8	ug/kg	1300	ND	79.5	10-120			
2,4,6-Trichlorophenol	1410	9.0	99.8	ug/kg	1300	ND	109	44.6-132			
2,4,5-Trichlorophenol	1480	25.7	99.8	ug/kg	1300	ND	114	51.5-129			
2-Chloronaphthalene	459	7.9	20.0	ug/kg	499	ND	92.0	40-120			
2-Nitroaniline	1580	16.4	99.8	ug/kg	1300	ND	122	40-152			Q
Acenaphthylene	364	6.2	20.0	ug/kg	499	ND	72.9	42-120			
Dimethylphthalate	451	4.4	20.0	ug/kg	499	ND	90.3	43-120			
2,6-Dinitrotoluene	1480	20.4	99.8	ug/kg	1300	ND	114	31-156			
Acenaphthene	434	5.2	20.0	ug/kg	499	ND	86.9	45-120			
3-Nitroaniline	684	22.2	99.8	ug/kg	1300	ND	52.7	22-120			
2,4-Dinitrophenol	2380	33.8	200	ug/kg	2300	ND	104	10-120			
Dibenzofuran	397	14.1	20.0	ug/kg	499	ND	79.5	43-120			
4-Nitrophenol	1840	32.6	99.8	ug/kg	1300	ND	142	15-138			*, Q
2,4-Dinitrotoluene	1500	16.2	99.8	ug/kg	1300	ND	116	44-150			Q
Fluorene	333	14.5	20.0	ug/kg	499	ND	66.7	45-120			
4-Chlorophenylphenyl ether	273	19.1	49.9	ug/kg	499	ND	54.6	36-141			
Diethyl phthalate	494	19.7	49.9	ug/kg	499	34.1	92.2	50-120			
4-Nitroaniline	883	29.4	99.8	ug/kg	1300	ND	68.0	24-168			
4,6-Dinitro-2-methylphenol	2850	37.9	200	ug/kg	2300	ND	124	33-144			
N-Nitrosodiphenylamine	471	5.3	20.0	ug/kg	499	ND	94.3	70-154			
4-Bromophenyl phenyl ether	529	17.0	20.0	ug/kg	499	ND	106	39-120			
Hexachlorobenzene	491	13.5	20.0	ug/kg	499	ND	98.4	33-120			
Pentachlorophenol	1500	31.2	99.8	ug/kg	1300	ND	116	16-120			
Phenanthrene	493	8.7	20.0	ug/kg	499	ND	98.8	49-120			
Anthracene	400	7.2	20.0	ug/kg	499	ND	80.1	45-120			
Carbazole	433	4.3	20.0	ug/kg	499	8.1	85.1	43-135			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BJH0631-MS1)		**Source: 21H0219-01**		Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 12:59							
Di-n-Butylphthalate	464	5.6	20.0	ug/kg	499	ND	93.0	48-126			
Fluoranthene	584	6.1	20.0	ug/kg	499	25.5	112	53-145			Q
Pyrene	564	5.7	20.0	ug/kg	499	31.5	107	52-134			
Butylbenzylphthalate	547	9.4	20.0	ug/kg	499	ND	110	45-132			Q
Benzo(a)anthracene	489	6.0	20.0	ug/kg	499	11.3	95.6	49-120			
3,3'-Dichlorobenzidine	159	7.1	99.8	ug/kg	1300	ND	12.2	10-120			
Chrysene	504	6.1	20.0	ug/kg	499	21.9	96.6	47-120			
bis(2-Ethylhexyl)phthalate	545	5.5	49.9	ug/kg	499	13.1	107	34-130			
Di-n-Octylphthalate	474	4.4	20.0	ug/kg	499	ND	95.0	28-124			
Benzofluoranthenes, Total	957	10.0	39.9	ug/kg	998	38.2	92.1	30-160			
Benzo(a)pyrene	455	4.2	20.0	ug/kg	499	17.9	87.6	42-120			
Indeno(1,2,3-cd)pyrene	497	14.6	20.0	ug/kg	499	ND	99.6	42-163			
Dibenzo(a,h)anthracene	485	17.2	20.0	ug/kg	499	ND	97.2	30-133			
Benzo(g,h,i)perylene	479	13.6	20.0	ug/kg	499	15.8	92.8	46-148			
1-Methylnaphthalene	404	5.3	20.0	ug/kg	499	ND	80.9	42-120			
Surrogate: 2-Fluorophenol	560			ug/kg	*749*	*472*	*74.9*	*27-120*			
Surrogate: Phenol-d5	655			ug/kg	*749*	*545*	*87.5*	*29-120*			
Surrogate: 2-Chlorophenol-d4	657			ug/kg	*749*	*652*	*87.7*	*31-120*			
Surrogate: 1,2-Dichlorobenzene-d4	411			ug/kg	*499*	*414*	*82.4*	*32-120*			
Surrogate: Nitrobenzene-d5	480			ug/kg	*499*	*446*	*96.1*	*30-120*			
Surrogate: 2-Fluorobiphenyl	437			ug/kg	*499*	*447*	*87.6*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	769			ug/kg	*749*	*830*	*103*	*24-134*			
Surrogate: p-Terphenyl-d14	493			ug/kg	*499*	*492*	*98.8*	*37-120*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BJH0631-MSD1)		**Source: 21H0219-01**		Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 13:36							
Phenol	576	5.9	26.9	ug/kg	672	ND	85.8	34-120	32.90	30	*
bis(2-chloroethyl) ether	692	25.9	67.2	ug/kg	672	ND	103	36-120	35.40	30	*
2-Chlorophenol	549	18.6	26.9	ug/kg	672	ND	81.7	39-120	32.90	30	*
1,3-Dichlorobenzene	563	4.2	26.9	ug/kg	672	ND	83.8	40-120	33.20	30	*
1,4-Dichlorobenzene	657	4.2	26.9	ug/kg	672	ND	97.8	39-120	32.00	30	*
1,2-Dichlorobenzene	595	3.2	26.9	ug/kg	672	ND	88.6	40-120	30.10	30	*
Benzyl Alcohol	603	21.8	26.9	ug/kg	672	ND	89.7	19-120	35.20	30	*
2,2'-Oxybis(1-chloropropane)	686	4.5	26.9	ug/kg	672	ND	102	32-120	33.70	30	*

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BJH0631-MSD1)		**Source: 21H0219-01**		Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 13:36							
2-Methylphenol	583	8.9	26.9	ug/kg	672	ND	86.8	28-120	29.70	30	
Hexachloroethane	732	4.6	26.9	ug/kg	672	ND	109	38-120	32.00	30	*
N-Nitroso-di-n-Propylamine	617	10.0	26.9	ug/kg	672	ND	91.9	34-120	33.60	30	*
4-Methylphenol	614	9.9	26.9	ug/kg	672	23.4	87.9	29-120	33.20	30	*
Nitrobenzene	730	9.7	26.9	ug/kg	672	ND	109	36-120	38.10	30	*
Isophorone	946	5.3	26.9	ug/kg	672	ND	141	37-120	41.10	30	*
2-Nitrophenol	690	6.5	26.9	ug/kg	672	ND	103	30-120	36.80	30	*, Q
2,4-Dimethylphenol	1680	5.1	134	ug/kg	1750	ND	96.4	10-120	37.60	30	*
Bis(2-Chloroethoxy)methane	654	5.8	26.9	ug/kg	672	ND	97.4	39-120	38.80	30	*
2,4-Dichlorophenol	1800	20.6	134	ug/kg	1750	ND	103	28-120	42.40	30	*
1,2,4-Trichlorobenzene	715	4.8	26.9	ug/kg	672	ND	106	35-120	34.90	30	*, Q
Naphthalene	611	5.7	26.9	ug/kg	672	4.3	91.0	43-120	38.20	30	*
Benzoic acid	3540	52.4	269	ug/kg	3090	75.9	112	10-120	32.60	30	*
4-Chloroaniline	558	11.3	134	ug/kg	1750	ND	32.0	11-120	31.40	30	*
Hexachlorobutadiene	661	6.5	26.9	ug/kg	672	ND	98.5	37-120	37.00	30	*
4-Chloro-3-Methylphenol	2170	16.7	134	ug/kg	1750	ND	124	32-120	36.30	30	*, Q
2-Methylnaphthalene	581	6.1	26.9	ug/kg	672	ND	86.5	43-120	37.30	30	*
Hexachlorocyclopentadiene	1550	32.9	134	ug/kg	1750	ND	88.8	10-120	40.20	30	*
2,4,6-Trichlorophenol	2060	12.1	134	ug/kg	1750	ND	118	44.6-132	37.00	30	*
2,4,5-Trichlorophenol	2110	34.6	134	ug/kg	1750	ND	121	51.5-129	35.40	30	*
2-Chloronaphthalene	663	10.7	26.9	ug/kg	672	ND	98.8	40-120	36.40	30	*
2-Nitroaniline	2320	22.1	134	ug/kg	1750	ND	133	40-152	38.10	30	*, Q
Acenaphthylene	528	8.4	26.9	ug/kg	672	ND	78.6	42-120	36.80	30	*
Dimethylphthalate	653	5.9	26.9	ug/kg	672	ND	97.2	43-120	36.50	30	*
2,6-Dinitrotoluene	2150	27.5	134	ug/kg	1750	ND	123	31-156	36.70	30	*
Acenaphthene	612	7.0	26.9	ug/kg	672	ND	91.2	45-120	34.20	30	*
3-Nitroaniline	956	29.9	134	ug/kg	1750	ND	54.7	22-120	33.10	30	*
2,4-Dinitrophenol	3400	45.4	269	ug/kg	3090	ND	110	10-120	35.40	30	*
Dibenzofuran	591	19.0	26.9	ug/kg	672	ND	88.0	43-120	39.30	30	*
4-Nitrophenol	2670	43.8	134	ug/kg	1750	ND	153	15-138	36.90	30	*, Q
2,4-Dinitrotoluene	2220	21.8	134	ug/kg	1750	ND	127	44-150	38.60	30	*, Q
Fluorene	460	19.6	26.9	ug/kg	672	ND	68.5	45-120	32.00	30	*
4-Chlorophenylphenyl ether	326	25.7	67.2	ug/kg	672	ND	48.6	36-141	18.00	30	
Diethyl phthalate	744	26.5	67.2	ug/kg	672	34.1	106	50-120	40.30	30	*
4-Nitroaniline	1270	39.5	134	ug/kg	1750	ND	72.5	24-168	35.70	30	*

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BJH0631-MSD1)		**Source: 21H0219-01**		Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 13:36							
4,6-Dinitro-2-methylphenol	4280	51.0	269	ug/kg	3090	ND	139	33-144	40.30	30	*
N-Nitrosodiphenylamine	682	7.1	26.9	ug/kg	672	ND	102	70-154	36.60	30	*
4-Bromophenyl phenyl ether	821	22.8	26.9	ug/kg	672	ND	122	39-120	43.30	30	*
Hexachlorobenzene	714	18.1	26.9	ug/kg	672	ND	106	33-120	37.00	30	*
Pentachlorophenol	2150	42.0	134	ug/kg	1750	ND	123	16-120	35.50	30	*
Phenanthrene	621	11.7	26.9	ug/kg	672	ND	92.5	49-120	22.90	30	
Anthracene	550	9.7	26.9	ug/kg	672	ND	81.9	45-120	31.60	30	*
Carbazole	590	5.8	26.9	ug/kg	672	8.1	86.7	43-135	30.70	30	*
Di-n-Butylphthalate	668	7.5	26.9	ug/kg	672	ND	99.5	48-126	36.00	30	*
Fluoranthene	682	8.2	26.9	ug/kg	672	25.5	97.7	53-145	15.50	30	Q
Pyrene	644	7.6	26.9	ug/kg	672	31.5	91.2	52-134	13.30	30	
Butylbenzylphthalate	744	12.6	26.9	ug/kg	672	ND	111	45-132	30.50	30	*, Q
Benzo(a)anthracene	630	8.0	26.9	ug/kg	672	11.3	92.1	49-120	25.20	30	
3,3'-Dichlorobenzidine	235	9.5	134	ug/kg	1750	ND	13.5	10-120	38.90	30	*
Chrysene	651	8.1	26.9	ug/kg	672	21.9	93.6	47-120	25.40	30	
bis(2-Ethylhexyl)phthalate	770	7.3	67.2	ug/kg	672	13.1	113	34-130	34.10	30	*
Di-n-Octylphthalate	667	5.9	26.9	ug/kg	672	ND	99.3	28-124	33.80	30	*
Benzofluoranthenes, Total	1320	13.4	53.7	ug/kg	1340	38.2	95.6	30-160	32.00	30	*
Benzo(a)pyrene	618	5.7	26.9	ug/kg	672	17.9	89.4	42-120	30.40	30	*
Indeno(1,2,3-cd)pyrene	685	19.7	26.9	ug/kg	672	ND	102	42-163	31.80	30	*
Dibenzo(a,h)anthracene	681	23.1	26.9	ug/kg	672	ND	101	30-133	33.50	30	*
Benzo(g,h,i)perylene	670	18.3	26.9	ug/kg	672	15.8	99.8	46-148	33.30	30	*
1-Methylnaphthalene	586	7.1	26.9	ug/kg	672	ND	87.3	42-120	36.80	30	*
Surrogate: 2-Fluorophenol	760			ug/kg	*1010*	*472*	*75.4*	*27-120*			
Surrogate: Phenol-d5	909			ug/kg	*1010*	*545*	*90.3*	*29-120*			
Surrogate: 2-Chlorophenol-d4	910			ug/kg	*1010*	*652*	*90.3*	*31-120*			
Surrogate: 1,2-Dichlorobenzene-d4	568			ug/kg	*672*	*414*	*84.6*	*32-120*			
Surrogate: Nitrobenzene-d5	709			ug/kg	*672*	*446*	*106*	*30-120*			
Surrogate: 2-Fluorobiphenyl	654			ug/kg	*672*	*447*	*97.4*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	1150			ug/kg	*1010*	*830*	*114*	*24-134*			
Surrogate: p-Terphenyl-d14	683			ug/kg	*672*	*492*	*102*	*37-120*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Reference (BJH0631-SRM1) Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 11:43

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Reference (BJH0631-SRM1)					Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 11:43						
Phenol	4050	43.9	200	ug/kg	4870		83.1	18-182			
2-Chlorophenol	4050	139	200	ug/kg	6050		67.0	16-183			
1,3-Dichlorobenzene	2490	31.3	200	ug/kg	5610		44.3	16-184			
1,4-Dichlorobenzene	3950	31.4	200	ug/kg	7450		53.0	12-188			
1,2-Dichlorobenzene	911	23.7	200	ug/kg	1700		53.6	17-184			
2-Methylphenol	4790	66.6	200	ug/kg	5870		81.7	27-174			
Hexachloroethane	3370	34.5	200	ug/kg	5770		58.5	9-191			
N-Nitroso-di-n-Propylamine	4800	74.5	200	ug/kg	7930		60.5	29-170			
4-Methylphenol	5190	73.9	200	ug/kg	5980		86.7	10-189			
Isophorone	7850	39.3	200	ug/kg	7010		112	20-180			
2-Nitrophenol	2410	48.6	200	ug/kg	3670		65.7	22-178			Q
2,4-Dimethylphenol	3500	37.8	1000	ug/kg	4380		79.9	19-181			
Bis(2-Chloroethoxy)methane	4130	43.1	200	ug/kg	4860		85.1	25-175			
2,4-Dichlorophenol	3680	153	1000	ug/kg	4410		83.4	29-171			
Naphthalene	1300	42.4	200	ug/kg	1920		68.0	41-159			
2-Methylnaphthalene	2970	45.1	200	ug/kg	3600		82.6	51-149			
2,4,6-Trichlorophenol	5670	89.8	1000	ug/kg	5880		96.4	43-157			
2,4,5-Trichlorophenol	3960	258	1000	ug/kg	4150		95.5	32-168			
2-Chloronaphthalene	2680	79.6	200	ug/kg	3000		89.2	0-201			
2-Nitroaniline	2270	164	1000	ug/kg	2350		96.5	40-160			Q
Acenaphthylene	4140	62.4	200	ug/kg	5450		75.9	57-142			
2,6-Dinitrotoluene	8740	205	1000	ug/kg	7300		120	27-174			
Acenaphthene	3810	52.2	200	ug/kg	4250		89.5	59-141			
Dibenzofuran	3490	141	200	ug/kg	4010		87.0	58-142			
4-Nitrophenol	6420	326	1000	ug/kg	3870		166	0-313			Q
2,4-Dinitrotoluene	5910	162	1000	ug/kg	5760		103	32-168			Q
Fluorene	5030	146	200	ug/kg	5780		87.0	48-152			
4-Chlorophenylphenyl ether	989	192	500	ug/kg	1680		58.8	51-149			
N-Nitrosodiphenylamine	6920	53.2	200	ug/kg	5460		127	24-176			
4-Bromophenyl phenyl ether	3520	170	200	ug/kg	3500		101	35-165			
Hexachlorobenzene	2620	135	200	ug/kg	2610		100	41-159			
Pentachlorophenol	6110	313	1000	ug/kg	5820		105	8-192			
Phenanthrene	1950	87.2	200	ug/kg	2210		88.1	40-160			
Anthracene	2420	71.9	200	ug/kg	3240		74.7	52-148			
Fluoranthene	4720	60.9	200	ug/kg	4060		116	46-155			Q

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - Quality Control

Batch BJH0631 - EPA 3546 (Microwave)

Instrument: NT10 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Reference (BJH0631-SRM1)					Prepared: 26-Aug-2021 Analyzed: 04-Sep-2021 11:43						
Pyrene	6720	56.8	200	ug/kg	6300		107	27-173			
Benzo(a)anthracene	3300	59.6	200	ug/kg	3280		101	33-167			
Chrysene	1600	60.6	200	ug/kg	1750		91.3	62-139			
Di-n-Octylphthalate	6750	43.9	200	ug/kg	7640		88.4	7-192			
Benzo(a)pyrene	1230	42.3	200	ug/kg	1690		72.9	44-156			
Indeno(1,2,3-cd)pyrene	2720	147	200	ug/kg	2670		102	27-173			
Dibenzo(a,h)anthracene	2910	172	200	ug/kg	3030		96.1	19-181			
Benzo(g,h,i)perylene	2660	136	200	ug/kg	2550		104	40-160			
Surrogate: 2-Fluorophenol	5960			ug/kg	*7500*		*79.4*	*27-120*			
Surrogate: Phenol-d5	6410			ug/kg	*7500*		*85.5*	*29-120*			
Surrogate: 2-Chlorophenol-d4	6600			ug/kg	*7500*		*88.0*	*31-120*			
Surrogate: 1,2-Dichlorobenzene-d4	4140			ug/kg	*5000*		*82.8*	*32-120*			
Surrogate: Nitrobenzene-d5	4620			ug/kg	*5000*		*92.4*	*30-120*			
Surrogate: 2-Fluorobiphenyl	4570			ug/kg	*5000*		*91.4*	*35-120*			
Surrogate: 2,4,6-Tribromophenol	7680			ug/kg	*7500*		*102*	*24-134*			
Surrogate: p-Terphenyl-d14	5080			ug/kg	*5000*		*102*	*37-120*			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - SIM - Quality Control

Batch BJH0632 - EPA 3546 (Microwave)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0632-BLK1)					Prepared: 26-Aug-2021 Analyzed: 01-Sep-2021 12:07						
Naphthalene	ND	1.28	5.00	ug/kg							U
2-Methylnaphthalene	ND	1.10	5.00	ug/kg							U
1-Methylnaphthalene	ND	0.40	5.00	ug/kg							U
Acenaphthylene	ND	1.08	5.00	ug/kg							U
Acenaphthene	ND	0.57	5.00	ug/kg							U
Dibenzofuran	ND	1.38	5.00	ug/kg							U
Fluorene	ND	0.63	5.00	ug/kg							U
Phenanthrene	ND	0.72	5.00	ug/kg							U
Anthracene	ND	0.87	5.00	ug/kg							U
Fluoranthene	ND	0.47	5.00	ug/kg							U
Pyrene	ND	0.63	5.00	ug/kg							U
Benzo(a)anthracene	ND	0.82	5.00	ug/kg							U
Chrysene	ND	1.05	5.00	ug/kg							U
Benzo(b)fluoranthene	ND	1.37	5.00	ug/kg							U
Benzo(k)fluoranthene	ND	0.76	5.00	ug/kg							U
Benzo(j)fluoranthene	ND	0.68	5.00	ug/kg							U
Benzofluoranthenes, Total	ND	3.01	10.0	ug/kg							U
Benzo(a)pyrene	ND	0.61	5.00	ug/kg							U
Indeno(1,2,3-cd)pyrene	ND	1.05	5.00	ug/kg							U
Dibenzo(a,h)anthracene	ND	0.89	5.00	ug/kg							U
Benzo(g,h,i)perylene	ND	1.07	5.00	ug/kg							U
Surrogate: 2-Methylnaphthalene-d10	114			ug/kg	*150*		*75.7*	*32-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	149			ug/kg	*150*		*99.4*	*21-133*			
Surrogate: Fluoranthene-d10	121			ug/kg	*150*		*80.9*	*36-134*			
LCS (BJH0632-BS1)					Prepared: 26-Aug-2021 Analyzed: 01-Sep-2021 12:34						
Naphthalene	185	1.28	5.00	ug/kg	300		61.6	36-120			
2-Methylnaphthalene	186	1.10	5.00	ug/kg	300		62.1	35-120			
1-Methylnaphthalene	178	0.40	5.00	ug/kg	300		59.2	39-120			
Acenaphthylene	183	1.08	5.00	ug/kg	300		61.1	35-120			
Acenaphthene	175	0.57	5.00	ug/kg	300		58.4	39-120			
Dibenzofuran	184	1.38	5.00	ug/kg	300		61.5	38-120			
Fluorene	190	0.63	5.00	ug/kg	300		63.4	41-120			
Phenanthrene	193	0.72	5.00	ug/kg	300		64.4	46-120			
Anthracene	181	0.87	5.00	ug/kg	300		60.2	36-120			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - SIM - Quality Control

Batch BJH0632 - EPA 3546 (Microwave)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BJH0632-BS1)					Prepared: 26-Aug-2021 Analyzed: 01-Sep-2021 12:34						
Fluoranthene	190	0.47	5.00	ug/kg	300		63.5	46-120			
Pyrene	208	0.63	5.00	ug/kg	300		69.5	49-120			
Benzo(a)anthracene	199	0.82	5.00	ug/kg	300		66.3	42-120			
Chrysene	218	1.05	5.00	ug/kg	300		72.7	48-120			
Benzo(b)fluoranthene	227	1.37	5.00	ug/kg	300		75.6	52-137			
Benzo(k)fluoranthene	239	0.76	5.00	ug/kg	300		79.6	37-129			
Benzo(j)fluoranthene	166	0.68	5.00	ug/kg	300		55.2	40-120			
Benzofluoranthenes, Total	562	3.01	10.0	ug/kg	900		62.5	46-120			
Benzo(a)pyrene	194	0.61	5.00	ug/kg	300		64.8	36-120			
Indeno(1,2,3-cd)pyrene	221	1.05	5.00	ug/kg	300		73.6	67-132			
Dibenzo(a,h)anthracene	250	0.89	5.00	ug/kg	300		83.2	66-139			
Benzo(g,h,i)perylene	223	1.07	5.00	ug/kg	300		74.2	51-153			
Surrogate: 2-Methylnaphthalene-d10	107			ug/kg	*150*		*71.5*	*32-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	158			ug/kg	*150*		*105*	*21-133*			
Surrogate: Fluoranthene-d10	123			ug/kg	*150*		*81.7*	*36-134*			
LCS Dup (BJH0632-BSD1)					Prepared: 26-Aug-2021 Analyzed: 01-Sep-2021 13:01						
Naphthalene	168	1.28	5.00	ug/kg	300		56.1	36-120	9.31	30	
2-Methylnaphthalene	170	1.10	5.00	ug/kg	300		56.5	35-120	9.42	30	
1-Methylnaphthalene	168	0.40	5.00	ug/kg	300		56.0	39-120	5.66	30	
Acenaphthylene	185	1.08	5.00	ug/kg	300		61.7	35-120	0.90	30	
Acenaphthene	167	0.57	5.00	ug/kg	300		55.8	39-120	4.45	30	
Dibenzofuran	180	1.38	5.00	ug/kg	300		60.1	38-120	2.24	30	
Fluorene	182	0.63	5.00	ug/kg	300		60.7	41-120	4.44	30	
Phenanthrene	184	0.72	5.00	ug/kg	300		61.5	46-120	4.73	30	
Anthracene	172	0.87	5.00	ug/kg	300		57.3	36-120	5.00	30	
Fluoranthene	185	0.47	5.00	ug/kg	300		61.7	46-120	2.91	30	
Pyrene	195	0.63	5.00	ug/kg	300		65.1	49-120	6.57	30	
Benzo(a)anthracene	184	0.82	5.00	ug/kg	300		61.5	42-120	7.57	30	
Chrysene	204	1.05	5.00	ug/kg	300		68.0	48-120	6.73	30	
Benzo(b)fluoranthene	225	1.37	5.00	ug/kg	300		75.0	52-137	0.85	30	
Benzo(k)fluoranthene	230	0.76	5.00	ug/kg	300		76.6	37-129	3.84	30	
Benzo(j)fluoranthene	161	0.68	5.00	ug/kg	300		53.7	40-120	2.82	30	
Benzofluoranthenes, Total	548	3.01	10.0	ug/kg	900		60.9	46-120	2.55	30	
Benzo(a)pyrene	193	0.61	5.00	ug/kg	300		64.3	36-120	0.64	30	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - SIM - Quality Control

Batch BJH0632 - EPA 3546 (Microwave)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS Dup (BJH0632-BSD1)					Prepared: 26-Aug-2021 Analyzed: 01-Sep-2021 13:01						
Indeno(1,2,3-cd)pyrene	218	1.05	5.00	ug/kg	300		72.7	67-132	1.15	30	
Dibenzo(a,h)anthracene	246	0.89	5.00	ug/kg	300		81.9	66-139	1.63	30	
Benzo(g,h,i)perylene	218	1.07	5.00	ug/kg	300		72.6	51-153	2.21	30	
Surrogate: 2-Methylnaphthalene-d10	98.3			ug/kg	*150*		*65.5*	*32-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	151			ug/kg	*150*		*101*	*21-133*			
Surrogate: Fluoranthene-d10	114			ug/kg	*150*		*75.8*	*36-134*			
Matrix Spike (BJH0632-MS1)		**Source: 21H0219-01**			Prepared: 26-Aug-2021 Analyzed: 01-Sep-2021 14:21						
Naphthalene	186	1.27	5.00	ug/kg	300	1.91	61.3	36-120			
2-Methylnaphthalene	165	1.10	5.00	ug/kg	300	ND	55.1	35-120			
1-Methylnaphthalene	170	0.40	5.00	ug/kg	300	ND	56.8	39-120			
Acenaphthylene	186	1.08	5.00	ug/kg	300	ND	62.2	35-120			
Acenaphthene	158	0.57	5.00	ug/kg	300	ND	52.6	39-120			
Dibenzofuran	173	1.38	5.00	ug/kg	300	ND	57.7	38-120			
Fluorene	151	0.63	5.00	ug/kg	300	ND	50.3	41-120			
Phenanthrene	195	0.72	5.00	ug/kg	300	1.72	64.5	46-120			
Anthracene	173	0.87	5.00	ug/kg	300	ND	57.8	36-120			
Fluoranthene	175	0.47	5.00	ug/kg	300	2.58	57.6	46-120			
Pyrene	244	0.63	5.00	ug/kg	300	3.41	80.4	49-120			
Benzo(a)anthracene	203	0.82	5.00	ug/kg	300	2.07	66.9	42-120			
Chrysene	215	1.05	5.00	ug/kg	300	4.93	69.9	48-120			
Benzo(b)fluoranthene	220	1.37	5.00	ug/kg	300	4.21	71.9	52-137			
Benzo(k)fluoranthene	227	0.76	5.00	ug/kg	300	2.03	74.9	37-129			
Benzo(j)fluoranthene	148	0.68	5.00	ug/kg	300	0.90	48.9	40-120			
Benzofluoranthenes, Total	535	3.01	10.0	ug/kg	900	6.38	58.7	46-120			
Benzo(a)pyrene	208	0.61	5.00	ug/kg	300	3.18	68.4	36-120			
Indeno(1,2,3-cd)pyrene	256	1.05	5.00	ug/kg	300	2.83	84.4	67-132			
Dibenzo(a,h)anthracene	297	0.89	5.00	ug/kg	300	ND	98.9	66-139			
Benzo(g,h,i)perylene	241	1.06	5.00	ug/kg	300	2.90	79.5	51-153			
Surrogate: 2-Methylnaphthalene-d10	96.5			ug/kg	*150*	*95.2*	*64.4*	*32-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	176			ug/kg	*150*	*152*	*117*	*21-133*			
Surrogate: Fluoranthene-d10	102			ug/kg	*150*	*95.8*	*67.7*	*36-134*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - SIM - Quality Control

Batch BJH0632 - EPA 3546 (Microwave)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BJH0632-MSD1)		**Source: 21H0219-01**			Prepared: 26-Aug-2021 Analyzed: 01-Sep-2021 14:50						
Naphthalene	179	1.27	5.00	ug/kg	300	1.91	59.1	36-120	3.53	30	
2-Methylnaphthalene	171	1.10	5.00	ug/kg	300	ND	57.2	35-120	3.61	30	
1-Methylnaphthalene	165	0.40	5.00	ug/kg	300	ND	55.2	39-120	2.83	30	
Acenaphthylene	188	1.08	5.00	ug/kg	300	ND	62.6	35-120	0.66	30	
Acenaphthene	165	0.57	5.00	ug/kg	300	ND	54.9	39-120	4.24	30	
Dibenzofuran	175	1.38	5.00	ug/kg	300	ND	58.3	38-120	1.03	30	
Fluorene	158	0.63	5.00	ug/kg	300	ND	52.8	41-120	4.80	30	
Phenanthrene	194	0.72	5.00	ug/kg	300	1.72	64.3	46-120	0.45	30	
Anthracene	172	0.87	5.00	ug/kg	300	ND	57.3	36-120	0.84	30	
Fluoranthene	172	0.47	5.00	ug/kg	300	2.58	56.5	46-120	1.94	30	
Pyrene	245	0.63	5.00	ug/kg	300	3.41	80.4	49-120	0.06	30	
Benzo(a)anthracene	206	0.82	5.00	ug/kg	300	2.07	67.9	42-120	1.56	30	
Chrysene	213	1.05	5.00	ug/kg	300	4.93	69.5	48-120	0.60	30	
Benzo(b)fluoranthene	216	1.37	5.00	ug/kg	300	4.21	70.5	52-137	1.86	30	
Benzo(k)fluoranthene	222	0.76	5.00	ug/kg	300	2.03	73.4	37-129	1.96	30	
Benzo(j)fluoranthene	148	0.68	5.00	ug/kg	300	0.90	49.1	40-120	0.29	30	
Benzofluoranthenes, Total	520	3.01	10.0	ug/kg	900	6.38	57.0	46-120	2.86	30	
Benzo(a)pyrene	206	0.61	5.00	ug/kg	300	3.18	67.6	36-120	1.18	30	
Indeno(1,2,3-cd)pyrene	244	1.05	5.00	ug/kg	300	2.83	80.4	67-132	4.74	30	
Dibenzo(a,h)anthracene	277	0.89	5.00	ug/kg	300	ND	92.2	66-139	6.95	30	
Benzo(g,h,i)perylene	225	1.06	5.00	ug/kg	300	2.90	74.1	51-153	6.92	30	
Surrogate: 2-Methylnaphthalene-d10	99.4			ug/kg	*150*	*95.2*	*66.3*	*32-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	162			ug/kg	*150*	*152*	*108*	*21-133*			
Surrogate: Fluoranthene-d10	98.9			ug/kg	*150*	*95.8*	*66.0*	*36-134*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Reference (BJH0632-SRM1)					Prepared: 26-Aug-2021 Analyzed: 01-Sep-2021 13:28		
Naphthalene	316	2.55	10.0	ug/kg	566	55.7	18-182
Acenaphthylene	442	2.17	10.0	ug/kg	609	72.6	23-177
Acenaphthene	313	1.14	10.0	ug/kg	459	68.1	34-166
Fluorene	223	1.26	10.0	ug/kg	326	68.4	41-159
Phenanthrene	147	1.44	10.0	ug/kg	220	66.8	42-157
Anthracene	129	1.74	10.0	ug/kg	239	54.0	11-189
Fluoranthene	145	0.94	10.0	ug/kg	273	53.1	41-159
Pyrene	242	1.25	10.0	ug/kg	380	63.6	36-164

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Semivolatile Organic Compounds - SIM - Quality Control

Batch BJH0632 - EPA 3546 (Microwave)

Instrument: NT8 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Reference (BJH0632-SRM1)					Prepared: 26-Aug-2021 Analyzed: 01-Sep-2021 13:28						
Benzo(a)anthracene	69.5	1.65	10.0	ug/kg	109		63.8	31-170			
Chrysene	148	2.11	10.0	ug/kg	210		70.3	13-186			
Benzo(b)fluoranthene	227	2.74	10.0	ug/kg	295		77.0	33-167			
Benzo(k)fluoranthene	209	1.52	10.0	ug/kg	259		80.7	14-186			
Benzofluoranthenes, Total	371	6.02	20.0	ug/kg	662		56.0	40-160			
Benzo(a)pyrene	44.7	1.23	10.0	ug/kg	65.5		68.3	24-176			
Indeno(1,2,3-cd)pyrene	167	2.10	10.0	ug/kg	208		80.4	0-208			
Dibenzo(a,h)anthracene	149	1.78	10.0	ug/kg	177		84.2	0-214			
Benzo(g,h,i)perylene	133	2.13	10.0	ug/kg	176		75.8	10-191			
Surrogate: 2-Methylnaphthalene-d10	224			ug/kg	*300*		*74.6*	*32-120*			
Surrogate: Dibenzo[a,h]anthracene-d14	359			ug/kg	*300*		*120*	*21-133*			
Surrogate: Fluoranthene-d10	222			ug/kg	*300*		*74.0*	*36-134*			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Butyl Tins - Quality Control

Batch BJH0522 - EPA 3546 (Microwave)

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0522-BLK1)					Prepared: 20-Aug-2021	Analyzed: 24-Aug-2021 12:04					
Tributyltin Ion	ND	0.450	3.86	ug/kg							U
Dibutyltin Ion	ND	1.73	5.78	ug/kg							U
Butyltin Ion	ND	1.89	4.08	ug/kg							U
Tetrabutyltin	ND	5.00	5.00	ug/kg							U
Surrogate: Tripentyltin	31.1			ug/kg	*45.2*		*68.8*	*30-160*			
Surrogate: Tripropyltin	24.3			ug/kg	*43.7*		*55.5*	*30-160*			
LCS (BJH0522-BS1)					Prepared: 20-Aug-2021	Analyzed: 24-Aug-2021 12:20					
Tributyltin Ion	24.4	0.450	3.86	ug/kg	44.6		54.7	30-160			
Dibutyltin Ion	25.9	1.73	5.78	ug/kg	38.4		67.6	30-160			
Butyltin Ion	19.6	1.89	4.08	ug/kg	31.2		62.9	30-160			
Surrogate: Tripentyltin	30.4			ug/kg	*45.2*		*67.3*	*30-160*			
Surrogate: Tripropyltin	22.3			ug/kg	*43.7*		*50.9*	*30-160*			
Matrix Spike (BJH0522-MS1)		**Source: 21H0219-01**			Prepared: 20-Aug-2021	Analyzed: 24-Aug-2021 13:10					
Tributyltin Ion	21.1	0.449	3.85	ug/kg	44.4	ND	47.4	30-160			
Dibutyltin Ion	18.5	1.72	5.76	ug/kg	38.2	ND	48.3	30-160			
Butyltin Ion	15.1	1.88	4.07	ug/kg	31.1	ND	48.6	30-160			
Surrogate: Tripentyltin	28.6			ug/kg	*45.0*	*34.6*	*63.4*	*30-160*			
Surrogate: Tripropyltin	18.4			ug/kg	*43.6*	*20.7*	*42.1*	*30-160*			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.											
Matrix Spike Dup (BJH0522-MSD1)		**Source: 21H0219-01**			Prepared: 20-Aug-2021	Analyzed: 24-Aug-2021 13:26					
Tributyltin Ion	21.7	0.449	3.85	ug/kg	44.4	ND	48.8	30-160	2.81	30	
Dibutyltin Ion	16.5	1.72	5.76	ug/kg	38.2	ND	43.2	30-160	11.30	30	
Butyltin Ion	13.7	1.88	4.07	ug/kg	31.1	ND	44.2	30-160	9.63	30	
Surrogate: Tripentyltin	27.7			ug/kg	*45.0*	*34.6*	*61.6*	*30-160*			
Surrogate: Tripropyltin	17.2			ug/kg	*43.6*	*20.7*	*39.5*	*30-160*			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.											
Reference (BJH0522-SRM1)					Prepared: 20-Aug-2021	Analyzed: 24-Aug-2021 12:37					
Tributyltin Ion	288	2.25	19.3	ug/kg	430		67.0	50-150			
Dibutyltin Ion	364	8.65	28.9	ug/kg	631		57.7	50-150			
Butyltin Ion	427	9.45	20.4	ug/kg	1470		29.1	50-150			*

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
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Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Butyl Tins - Quality Control

Batch BJH0522 - EPA 3546 (Microwave)

Instrument: NT12 Analyst: JZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Reference (BJH0522-SRM1)					Prepared: 20-Aug-2021 Analyzed: 24-Aug-2021 12:37						
Surrogate: Tripentyltin	148			ug/kg	*226*		*65.6*	*30-160*			
Surrogate: Tripropyltin	94.9			ug/kg	*219*		*43.4*	*30-160*			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Chlorinated Pesticides - Quality Control

Batch BJH0523 - EPA 3546 (Microwave)

Instrument: ECD6 Analyst: YZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0523-BLK1)				Prepared: 20-Aug-2021 Analyzed: 08-Sep-2021 13:31							
alpha-BHC	ND	0.08	0.50	ug/kg							U
beta-BHC	ND	0.09	0.50	ug/kg							U
gamma-BHC (Lindane)	ND	0.07	0.50	ug/kg							U
delta-BHC	ND	0.07	0.50	ug/kg							U
Heptachlor	ND	0.05	0.50	ug/kg							U
Aldrin	ND	0.37	0.50	ug/kg							U
Heptachlor Epoxide	ND	0.17	0.50	ug/kg							U
trans-Chlordane (beta-Chlordane)	ND	0.33	0.50	ug/kg							U
cis-Chlordane (alpha-chlordane)	ND	0.11	0.50	ug/kg							U
Endosulfan I	ND	0.07	0.50	ug/kg							U
4,4'-DDE	ND	0.14	1.00	ug/kg							U
Dieldrin	ND	0.12	1.00	ug/kg							U
Endrin	ND	0.14	1.00	ug/kg							U
Endosulfan II	ND	0.31	1.00	ug/kg							U
4,4'-DDD	ND	0.32	1.00	ug/kg							U
Endrin Aldehyde	ND	0.39	1.00	ug/kg							U
4,4'-DDT	ND	0.33	1.00	ug/kg							U
Endosulfan Sulfate	ND	0.12	1.00	ug/kg							U
Endrin Ketone	ND	0.28	1.00	ug/kg							U
Methoxychlor	ND	0.30	5.00	ug/kg							U
Hexachlorobutadiene	ND	0.34	0.50	ug/kg							U
Hexachlorobenzene	ND	0.15	0.50	ug/kg							U
2,4'-DDE	ND	0.25	1.00	ug/kg							U
2,4'-DDD	ND	0.20	1.00	ug/kg							U
2,4'-DDT	ND	0.19	1.00	ug/kg							U
Oxychlordane	ND	0.13	1.00	ug/kg							U
cis-Nonachlor	ND	0.21	1.00	ug/kg							U
trans-Nonachlor	ND	0.23	1.00	ug/kg							U
Mirex	ND	0.64	1.00	ug/kg							U
Surrogate: Decachlorobiphenyl	6.20			ug/kg	*8.00*		*77.5*	*30-160*			
Surrogate: Decachlorobiphenyl [2C]	5.95			ug/kg	*8.00*		*74.4*	*30-160*			
Surrogate: Tetrachlorometaxylene	4.25			ug/kg	*8.00*		*53.1*	*30-160*			
Surrogate: Tetrachlorometaxylene [2C]	4.47			ug/kg	*8.00*		*55.9*	*30-160*			
LCS (BJH0523-BS1)				Prepared: 20-Aug-2021 Analyzed: 08-Sep-2021 13:49							

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Chlorinated Pesticides - Quality Control

Batch BJH0523 - EPA 3546 (Microwave)

Instrument: ECD6 Analyst: YZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BJH0523-BS1)					Prepared: 20-Aug-2021 Analyzed: 08-Sep-2021 13:49						
alpha-BHC [2C]	2.28	0.08	0.50	ug/kg	4.00		57.1	28-120			
beta-BHC [2C]	2.37	0.09	0.50	ug/kg	4.00		59.3	33-120			
gamma-BHC (Lindane) [2C]	2.30	0.07	0.50	ug/kg	4.00		57.4	30-124			
delta-BHC [2C]	2.42	0.07	0.50	ug/kg	4.00		60.6	30-120			
Heptachlor [2C]	2.18	0.05	0.50	ug/kg	4.00		54.4	26-120			
Aldrin [2C]	2.19	0.37	0.50	ug/kg	4.00		54.8	26-120			
Heptachlor Epoxide [2C]	2.62	0.17	0.50	ug/kg	4.00		65.4	26-120			
trans-Chlordane (beta-Chlordane) [2C]	2.39	0.33	0.50	ug/kg	4.00		59.8	21-120			
cis-Chlordane (alpha-chlordane) [2C]	2.56	0.11	0.50	ug/kg	4.00		64.0	39-120			
Endosulfan I [2C]	2.65	0.07	0.50	ug/kg	4.00		66.1	17-143			
4,4'-DDE [2C]	4.95	0.14	1.00	ug/kg	8.00		61.9	35-120			
Dieldrin [2C]	5.04	0.12	1.00	ug/kg	8.00		63.0	10-140			
Endrin	5.00	0.14	1.00	ug/kg	8.00		62.5	45-120			
Endosulfan II	5.72	0.31	1.00	ug/kg	8.00		71.6	10-139			
4,4'-DDD	5.82	0.32	1.00	ug/kg	8.00		72.8	50-120			
Endrin Aldehyde	4.01	0.39	1.00	ug/kg	8.00		50.1	10-120			
4,4'-DDT	5.14	0.33	1.00	ug/kg	8.00		64.3	39-120			
Endosulfan Sulfate [2C]	5.24	0.12	1.00	ug/kg	8.00		65.5	38-120			
Endrin Ketone	5.42	0.28	1.00	ug/kg	8.00		67.8	17-120			
Methoxychlor [2C]	24.4	0.30	5.00	ug/kg	40.0		60.9	10-140			
Hexachlorobutadiene	1.98	0.34	0.50	ug/kg	4.00		49.6	15-120			
Hexachlorobenzene	2.73	0.15	0.50	ug/kg	4.00		68.1	26-128			
Surrogate: Decachlorobiphenyl	6.11			ug/kg	*8.00*		*76.4*	*30-160*			
Surrogate: Decachlorobiphenyl [2C]	6.02			ug/kg	*8.00*		*75.3*	*30-160*			
Surrogate: Tetrachlorometaxylene	4.11			ug/kg	*8.00*		*51.3*	*30-160*			
Surrogate: Tetrachlorometaxylene [2C]	4.65			ug/kg	*8.00*		*58.1*	*30-160*			
LCS (BJH0523-BS2)					Prepared: 20-Aug-2021 Analyzed: 08-Sep-2021 14:07						
alpha-BHC [2C]	2.33	0.08	0.50	ug/kg	4.00		58.1	28-120			
beta-BHC [2C]	2.51	0.09	0.50	ug/kg	4.00		62.8	33-120			
gamma-BHC (Lindane) [2C]	2.37	0.07	0.50	ug/kg	4.00		59.3	30-124			
delta-BHC [2C]	2.61	0.07	0.50	ug/kg	4.00		65.3	30-120			
Heptachlor [2C]	2.26	0.05	0.50	ug/kg	4.00		56.5	26-120			
Aldrin [2C]	2.29	0.37	0.50	ug/kg	4.00		57.3	26-120			
Heptachlor Epoxide [2C]	2.82	0.17	0.50	ug/kg	4.00		70.6	26-120			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Chlorinated Pesticides - Quality Control

Batch BJH0523 - EPA 3546 (Microwave)

Instrument: ECD6 Analyst: YZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
LCS (BJH0523-BS2)					Prepared: 20-Aug-2021 Analyzed: 08-Sep-2021 14:07						
trans-Chlordane (beta-Chlordane) [2C]	2.59	0.33	0.50	ug/kg	4.00		64.7	21-120			
cis-Chlordane (alpha-chlordane) [2C]	2.76	0.11	0.50	ug/kg	4.00		69.1	39-120			
Endosulfan I [2C]	2.82	0.07	0.50	ug/kg	4.00		70.5	17-143			
4,4'-DDE [2C]	5.37	0.14	1.00	ug/kg	8.00		67.1	35-120			
Dieldrin [2C]	5.38	0.12	1.00	ug/kg	8.00		67.3	10-140			
Endrin	5.09	0.14	1.00	ug/kg	8.00		63.6	45-120			
Endosulfan II	5.98	0.31	1.00	ug/kg	8.00		74.7	10-139			
4,4'-DDD	6.00	0.32	1.00	ug/kg	8.00		75.0	50-120			
Endrin Aldehyde	3.81	0.39	1.00	ug/kg	8.00		47.6	10-120			
4,4'-DDT	5.37	0.33	1.00	ug/kg	8.00		67.2	39-120			
Endosulfan Sulfate [2C]	5.50	0.12	1.00	ug/kg	8.00		68.7	38-120			
Endrin Ketone	5.73	0.28	1.00	ug/kg	8.00		71.6	17-120			
Methoxychlor [2C]	25.6	0.30	5.00	ug/kg	40.0		63.9	10-140			
Hexachlorobutadiene [2C]	1.87	0.34	0.50	ug/kg	4.00		46.7	15-120			
Hexachlorobenzene	2.75	0.15	0.50	ug/kg	4.00		68.8	26-128			
Surrogate: Decachlorobiphenyl	6.51			ug/kg	*8.00*		*81.4*	*30-160*			
Surrogate: Decachlorobiphenyl [2C]	6.16			ug/kg	*8.00*		*77.1*	*30-160*			
Surrogate: Tetrachlorometaxylene	4.15			ug/kg	*8.00*		*51.9*	*30-160*			
Surrogate: Tetrachlorometaxylene [2C]	4.33			ug/kg	*8.00*		*54.1*	*30-160*			
Matrix Spike (BJH0523-MS1)		**Source: 21H0219-01**			Prepared: 20-Aug-2021 Analyzed: 08-Sep-2021 15:00						
alpha-BHC	2.67	0.08	0.50	ug/kg	4.00	ND	66.8	28-120			
beta-BHC	3.48	0.09	0.50	ug/kg	4.00	ND	87.0	33-120			
gamma-BHC (Lindane)	2.67	0.07	0.50	ug/kg	4.00	ND	66.8	30-124			
delta-BHC	2.27	0.07	0.50	ug/kg	4.00	ND	56.7	30-120			
Heptachlor	1.99	0.05	0.50	ug/kg	4.00	ND	49.7	26-120			
Aldrin	2.13	0.37	0.50	ug/kg	4.00	ND	53.3	26-120			
Heptachlor Epoxide	2.19	0.17	0.50	ug/kg	4.00	ND	54.7	26-120			
trans-Chlordane (beta-Chlordane)	2.15	0.33	0.50	ug/kg	4.00	ND	53.8	21-120			
cis-Chlordane (alpha-chlordane)	1.69	0.11	0.50	ug/kg	4.00	ND	42.2	39-120			
Endosulfan I	2.23	0.07	0.50	ug/kg	4.00	ND	55.8	17-143			
4,4'-DDE	4.93	0.14	1.00	ug/kg	8.00	ND	61.7	35-120			
Dieldrin	4.42	0.12	1.00	ug/kg	8.00	ND	55.3	10-140			
Endrin	3.81	0.14	1.00	ug/kg	8.00	ND	47.6	45-120			
Endosulfan II	4.47	0.31	1.00	ug/kg	8.00	ND	55.9	10-139			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Chlorinated Pesticides - Quality Control

Batch BJH0523 - EPA 3546 (Microwave)

Instrument: ECD6 Analyst: YZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BJH0523-MS1)		**Source: 21H0219-01**		Prepared: 20-Aug-2021 Analyzed: 08-Sep-2021 15:00							
4,4'-DDD	6.00	0.32	1.00	ug/kg	8.00	ND	75.0	50-120			
Endrin Aldehyde	3.80	0.39	1.00	ug/kg	8.00	ND	47.5	10-120			
4,4'-DDT	4.15	0.33	1.00	ug/kg	8.00	ND	51.9	39-120			
Endosulfan Sulfate	4.41	0.12	1.00	ug/kg	8.00	ND	55.1	38-120			
Endrin Ketone	5.44	0.28	1.00	ug/kg	8.00	ND	68.0	17-120			
Methoxychlor	21.8	0.30	5.00	ug/kg	40.0	ND	54.5	10-140			
Hexachlorobutadiene	2.09	0.34	0.50	ug/kg	4.00	ND	52.2	15-120			
Hexachlorobenzene	3.06	0.15	0.50	ug/kg	4.00	ND	76.5	26-128			
Surrogate: Decachlorobiphenyl	8.21			ug/kg	*8.00*		*103*	*30-160*			
Surrogate: Decachlorobiphenyl [2C]	6.82			ug/kg	*8.00*		*85.3*	*30-160*			
Surrogate: Tetrachlorometaxylene	6.31			ug/kg	*8.00*		*78.9*	*30-160*			
Surrogate: Tetrachlorometaxylene [2C]	5.35			ug/kg	*8.00*		*66.9*	*30-160*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BJH0523-MSD1)		**Source: 21H0219-01**		Prepared: 20-Aug-2021 Analyzed: 08-Sep-2021 15:18							
alpha-BHC	1.67	0.08	0.50	ug/kg	4.00	ND	41.7	28-120	46.20	30	*
beta-BHC	2.40	0.09	0.50	ug/kg	4.00	ND	60.1	33-120	36.60	30	*
gamma-BHC (Lindane)	1.99	0.07	0.50	ug/kg	4.00	ND	49.8	30-124	29.00	30	
delta-BHC	1.88	0.07	0.50	ug/kg	4.00	ND	46.9	30-120	18.90	30	
Heptachlor	1.53	0.05	0.50	ug/kg	4.00	ND	38.2	26-120	26.30	30	
Aldrin	1.84	0.37	0.50	ug/kg	4.00	ND	45.9	26-120	14.90	30	
Heptachlor Epoxide	2.00	0.17	0.50	ug/kg	4.00	ND	49.9	26-120	9.30	30	
trans-Chlordane (beta-Chlordane)	2.05	0.33	0.50	ug/kg	4.00	ND	51.3	21-120	4.83	30	
cis-Chlordane (alpha-chlordane)	1.57	0.11	0.50	ug/kg	4.00	ND	39.3	39-120	7.10	30	
Endosulfan I	1.99	0.07	0.50	ug/kg	4.00	ND	49.8	17-143	11.30	30	
4,4'-DDE	4.35	0.14	1.00	ug/kg	8.00	ND	54.4	35-120	12.60	30	
Dieldrin	4.03	0.12	1.00	ug/kg	8.00	ND	50.3	10-140	9.34	30	
Endrin	3.63	0.14	1.00	ug/kg	8.00	ND	45.4	45-120	4.80	30	
Endosulfan II	4.54	0.31	1.00	ug/kg	8.00	ND	56.8	10-139	1.56	30	
4,4'-DDD	5.43	0.32	1.00	ug/kg	8.00	ND	67.9	50-120	10.00	30	
Endrin Aldehyde	3.49	0.39	1.00	ug/kg	8.00	ND	43.6	10-120	8.35	30	
4,4'-DDT	3.25	0.33	1.00	ug/kg	8.00	ND	40.6	39-120	24.50	30	
Endosulfan Sulfate	4.29	0.12	1.00	ug/kg	8.00	ND	53.6	38-120	2.61	30	
Endrin Ketone	4.96	0.28	1.00	ug/kg	8.00	ND	61.9	17-120	9.26	30	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Chlorinated Pesticides - Quality Control

Batch BJH0523 - EPA 3546 (Microwave)

Instrument: ECD6 Analyst: YZ

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike Dup (BJH0523-MSD1)		**Source: 21H0219-01**		Prepared: 20-Aug-2021 Analyzed: 08-Sep-2021 15:18							
Methoxychlor	18.4	0.30	5.00	ug/kg	40.0	ND	45.9	10-140	17.00	30	
Hexachlorobutadiene	2.06	0.34	0.50	ug/kg	4.00	ND	51.4	15-120	1.51	30	
Hexachlorobenzene	2.46	0.15	0.50	ug/kg	4.00	ND	61.4	26-128	22.00	30	
Surrogate: Decachlorobiphenyl	7.14			ug/kg	*8.00*		*89.2*	*30-160*			
Surrogate: Decachlorobiphenyl [2C]	6.16			ug/kg	*8.00*		*77.0*	*30-160*			
Surrogate: Tetrachlorometaxylene	4.89			ug/kg	*8.00*		*61.1*	*30-160*			
Surrogate: Tetrachlorometaxylene [2C]	4.78			ug/kg	*8.00*		*59.8*	*30-160*			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Reference (BJH0523-SRM1)				Prepared: 20-Aug-2021 Analyzed: 08-Sep-2021 14:25							
alpha-BHC [2C]	135	1.05	6.25	ug/kg	221		61.2	25-176			
beta-BHC [2C]	241	1.14	6.25	ug/kg	295		81.7	18.3-182			E
delta-BHC [2C]	105	0.82	6.25	ug/kg	138		76.0	0-202			
Heptachlor Epoxide	111	2.13	6.25	ug/kg	127		87.3	15.4-185			
Endosulfan I [2C]	28.8	0.86	6.25	ug/kg	211		13.7	36.9-164			*
4,4'-DDE [2C]	250	1.69	12.5	ug/kg	315		79.4	1-199			
Dieldrin [2C]	74.5	1.44	12.5	ug/kg	53.3		140	0-238			P1
Endrin [2C]	142	1.78	12.5	ug/kg	162		87.6	8.1-191.3			
Endosulfan II	114	3.91	12.5	ug/kg	225		50.8	0-211			
4,4'-DDD	177	4.00	12.5	ug/kg	120		147	8-192			
4,4'-DDT	79.5	4.06	12.5	ug/kg	92.1		86.3	0-227			
Endosulfan Sulfate [2C]	109	1.54	12.5	ug/kg	159		68.2	0-255			
Endrin Ketone [2C]	186	3.53	12.5	ug/kg	170		109	0-204			
Methoxychlor [2C]	248	3.73	62.5	ug/kg	290		85.5	0-258			
Surrogate: Decachlorobiphenyl	81.6			ug/kg	*100*		*81.6*	*30-160*			
Surrogate: Decachlorobiphenyl [2C]	77.3			ug/kg	*100*		*77.3*	*30-160*			
Surrogate: Tetrachlorometaxylene	57.3			ug/kg	*100*		*57.3*	*30-160*			
Surrogate: Tetrachlorometaxylene [2C]	62.7			ug/kg	*100*		*62.7*	*30-160*			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Aroclor PCB - Quality Control

Batch BJH0630 - EPA 3546 (Microwave)

Instrument: ECD7 Analyst: JGR

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0630-BLK1)					Prepared: 26-Aug-2021	Analyzed: 02-Sep-2021 16:42					
Aroclor 1016	ND	1.6	4.0	ug/kg							U
Aroclor 1221	ND	1.6	4.0	ug/kg							U
Aroclor 1232	ND	1.6	4.0	ug/kg							U
Aroclor 1242	ND	1.6	4.0	ug/kg							U
Aroclor 1248	ND	1.6	4.0	ug/kg							U
Aroclor 1254	ND	1.6	4.0	ug/kg							U
Aroclor 1260	ND	0.6	4.0	ug/kg							U
Aroclor 1262	ND	0.6	4.0	ug/kg							U
Aroclor 1268	ND	0.6	4.0	ug/kg							U
Surrogate: Decachlorobiphenyl	6.90			ug/kg	*8.00*		*86.3*	*40-126*			
Surrogate: Tetrachlorometaxylene	6.12			ug/kg	*8.00*		*76.5*	*44-120*			
Surrogate: Decachlorobiphenyl [2C]	6.73			ug/kg	*8.00*		*84.2*	*40-126*			
Surrogate: Tetrachlorometaxylene [2C]	5.85			ug/kg	*8.00*		*73.1*	*44-120*			
LCS (BJH0630-BS1)					Prepared: 26-Aug-2021	Analyzed: 02-Sep-2021 17:03					
Aroclor 1016	78.1	1.6	4.0	ug/kg	101		77.5	56-120			
Aroclor 1260	75.0	0.6	4.0	ug/kg	101		74.5	58-120			
Surrogate: Decachlorobiphenyl	6.87			ug/kg	*8.00*		*85.8*	*40-126*			
Surrogate: Tetrachlorometaxylene	5.90			ug/kg	*8.00*		*73.8*	*44-120*			
Surrogate: Decachlorobiphenyl [2C]	6.52			ug/kg	*8.00*		*81.4*	*40-126*			
Surrogate: Tetrachlorometaxylene [2C]	5.73			ug/kg	*8.00*		*71.6*	*44-120*			
LCS Dup (BJH0630-BSD1)					Prepared: 26-Aug-2021	Analyzed: 02-Sep-2021 17:23					
Aroclor 1016	80.0	1.6	4.0	ug/kg	101		79.4	56-120	2.42	30	
Aroclor 1260	80.8	0.6	4.0	ug/kg	101		80.1	58-120	7.32	30	
Surrogate: Decachlorobiphenyl	6.94			ug/kg	*8.00*		*86.7*	*40-126*			
Surrogate: Tetrachlorometaxylene	6.04			ug/kg	*8.00*		*75.5*	*44-120*			
Surrogate: Decachlorobiphenyl [2C]	6.55			ug/kg	*8.00*		*81.9*	*40-126*			
Surrogate: Tetrachlorometaxylene [2C]	5.82			ug/kg	*8.00*		*72.7*	*44-120*			
Matrix Spike (BJH0630-MS1)		**Source: 21H0219-01**			Prepared: 26-Aug-2021	Analyzed: 02-Sep-2021 18:24					
Aroclor 1016	69.1	1.6	4.0	ug/kg	101	ND	68.4	56-120			
Aroclor 1260	75.0	0.6	4.0	ug/kg	101	ND	74.3	58-120			
Surrogate: Decachlorobiphenyl	6.21			ug/kg	*8.00*		*77.6*	*40-126*			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Aroclor PCB - Quality Control

Batch BJH0630 - EPA 3546 (Microwave)

Instrument: ECD7 Analyst: JGR

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BJH0630-MS1)		**Source: 21H0219-01**			Prepared: 26-Aug-2021		Analyzed: 02-Sep-2021 18:24				
Surrogate: Tetrachlorometaxylene	5.65			ug/kg	*8.00*		*70.6*	*44-120*			
Surrogate: Decachlorobiphenyl [2C]	5.57			ug/kg	*8.00*		*69.6*	*40-126*			
Surrogate: Tetrachlorometaxylene [2C]	5.28			ug/kg	*8.00*		*65.9*	*44-120*			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.											
Matrix Spike Dup (BJH0630-MSD1)		**Source: 21H0219-01**			Prepared: 26-Aug-2021		Analyzed: 02-Sep-2021 18:45				
Aroclor 1016	78.3	1.6	4.0	ug/kg	101	ND	77.5	56-120	12.40	30	
Aroclor 1260	77.9	0.6	4.0	ug/kg	101	ND	77.1	58-120	3.72	30	
Surrogate: Decachlorobiphenyl	6.35			ug/kg	*8.00*		*79.4*	*40-126*			
Surrogate: Tetrachlorometaxylene	5.57			ug/kg	*8.00*		*69.7*	*44-120*			
Surrogate: Decachlorobiphenyl [2C]	5.78			ug/kg	*8.00*		*72.2*	*40-126*			
Surrogate: Tetrachlorometaxylene [2C]	5.42			ug/kg	*8.00*		*67.7*	*44-120*			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.											
Reference (BJH0630-SRM1)					Prepared: 26-Aug-2021		Analyzed: 02-Sep-2021 17:44				
Aroclor 1254	5980	78.0	200	ug/kg	5930		101	41.3-158.7			
Surrogate: Decachlorobiphenyl	163			ug/kg	*200*		*81.7*	*40-126*			
Surrogate: Tetrachlorometaxylene	131			ug/kg	*200*		*65.6*	*44-120*			
Surrogate: Decachlorobiphenyl [2C]	148			ug/kg	*200*		*73.8*	*40-126*			
Surrogate: Tetrachlorometaxylene [2C]	133			ug/kg	*200*		*66.4*	*44-120*			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Metals and Metallic Compounds - Quality Control

Batch BJH0560 - SWN EPA 3050B

Instrument: ICPMS1 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0560-BLK2)					Prepared: 23-Aug-2021 Analyzed: 26-Aug-2021 18:25							
Lead	208	ND	0.05	0.10	mg/kg							U
Copper	63	ND	0.17	0.50	mg/kg							U
Copper	65	ND	0.35	0.50	mg/kg							U
Zinc	66	ND	2.9	6.0	mg/kg							U
Zinc	67	ND	0.9	6.0	mg/kg							U
LCS (BJH0560-BS2)					Prepared: 23-Aug-2021 Analyzed: 26-Aug-2021 18:28							
Lead	208	25.4	0.05	0.10	mg/kg	25.0		101	80-120			
Copper	63	25.8	0.17	0.50	mg/kg	25.0		103	80-120			
Copper	65	25.8	0.35	0.50	mg/kg	25.0		103	80-120			
Zinc	66	76.7	2.9	6.0	mg/kg	80.0		95.9	80-120			
Zinc	67	73.0	0.9	6.0	mg/kg	80.0		91.2	80-120			
Duplicate (BJH0560-DUP2)			**Source: 21H0219-01**		Prepared: 23-Aug-2021 Analyzed: 26-Aug-2021 18:35							
Copper	63	13.3	0.29	0.83	mg/kg		11.6			13.30	20	
Zinc	66	86.4	4.8	9.9	mg/kg		78.7			9.33	20	
Matrix Spike (BJH0560-MS2)			**Source: 21H0219-01**		Prepared: 23-Aug-2021 Analyzed: 26-Aug-2021 18:38							
Copper	63	46.6	0.29	0.83	mg/kg	41.7	11.6	83.8	75-125			
Zinc	66	183	4.9	10.0	mg/kg	134	78.7	77.8	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BJH0560-MSD2)			**Source: 21H0219-01**		Prepared: 23-Aug-2021 Analyzed: 26-Aug-2021 18:41							
Copper	63	52.8	0.29	0.83	mg/kg	41.7	11.6	98.6	75-125	12.50	20	
Zinc	66	202	4.9	10.0	mg/kg	134	78.7	92.2	75-125	10.00	20	

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0560-BLK1)					Prepared: 23-Aug-2021 Analyzed: 24-Aug-2021 20:45							
Chromium	52	ND	0.26	0.50	mg/kg							U
Chromium	53	ND	0.24	0.50	mg/kg							U
Lead	208	ND	0.05	0.10	mg/kg							U
Silver	107	ND	0.02	0.20	mg/kg							U

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Metals and Metallic Compounds - Quality Control

Batch BJH0560 - SWN EPA 3050B

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0560-BLK1)						Prepared: 23-Aug-2021 Analyzed: 24-Aug-2021 20:45						
Arsenic	75a	ND	0.04	0.20	mg/kg							U
Cadmium	111	ND	0.03	0.10	mg/kg							U
Cadmium	114	ND	0.04	0.10	mg/kg							U
Nickel	60	0.13	0.08	0.50	mg/kg							J
Nickel	62	ND	0.22	0.50	mg/kg							U
Selenium	78	0.24	0.18	0.50	mg/kg							J
LCS (BJH0560-BS1)						Prepared: 23-Aug-2021 Analyzed: 24-Aug-2021 20:50						
Chromium	52	25.1	0.26	0.50	mg/kg	25.0		100	80-120			
Chromium	53	24.2	0.24	0.50	mg/kg	25.0		96.6	80-120			
Lead	208	26.0	0.05	0.10	mg/kg	25.0		104	80-120			
Silver	107	25.1	0.02	0.20	mg/kg	25.0		100	80-120			
Arsenic	75a	24.5	0.04	0.20	mg/kg	25.0		97.9	80-120			
Cadmium	111	25.8	0.03	0.10	mg/kg	25.0		103	80-120			
Cadmium	114	26.2	0.04	0.10	mg/kg	25.0		105	80-120			
Nickel	60	25.9	0.08	0.50	mg/kg	25.0		103	80-120			
Nickel	62	26.3	0.22	0.50	mg/kg	25.0		105	80-120			
Selenium	78	74.1	0.18	0.50	mg/kg	80.0		92.6	80-120			
Duplicate (BJH0560-DUP1)			**Source: 21H0219-01**			Prepared: 23-Aug-2021 Analyzed: 24-Aug-2021 21:09						
Chromium	52	10.4	0.43	0.83	mg/kg		9.74			6.43	20	
Lead	208	8.06	0.09	0.17	mg/kg		7.56			6.46	20	
Silver	107	0.10	0.04	0.33	mg/kg		0.08			22.30	20	L, J
Arsenic	75a	3.03	0.06	0.33	mg/kg		2.73			10.30	20	
Cadmium	111	0.31	0.05	0.17	mg/kg		0.25			20.90	20	L
Nickel	60	12.4	0.13	0.83	mg/kg		11.2			10.90	20	
Selenium	78	1.42	0.30	0.83	mg/kg		1.25			12.20	20	
Matrix Spike (BJH0560-MS1)			**Source: 21H0219-01**			Prepared: 23-Aug-2021 Analyzed: 24-Aug-2021 21:14						
Chromium	52	46.5	0.43	0.83	mg/kg	41.7	9.74	87.9	75-125			
Lead	208	48.4	0.09	0.17	mg/kg	41.7	7.56	97.7	75-125			
Silver	107	37.8	0.04	0.33	mg/kg	41.7	0.08	90.3	75-125			
Arsenic	75a	38.4	0.06	0.33	mg/kg	41.7	2.73	85.5	75-125			
Cadmium	111	39.5	0.05	0.17	mg/kg	41.7	0.25	93.9	75-125			
Nickel	60	51.1	0.13	0.83	mg/kg	41.7	11.2	95.7	75-125			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Metals and Metallic Compounds - Quality Control

Batch BJH0560 - SWN EPA 3050B

Instrument: ICPMS2 Analyst: MCB

QC Sample/Analyte	Isotope	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Matrix Spike (BJH0560-MS1)			**Source: 21H0219-01**		Prepared: 23-Aug-2021 Analyzed: 24-Aug-2021 21:14							
Selenium	78	110	0.30	0.83	mg/kg	134	1.25	81.5	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BJH0560-MSD1)			**Source: 21H0219-01**		Prepared: 23-Aug-2021 Analyzed: 24-Aug-2021 21:19							
Chromium	52	51.6	0.43	0.83	mg/kg	41.7	9.74	100	75-125	10.60	20	
Lead	208	51.4	0.09	0.17	mg/kg	41.7	7.56	105	75-125	6.00	20	
Silver	107	40.6	0.04	0.33	mg/kg	41.7	0.08	97.1	75-125	7.26	20	
Arsenic	75a	42.3	0.06	0.33	mg/kg	41.7	2.73	94.8	75-125	9.61	20	
Cadmium	111	42.5	0.05	0.17	mg/kg	41.7	0.25	101	75-125	7.42	20	
Nickel	60	57.5	0.13	0.83	mg/kg	41.7	11.2	111	75-125	11.60	20	
Selenium	78	121	0.30	0.83	mg/kg	134	1.25	89.7	75-125	9.41	20	

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Reference (BJH0560-SRM1)					Prepared: 23-Aug-2021 Analyzed: 24-Aug-2021 21:24							
Chromium	53	133	0.24	0.50	mg/kg	147		90.3	0-200			
Lead	208	101	0.05	0.10	mg/kg	105		95.8	0-200			
Silver	107	29.7	0.02	0.20	mg/kg	32.0		92.9	0-200			
Arsenic	75a	92.3	0.04	0.20	mg/kg	97.6		94.6	0-200			
Cadmium	114	114	0.04	0.10	mg/kg	114		100	0-200			
Copper	63	94.4	0.17	0.50	mg/kg	97.7		96.7	0-200			
Nickel	60	120	0.08	0.50	mg/kg	119		101	0-200			
Selenium	78	89.8	0.18	0.50	mg/kg	93.1		96.5	0-200			
Zinc	66	208	2.9	6.0	mg/kg	212		97.9	0-200			

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Metals and Metallic Compounds - Quality Control

Batch BJH0803 - SMM EPA 7471B

Instrument: HYDRA Analyst: ML

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0803-BLK1)					Prepared: 31-Aug-2021 Analyzed: 03-Sep-2021 12:03						
Mercury	ND	0.00525	0.0250	mg/kg							U
LCS (BJH0803-BS1)					Prepared: 31-Aug-2021 Analyzed: 03-Sep-2021 12:06						
Mercury	0.508	0.00525	0.0250	mg/kg	0.500		102	80-120			
Duplicate (BJH0803-DUP1)		**Source: 21H0219-01**			Prepared: 31-Aug-2021 Analyzed: 03-Sep-2021 12:10						
Mercury	0.0832	0.00746	0.0355	mg/kg		0.0496			50.60	20	*, L
Matrix Spike (BJH0803-MS1)		**Source: 21H0219-01**			Prepared: 31-Aug-2021 Analyzed: 03-Sep-2021 12:13						
Mercury	0.467	0.00743	0.0354	mg/kg	0.354	0.0496	118	75-125			
Recovery limits for target analytes in MS/MSD QC samples are advisory only.											
Matrix Spike Dup (BJH0803-MSD1)		**Source: 21H0219-01**			Prepared: 31-Aug-2021 Analyzed: 03-Sep-2021 12:15						
Mercury	ND	0.00752	0.0358	mg/kg	0.358	0.0496	-13.8	75-125			*, U
Recovery limits for target analytes in MS/MSD QC samples are advisory only.											
Reference (BJH0803-SRM1)					Prepared: 31-Aug-2021 Analyzed: 03-Sep-2021 14:00						
Mercury	6.77	0.0512	0.244	mg/kg	5.99		113	74.1-126			D

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
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Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Wet Chemistry - Quality Control

Batch BJH0507 - No Prep Wet Chem

Instrument: BAL2 Analyst: DOE

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0507-BLK1)					Prepared: 19-Aug-2021 Analyzed: 19-Aug-2021 13:36						
Total Solids	ND	0.04	0.04	%							U
Duplicate (BJH0507-DUP2)		**Source: 21H0219-01**			Prepared: 19-Aug-2021 Analyzed: 19-Aug-2021 13:36						
Total Solids	56.43	0.04	0.04	%		57.91			2.60	20	

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
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Wet Chemistry - Quality Control

Batch BJH0513 - PSEP 1986 (modified)

Instrument: TOC Cube Analyst: BF

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Blank (BJH0513-BLK1)					Prepared: 19-Aug-2021	Analyzed: 27-Aug-2021 17:50					
Total Organic Carbon	ND	0.02	0.02	%							U
LCS (BJH0513-BS1)					Prepared: 19-Aug-2021	Analyzed: 27-Aug-2021 18:21					
Total Organic Carbon	44.7	0.02	0.02	%	44.4		101	80-120			
Duplicate (BJH0513-DUP4)		**Source: 21H0219-01**			Prepared: 19-Aug-2021	Analyzed: 03-Sep-2021 22:35					
Total Organic Carbon	0.81	0.02	0.02	%		0.98			18.10	20	
Matrix Spike (BJH0513-MS2)		**Source: 21H0219-01**			Prepared: 19-Aug-2021	Analyzed: 28-Aug-2021 11:04					
Total Organic Carbon	2.54	0.02	0.02	%	1.46	0.98	107	75-125			

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

Matrix Spike Dup (BJH0513-MSD2)		**Source: 21H0219-01**			Prepared: 19-Aug-2021	Analyzed: 28-Aug-2021 11:36					
Total Organic Carbon	2.33	0.02	0.02	%	1.45	0.98	93.2	75-125	8.94	20	

Recovery limits for target analytes in MS/MSD QC samples are advisory only.

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
Portland OR, 97208	Project Manager: Dominic Yballe	10-Sep-2021 09:25

Certified Analyses included in this Report

Analyte	Certifications
EPA 6020B in Solid	
Silver-107	NELAP,DoD-ELAP,WADOE
Chromium-52	NELAP,DoD-ELAP,WADOE,ADEC
Chromium-53	NELAP,DoD-ELAP,WADOE,ADEC
Lead-208	NELAP,DoD-ELAP,WADOE,ADEC
EPA 6020B UCT-KED in Solid	
Arsenic-75a	NELAP,DoD-ELAP,WADOE,ADEC
Cadmium-111	NELAP,DoD-ELAP,WADOE,ADEC
Cadmium-114	NELAP,DoD-ELAP,WADOE,ADEC
Copper-63	NELAP,DoD-ELAP,WADOE
Copper-65	NELAP,DoD-ELAP,WADOE
Nickel-60	NELAP,DoD-ELAP,WADOE,ADEC
Nickel-62	NELAP,DoD-ELAP,WADOE,ADEC
Selenium-78	NELAP,DoD-ELAP,WADOE
Zinc-66	NELAP,DoD-ELAP,WADOE
Zinc-67	NELAP,DoD-ELAP,WADOE
EPA 7471B in Solid	
Mercury	WADOE,NELAP,DoD-ELAP
EPA 8081B in Solid	
alpha-BHC	DoD-ELAP,NELAP,WADOE
alpha-BHC [2C]	DoD-ELAP,NELAP,WADOE
beta-BHC	DoD-ELAP,NELAP,WADOE
beta-BHC [2C]	DoD-ELAP,NELAP,WADOE
gamma-BHC (Lindane)	DoD-ELAP,NELAP,WADOE
gamma-BHC (Lindane) [2C]	DoD-ELAP,NELAP,WADOE
delta-BHC	DoD-ELAP,NELAP,WADOE
delta-BHC [2C]	DoD-ELAP,NELAP,WADOE
Heptachlor	DoD-ELAP,NELAP,WADOE
Heptachlor [2C]	DoD-ELAP,NELAP,WADOE
Aldrin	DoD-ELAP,NELAP,WADOE
Aldrin [2C]	DoD-ELAP,NELAP,WADOE
Heptachlor Epoxide	DoD-ELAP,NELAP,WADOE
Heptachlor Epoxide [2C]	DoD-ELAP,NELAP,WADOE
trans-Chlordane (beta-Chlordane)	DoD-ELAP,NELAP
trans-Chlordane (beta-Chlordane) [2C]	DoD-ELAP,NELAP

cis-Chlordane (alpha-chlordane)	DoD-ELAP,NELAP,WADOE
cis-Chlordane (alpha-chlordane) [2C]	DoD-ELAP,NELAP,WADOE
Endosulfan I	DoD-ELAP,NELAP,WADOE
Endosulfan I [2C]	DoD-ELAP,NELAP,WADOE
4,4'-DDE	DoD-ELAP,NELAP,WADOE
4,4'-DDE [2C]	DoD-ELAP,NELAP,WADOE
Dieldrin	DoD-ELAP,NELAP,WADOE
Dieldrin [2C]	DoD-ELAP,NELAP,WADOE
Endrin	DoD-ELAP,NELAP,WADOE
Endrin [2C]	DoD-ELAP,NELAP,WADOE
Endosulfan II	DoD-ELAP,NELAP,WADOE
Endosulfan II [2C]	DoD-ELAP,NELAP,WADOE
4,4'-DDD	DoD-ELAP,NELAP,WADOE
4,4'-DDD [2C]	DoD-ELAP,NELAP,WADOE
Endrin Aldehyde	DoD-ELAP,NELAP,WADOE
Endrin Aldehyde [2C]	DoD-ELAP,NELAP,WADOE
4,4'-DDT	DoD-ELAP,NELAP,WADOE
4,4'-DDT [2C]	DoD-ELAP,NELAP,WADOE
Endosulfan Sulfate	DoD-ELAP,NELAP,WADOE
Endosulfan Sulfate [2C]	DoD-ELAP,NELAP,WADOE
Endrin Ketone	DoD-ELAP,NELAP,WADOE
Endrin Ketone [2C]	DoD-ELAP,NELAP,WADOE
Methoxychlor	DoD-ELAP,NELAP,WADOE
Methoxychlor [2C]	DoD-ELAP,NELAP,WADOE
Hexachlorobutadiene	DoD-ELAP,NELAP,WADOE
Hexachlorobutadiene [2C]	DoD-ELAP,NELAP,WADOE
Hexachlorobenzene	DoD-ELAP,NELAP,WADOE
Hexachlorobenzene [2C]	DoD-ELAP,NELAP,WADOE
2,4'-DDE	DoD-ELAP,NELAP,WADOE
2,4'-DDE [2C]	DoD-ELAP,NELAP,WADOE
2,4'-DDD	DoD-ELAP,NELAP,WADOE
2,4'-DDD [2C]	DoD-ELAP,NELAP,WADOE
2,4'-DDT	DoD-ELAP,NELAP,WADOE
2,4'-DDT [2C]	DoD-ELAP,NELAP,WADOE
Oxychlordane	DoD-ELAP,NELAP,WADOE
Oxychlordane [2C]	DoD-ELAP,NELAP,WADOE
cis-Nonachlor	DoD-ELAP,NELAP,WADOE
cis-Nonachlor [2C]	DoD-ELAP,NELAP,WADOE
trans-Nonachlor	DoD-ELAP,NELAP,WADOE

trans-Nonachlor [2C]	DoD-ELAP,NELAP,WADOE
Mirex	DoD-ELAP,NELAP,WADOE
Mirex [2C]	DoD-ELAP,NELAP,WADOE
Hexachloroethane	NELAP,WADOE
Hexachloroethane [2C]	NELAP,WADOE
Toxaphene	DoD-ELAP,NELAP,WADOE
Toxaphene [2C]	DoD-ELAP,NELAP,WADOE
Chlordane, technical	DoD-ELAP,NELAP,WADOE
Chlordane, technical [2C]	DoD-ELAP,NELAP,WADOE
EPA 8082A in Solid	
Aroclor 1016	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1016 [2C]	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1221	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1221 [2C]	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1232	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1232 [2C]	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1242	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1242 [2C]	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1248	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1248 [2C]	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1254	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1254 [2C]	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1260	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1260 [2C]	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1262	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1262 [2C]	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1268	WADOE,DoD-ELAP,NELAP,ADEC
Aroclor 1268 [2C]	WADOE,DoD-ELAP,NELAP,ADEC
EPA 8270E in Solid	
Phenol	DoD-ELAP,NELAP,WADOE
bis(2-chloroethyl) ether	DoD-ELAP,NELAP,WADOE
2-Chlorophenol	DoD-ELAP,NELAP,WADOE
1,3-Dichlorobenzene	DoD-ELAP,NELAP,WADOE
1,4-Dichlorobenzene	DoD-ELAP,NELAP,WADOE
1,2-Dichlorobenzene	DoD-ELAP,NELAP,WADOE
Benzyl Alcohol	DoD-ELAP,NELAP,WADOE
2,2'-Oxybis(1-chloropropane)	DoD-ELAP,NELAP
2-Methylphenol	DoD-ELAP,NELAP,WADOE

Hexachloroethane	DoD-ELAP,NELAP,WADOE
N-Nitroso-di-n-Propylamine	DoD-ELAP,NELAP,WADOE
4-Methylphenol	DoD-ELAP,NELAP,WADOE
Nitrobenzene	DoD-ELAP,NELAP,WADOE
Isophorone	DoD-ELAP,NELAP,WADOE
2-Nitrophenol	DoD-ELAP,NELAP,WADOE
2,4-Dimethylphenol	DoD-ELAP,NELAP,WADOE
Bis(2-Chloroethoxy)methane	DoD-ELAP,NELAP,WADOE
2,4-Dichlorophenol	DoD-ELAP,NELAP,WADOE
1,2,4-Trichlorobenzene	DoD-ELAP,NELAP,WADOE
Naphthalene	DoD-ELAP,NELAP,WADOE,ADEC
Benzoic acid	DoD-ELAP,NELAP,WADOE
4-Chloroaniline	DoD-ELAP,NELAP,WADOE
Hexachlorobutadiene	DoD-ELAP,NELAP,WADOE
4-Chloro-3-Methylphenol	DoD-ELAP,NELAP,WADOE
2-Methylnaphthalene	DoD-ELAP,NELAP,WADOE,ADEC
Hexachlorocyclopentadiene	DoD-ELAP,NELAP,WADOE
2,4,6-Trichlorophenol	DoD-ELAP,NELAP,WADOE
2,4,5-Trichlorophenol	DoD-ELAP,NELAP,WADOE
2-Chloronaphthalene	DoD-ELAP,NELAP,WADOE
2-Nitroaniline	DoD-ELAP,NELAP,WADOE
Acenaphthylene	DoD-ELAP,NELAP,WADOE,ADEC
Dimethylphthalate	DoD-ELAP,NELAP,WADOE
2,6-Dinitrotoluene	DoD-ELAP,NELAP,WADOE
Acenaphthene	DoD-ELAP,NELAP,WADOE,ADEC
3-Nitroaniline	DoD-ELAP,NELAP,WADOE
2,4-Dinitrophenol	DoD-ELAP,NELAP,WADOE
Dibenzofuran	DoD-ELAP,NELAP,WADOE,ADEC
4-Nitrophenol	DoD-ELAP,NELAP,WADOE
2,4-Dinitrotoluene	DoD-ELAP,NELAP,WADOE
Fluorene	DoD-ELAP,NELAP,WADOE,ADEC
4-Chlorophenylphenyl ether	DoD-ELAP,NELAP
Diethyl phthalate	DoD-ELAP,NELAP,WADOE
4-Nitroaniline	DoD-ELAP,NELAP,WADOE
4,6-Dinitro-2-methylphenol	DoD-ELAP,NELAP,WADOE
N-Nitrosodiphenylamine	DoD-ELAP,NELAP,WADOE
4-Bromophenyl phenyl ether	DoD-ELAP,NELAP,WADOE
Hexachlorobenzene	DoD-ELAP,NELAP,WADOE
Pentachlorophenol	DoD-ELAP,NELAP,WADOE

Phenanthrene	DoD-ELAP,NELAP,WADOE,ADEC
Anthracene	DoD-ELAP,NELAP,WADOE,ADEC
Carbazole	DoD-ELAP,NELAP,WADOE,ADEC
Di-n-Butylphthalate	DoD-ELAP,NELAP,WADOE
Fluoranthene	DoD-ELAP,NELAP,WADOE,ADEC
Pyrene	DoD-ELAP,NELAP,WADOE,ADEC
Butylbenzylphthalate	DoD-ELAP,NELAP,WADOE
Benzo(a)anthracene	DoD-ELAP,NELAP,WADOE,ADEC
3,3'-Dichlorobenzidine	DoD-ELAP,NELAP,WADOE
Chrysene	DoD-ELAP,NELAP,WADOE,ADEC
bis(2-Ethylhexyl)phthalate	DoD-ELAP,NELAP,WADOE
Di-n-Octylphthalate	DoD-ELAP,NELAP,WADOE
Benzo(b)fluoranthene	DoD-ELAP,NELAP,WADOE,ADEC
Benzo(k)fluoranthene	DoD-ELAP,NELAP,WADOE,ADEC
Benzofluoranthenes, Total	WADOE,ADEC
Benzo(a)pyrene	DoD-ELAP,NELAP,WADOE,ADEC
Indeno(1,2,3-cd)pyrene	DoD-ELAP,NELAP,WADOE,ADEC
Dibenzo(a,h)anthracene	DoD-ELAP,NELAP,WADOE,ADEC
Benzo(g,h,i)perylene	DoD-ELAP,NELAP,WADOE,ADEC
N-Nitrosodimethylamine	DoD-ELAP,NELAP,WADOE
Aniline	DoD-ELAP,NELAP,WADOE
Retene	DoD-ELAP,NELAP,WADOE
Pyridine	DoD-ELAP,NELAP,WADOE
1-Methylnaphthalene	DoD-ELAP,NELAP,WADOE,ADEC
Azobenzene (1,2-DP-Hydrazine)	NELAP,WADOE
2,3,4,6-Tetrachlorophenol	DoD-ELAP,WADOE
Benzidine	DoD-ELAP,NELAP
Tetrachloroguaiacol	DoD-ELAP,WADOE
3,4,5-Trichloroguaiacol	WADOE
3,4,6-Trichloroguaiacol	WADOE
4,5,6-Trichloroguaiacol	WADOE
Guaiacol	WADOE

EPA 8270E-SIM in Solid

Tributyltin Ion	WADOE,DoD-ELAP
Dibutyltin Ion	WADOE,DoD-ELAP
Butyltin Ion	WADOE
Naphthalene	ADEC,DoD-ELAP,NELAP,WADOE
2-Methylnaphthalene	ADEC,DoD-ELAP,NELAP
1-Methylnaphthalene	ADEC,DoD-ELAP,NELAP,WADOE

US Army Corps of Engineers (Portland)	Project: Bonneville Nav Lock Sampling	
333 SW First Avenue P.O. BOX 2946	Project Number: Bonneville Nav Lock Sampling	**Reported:**
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Biphenyl	ADEC,DoD-ELAP,NELAP
2,6-Dimethylnaphthalene	ADEC,WADOE
Acenaphthylene	ADEC,DoD-ELAP,NELAP,WADOE
Acenaphthene	ADEC,DoD-ELAP,NELAP,WADOE
Dibenzofuran	ADEC,DoD-ELAP,NELAP
Fluorene	ADEC,DoD-ELAP,NELAP,WADOE
Phenanthrene	ADEC,DoD-ELAP,NELAP,WADOE
Anthracene	ADEC,DoD-ELAP,NELAP,WADOE
Carbazole	ADEC,DoD-ELAP,NELAP
1-Methylphenanthrene	ADEC
Fluoranthene	ADEC,DoD-ELAP,NELAP,WADOE
Pyrene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(a)anthracene	ADEC,DoD-ELAP,NELAP,WADOE
Chrysene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(b)fluoranthene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(k)fluoranthene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(j)fluoranthene	ADEC,DoD-ELAP,NELAP,WADOE
Benzo(e)pyrene	ADEC,NELAP
Benzo(a)pyrene	ADEC,DoD-ELAP,NELAP,WADOE
Perylene	ADEC,NELAP
Indeno(1,2,3-cd)pyrene	ADEC,DoD-ELAP,NELAP,WADOE
Dibenzo(a,h)anthracene	ADEC,DoD-ELAP
Benzo(g,h,i)perylene	ADEC,DoD-ELAP,NELAP,WADOE
EPA 9060A m in Solid	
Total Organic Carbon	WADOE

Code	Description	Number	Expires
ADEC	Alaska Dept of Environmental Conservation	17-015	03/28/2023
DoD-ELAP	DoD-Environmental Laboratory Accreditation Program	66169	02/28/2022
NELAP	ORELAP - Oregon Laboratory Accreditation Program	WA100006-012	05/12/2022
WADOE	WA Dept of Ecology	C558	06/30/2022
WA-DW	Ecology - Drinking Water	C558	06/30/2022

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Notes and Definitions

*	Flagged value is not within established control limits.
B	This analyte was detected in the method blank.
D	The reported value is from a dilution
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL)
J	Estimated concentration value detected below the reporting limit.
L	Analyte concentration is <=5 times the reporting limit and the replicate control limit defaults to +/- RL instead of 20% RPD
P1	The reported value is greater than 40% difference between the concentrations determined on two GC columns where applicable.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20% RSD, <20% drift or minimum RRF)
U	This analyte is not detected above the reporting limit (RL) or if noted, not detected above the limit of detection (LOD).
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference
[2C]	Indicates this result was quantified on the second column on a dual column analysis.