



16 April 2021

Delaney Peterson  
Anchor QEA, LLC  
1201 3rd Ave, Suite 2600  
Seattle, WA 98101

RE: Gasco Siltronic - US Moorings

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.

<u>Associated Work Order(s)</u>	<u>Associated SDG ID(s)</u>
21C0277	N/A

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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.*



**ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY**

**POC: #** Delaney Peterson (360-715-2707)  
 1605 Cornwall Avenue, Bellingham, WA 98225

**Project:** GascoSiltronic: US Moorings  
**Client:** NW Natural

**COC ID:** ARI-20210317-131045  
**Sample Custodian:** SN  
**Lab:** Analytical Resources Inc.

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
001	USMPDI-058RAB-00-10-210317	N	SO	03/17/2021	13:35	2	<input type="checkbox"/>	EPH (QAPP C-6) TBT PAH TPH Total solids (ARI)	EPH SW8270ESIM SW8270E NWTPHDx SM2540G	30 30 30 30 30	4°C 4°C 4°C  
002	USMPDI-058RAB-10-20-210317	N	SO	03/17/2021	14:25	2	<input type="checkbox"/>	EPH (QAPP C-6) TBT PAH TPH Total solids (ARI)	EPH SW8270ESIM SW8270E NWTPHDx SM2540G	30 30 30 30 30	4°C 4°C 4°C  
003	USMPDI-058RAB-20-26.2-210317	N	SO	03/17/2021	15:10	2	<input type="checkbox"/>	EPH (QAPP C-6) TBT PAH TPH Total solids (ARI)	EPH SW8270ESIM SW8270E NWTPHDx SM2540G	30 30 30 30 30	4°C 4°C 4°C  
004	USMPDI-059RAB-00-10-210318	N	SO	03/18/2021	8:40	2	<input type="checkbox"/>	EPH (QAPP C-6) TBT PAH	EPH SW8270ESIM SW8270E	30 30 30	4°C 4°C 4°C

Comment:					
Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature:	Signature:	Signature:	Signature:
Print Name: <i>Sasha Morwood</i>	Print Name: <i>Samantha Colon</i>	Print Name:	Print Name:	Print Name:	Print Name:
Company: <i>Anchor OEA</i>	Company: <i>ARI</i>	Company:	Company:	Company:	Company:
Date/Time: <i>3/18/21 2/435</i>	Date/Time: <i>3/19/21 1035</i>	Date/Time:	Date/Time:	Date/Time:	Date/Time:



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004	USMPDI-059RAB-00-10-210318	N	SO	03/18/2021	8:40	2	<input type="checkbox"/>	TPH	NWTPHDx	30	
								Total solids (ARI)	SM2540G	30	
005	USMPDI-059RAB-10-20-210318	N	SO	03/18/2021	9:35	2	<input type="checkbox"/>	EPH (QAPP C-6)	EPH	30	4°C
								TBT	SW8270ESIM	30	4°C
								PAH	SW8270E	30	4°C
								TPH	NWTPHDx	30	
								Total solids (ARI)	SM2540G	30	
006	USMPDI-059RAB-20-25.5-210318	N	SO	03/18/2021	10:30	2	<input type="checkbox"/>	EPH (QAPP C-6)	EPH	30	4°C
								TBT	SW8270ESIM	30	4°C
								PAH	SW8270E	30	4°C
								TPH	NWTPHDx	30	
								Total solids (ARI)	SM2540G	30	
007	USMPDI-060RAB-00-10-210317	N	SO	03/17/2021	9:50	2	<input type="checkbox"/>	EPH (QAPP C-6)	EPH	30	4°C
								TBT	SW8270ESIM	30	4°C
								PAH	SW8270E	30	4°C
								TPH	NWTPHDx	30	
								Total solids (ARI)	SM2540G	30	

Comment:					
Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature:	Signature:	Signature:	Signature:
Print Name: <i>[Name]</i>	Print Name: <i>[Name]</i>	Print Name:	Print Name:	Print Name:	Print Name:
Company: <i>[Company]</i>	Company: <i>[Company]</i>	Company:	Company:	Company:	Company:
Date/Time: <i>[Date/Time]</i>	Date/Time: <i>[Date/Time]</i>	Date/Time:	Date/Time:	Date/Time:	Date/Time:

Date Printed: 3/18/2021

\* Lab QC Requested for sample when box is checked \*\* TAT = Turn Around Time in DAYS # POC = Project Point of Contact



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**POC:** Delaney Peterson (360-715-2707)  
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COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected		Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
				Date	Time						
008	USMPDI-060RAB-10-20-210317	N	SO	03/17/2021	11:00	4	<input checked="" type="checkbox"/>	EPH (QAPP C-6) TBT PAH TPH Total solids (ARI)	EPH SW8270ESIM SW8270E NWTPHDx SM2540G	30 30 30 30 30	4°C 4°C 4°C   
009	USMPDI-060RAB-20-28.1-210317	N	SO	03/17/2021	11:40	2	<input type="checkbox"/>	EPH (QAPP C-6) TBT PAH TPH Total solids (ARI)	EPH SW8270ESIM SW8270E NWTPHDx SM2540G	30 30 30 30 30	4°C 4°C 4°C   
010	USMPDI-1060RAB-00-10-210317	FD	SO	03/17/2021		2	<input type="checkbox"/>	EPH (QAPP C-6) TBT PAH TPH Total solids (ARI)	EPH SW8270ESIM SW8270E NWTPHDx SM2540G	30 30 30 30 30	4°C 4°C 4°C   
011	USMPDI-067RAB-00-10-210316	N	SO	03/16/2021	10:05	2	<input type="checkbox"/>	EPH (QAPP C-6) TBT PAH	EPH SW8270ESIM SW8270E	30 30 30	4°C 4°C 4°C

**Comment:**

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>
Print Name: <i>[Name]</i>	Print Name: <i>[Name]</i>	Print Name: <i>[Name]</i>	Print Name: <i>[Name]</i>	Print Name: <i>[Name]</i>	Print Name: <i>[Name]</i>
Company: <i>[Company]</i>	Company: <i>[Company]</i>	Company: <i>[Company]</i>	Company: <i>[Company]</i>	Company: <i>[Company]</i>	Company: <i>[Company]</i>
Date/Time: <i>[Date/Time]</i>	Date/Time: <i>[Date/Time]</i>	Date/Time: <i>[Date/Time]</i>	Date/Time: <i>[Date/Time]</i>	Date/Time: <i>[Date/Time]</i>	Date/Time: <i>[Date/Time]</i>

Date Printed: 3/18/2021

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21C0277

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Client: NW Natural

COC ID: ARI-20210317-131045  
Sample Custodian: SN  
Lab: Analytical Resources Inc.

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
011	USMPDI-067RAB-00-10-210316	N	SO	03/16/2021	10:05	2	<input type="checkbox"/>	TPH	NWTPHDx	30	
								Total solids (ARI)	SM2540G	30	
012	USMPDI-067RAB-10-20-210316	N	SO	03/16/2021	11:15	2	<input type="checkbox"/>	EPH (QAPP C-6)	EPH	30	4°C
								TBT	SW8270ESIM	30	4°C
								PAH	SW8270E	30	4°C
								TPH	NWTPHDx	30	
								Total solids (ARI)	SM2540G	30	
013	USMPDI-067RAB-20-21.9-210316	N	SO	03/16/2021	11:45	2	<input type="checkbox"/>	EPH (QAPP C-6)	EPH	30	4°C
								TBT	SW8270ESIM	30	4°C
								PAH	SW8270E	30	4°C
								TPH	NWTPHDx	30	
								Total solids (ARI)	SM2540G	30	

Comment:					
Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature:	Signature:	Signature:	Signature:
Print Name: <i>Sasha Norwood</i>	Print Name: <i>Samantha Colan</i>	Print Name:	Print Name:	Print Name:	Print Name:
Company: <i>Anchor OEA</i>	Company: <i>ARI</i>	Company:	Company:	Company:	Company:
Date/Time: <i>3/18/21 @ 1435</i>	Date/Time: <i>3/19/21 1035</i>	Date/Time:	Date/Time:	Date/Time:	Date/Time:

Date Printed: 3/18/2021

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Anchor QEA, LLC  
1201 3rd Ave, Suite 2600  
Seattle WA, 98101

Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
USMPDI-058RAB-00-10-210317	21C0277-01	Solid	17-Mar-2021 13:35	19-Mar-2021 10:35
USMPDI-058RAB-10-20-210317	21C0277-02	Solid	17-Mar-2021 14:25	19-Mar-2021 10:35
USMPDI-058RAB-20-26.2-210317	21C0277-03	Solid	17-Mar-2021 15:10	19-Mar-2021 10:35
USMPDI-059RAB-00-10-210318	21C0277-04	Solid	18-Mar-2021 08:40	19-Mar-2021 10:35
USMPDI-059RAB-10-20-210318	21C0277-05	Solid	18-Mar-2021 09:35	19-Mar-2021 10:35
USMPDI-059RAB-20-25.5-210318	21C0277-06	Solid	18-Mar-2021 10:30	19-Mar-2021 10:35
USMPDI-060RAB-00-10-210317	21C0277-07	Solid	17-Mar-2021 09:50	19-Mar-2021 10:35
USMPDI-060RAB-10-20-210317	21C0277-08	Solid	17-Mar-2021 11:00	19-Mar-2021 10:35
USMPDI-060RAB-20-28.1-210317	21C0277-09	Solid	17-Mar-2021 11:40	19-Mar-2021 10:35
USMPDI-1060RAB-00-10-210317	21C0277-10	Solid	17-Mar-2021 00:00	19-Mar-2021 10:35
USMPDI-067RAB-00-10-210316	21C0277-11	Solid	16-Mar-2021 10:05	19-Mar-2021 10:35
USMPDI-067RAB-10-20-210316	21C0277-12	Solid	16-Mar-2021 11:15	19-Mar-2021 10:35
USMPDI-067RAB-20-21.9-210316	21C0277-13	Solid	16-Mar-2021 11:45	19-Mar-2021 10:35



Anchor QEA, LLC  
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Project Number: [none]  
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Reported:  
16-Apr-2021 12:53

## Work Order Case Narrative

**Client:** Anchor QEA, LLC  
**Project:** Gasco Siltronic - US Moorings  
**Work Order:** 21C0277

### Sample receipt

Samples as listed on the preceding page were received 19-Mar-2021 10:35 under ARI work order 21C0277. For details regarding sample receipt, please refer to the Cooler Receipt Form.

### 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 except as flagged which were out of control low.

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

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

Sample specific QC was performed in association with sample 21C0277-08 in batch BJC0714. The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and 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 except Dibenzo(a,h)anthracene which was out of control low in sample 21C0277-10RE which has been flagged. Additionally, multiple surrogates were not detected due to sample dilution which have be "D1" qualified.

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

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



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Reported:  
16-Apr-2021 12:53

Sample specific QC was performed in association with sample 21C0277-08 in batch BJC 0711. The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits.

#### **Extractable Organic Hydrocarbons - WA-Ecology**

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

Initial and continuing calibrations were within method requirements.

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.

Sample specific QC was performed in association with sample 21C0277-08 in batch BJC0716. The matrix spike/matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference (RPD) were within advisory control limits.

#### **Diesel/Heavy Oil Range Organics - WA-Ecology Method NW-TPHDx**

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

Initial and continuing calibrations were within method requirements.

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.

Sample specific QC was performed in association with sample 21C0277-08 in batch BJC0702. The matrix spike (MS) percent recoveries and the duplicate (DUP) relative percent difference (RPD) were within advisory control limits.

#### **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.

Sample specific QC was performed in association with sample 21C0277-08 in batch BJC0561. The duplicate (DUP) relative percent difference (RPD) were within advisory control limits.



# Cooler Receipt Form

ARI Client: Anchor

Project Name: Casco Siltronic: US Moorings

COC No(s): \_\_\_\_\_ (NA)

Delivered by: Fed-Ex UPS Courier Hand-Delivered Other: \_\_\_\_\_

Assigned ARI Job No: 21C0277

Tracking No: 7732 0433 2514 (NA)

**Preliminary Examination Phase:**

Were intact, properly signed and dated custody seals attached to the outside of the cooler?  YES  NO <sup>sc</sup>

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 1035 0.9

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: DOO 5206

Cooler Accepted by: Sc Date: 3/19/21 Time: 1035

**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: Cardboard

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: JS Date: 03/19/2021 Time: 1501 Labels checked by: JS

**\*\* 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: \_\_\_\_\_



Anchor QEA, LLC  
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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-058RAB-00-10-210317**  
**21C0277-01 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM		Sampled: 03/17/2021 13:35
Instrument: NT11 Analyst: VTS		Analyzed: 04/10/2021 12:07
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-01 A 02
	Preparation Batch: BJC0711	Sample Size: 11.09 g (wet)
	Prepared: 03/26/2021	Final Volume: 0.5 mL
		Dry Weight: 10.00 g
		% Solids: 90.19
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-01 A 02
	Cleanup Batch: CJD0066	
	Cleaned: 07-Apr-2021	
	Initial Volume: 0.5 mL	
	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.44	0.60	6.65	ug/kg	
2-Methylnaphthalene	91-57-6	1	0.13	0.50	1.55	ug/kg	
Acenaphthylene	208-96-8	1	0.06	0.50	1.79	ug/kg	
Acenaphthene	83-32-9	1	0.09	0.50	1.72	ug/kg	
Fluorene	86-73-7	1	0.07	0.50	1.27	ug/kg	
Phenanthrene	85-01-8	1	0.11	0.50	12.1	ug/kg	
Anthracene	120-12-7	1	0.07	0.50	5.32	ug/kg	
Fluoranthene	206-44-0	1	0.08	0.50	39.9	ug/kg	
Pyrene	129-00-0	1	0.09	0.50	45.1	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.07	0.50	24.6	ug/kg	
Chrysene	218-01-9	1	0.07	0.50	27.0	ug/kg	
Benzo(b)fluoranthene	205-99-2	1	0.07	0.50	23.5	ug/kg	
Benzo(k)fluoranthene	207-08-9	1	0.10	0.50	13.8	ug/kg	
Benzo(j)fluoranthene	205-82-3	1	0.10	0.50	13.8	ug/kg	
Benzo(a)pyrene	50-32-8	1	0.09	0.50	37.5	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.09	0.50	32.2	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	0.10	0.50	7.50	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	0.08	0.50	41.2	ug/kg	
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	56.9	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	82.0	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	71.9	%



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16-Apr-2021 12:53

**USMPDI-058RAB-00-10-210317**  
**21C0277-01 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM		Sampled: 03/17/2021 13:35
Instrument: NT8 Analyst: JZ		Analyzed: 04/09/2021 16:00
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0714 Prepared: 03/26/2021	Extract ID: 21C0277-01 A 03 Dry Weight: 5.04 g % Solids: 90.19
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0030 Cleaned: 05-Apr-2021	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 21C0277-01 A 03

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.446	3.83	ND	ug/kg	U
Surrogate: Tripentyltin				30-160 %	42.3	%	
Surrogate: Tripropyltin				30-160 %	27.0	%	*



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**USMPDI-058RAB-00-10-210317**  
**21C0277-01 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx Sampled: 03/17/2021 13:35  
Instrument: FID4 Analyst: CTO Analyzed: 03/31/2021 18:35  
Sample Preparation: Preparation Method: EPA 3546 (Microwave) Extract ID: 21C0277-01 A 01  
Preparation Batch: BJC0702 Dry Weight: 9.02 g  
Prepared: 03/26/2021 Final Volume: 1 mL % Solids: 90.19

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	5.54	5.68	mg/kg	
HC ID: DRO						
Surrogate: <i>o</i> -Terphenyl			50-150 %	108	%	



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**USMPDI-058RAB-00-10-210317**  
**21C0277-01 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH		Sampled: 03/17/2021 13:35
Instrument: FID8 Analyst: JGR		Analyzed: 04/08/2021 19:20
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0716 Prepared: 03/26/2021	Extract ID: 21C0277-01 A 04 Dry Weight: 9.02 g % Solids: 90.19
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0068 Cleaned: 07-Apr-2021	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 21C0277-01 A 04

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	2220	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	57.3	%	



Anchor QEA, LLC  
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Seattle WA, 98101

Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

**Reported:**  
16-Apr-2021 12:53

**USMPDI-058RAB-00-10-210317**  
**21C0277-01 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97 Sampled: 03/17/2021 13:35  
Instrument: BAL2 Analyst: KLE Analyzed: 03/21/2021 10:22

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 21C0277-01  
Preparation Batch: BJC0561 Dry Weight: 4.52 g  
Prepared: 03/21/2021 Final Volume: 5 g % Solids: 90.32

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	90.32	%	



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-058RAB-10-20-210317**  
**21C0277-02 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM		Sampled: 03/17/2021 14:25
Instrument: NT11 Analyst: VTS		Analyzed: 04/10/2021 12:39
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-02 A 02
	Preparation Batch: BJC0711	Dry Weight: 10.04 g
	Sample Size: 11.76 g (wet)	% Solids: 85.37
	Prepared: 03/26/2021	
	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-02 A 02
	Cleanup Batch: CJD0066	
	Initial Volume: 0.5 mL	
	Cleaned: 07-Apr-2021	
	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	10	4.37	5.98	140	ug/kg	D
2-Methylnaphthalene	91-57-6	10	1.27	4.98	73.7	ug/kg	D
Acenaphthylene	208-96-8	10	0.64	4.98	32.6	ug/kg	D
Acenaphthene	83-32-9	10	0.89	4.98	275	ug/kg	D
Fluorene	86-73-7	10	0.68	4.98	307	ug/kg	D
Phenanthrene	85-01-8	10	1.14	4.98	597	ug/kg	D, E
Anthracene	120-12-7	10	0.74	4.98	164	ug/kg	D
Fluoranthene	206-44-0	10	0.81	4.98	779	ug/kg	D, E
Pyrene	129-00-0	10	0.89	4.98	958	ug/kg	D, E
Benzo(a)anthracene	56-55-3	10	0.72	4.98	345	ug/kg	D
Chrysene	218-01-9	10	0.70	4.98	417	ug/kg	D
Benzo(b)fluoranthene	205-99-2	10	0.66	4.98	356	ug/kg	D
Benzo(k)fluoranthene	207-08-9	10	1.01	4.98	193	ug/kg	D
Benzo(j)fluoranthene	205-82-3	10	0.97	4.98	182	ug/kg	D
Benzo(a)pyrene	50-32-8	10	0.87	4.98	573	ug/kg	D, E
Indeno(1,2,3-cd)pyrene	193-39-5	10	0.88	4.98	484	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	10	1.05	4.98	91.0	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	10	0.85	4.98	643	ug/kg	D, E
<i>Surrogate: 2-Methylnaphthalene-d10</i>					<i>30-160 %</i>	<i>70.2 %</i>	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					<i>30-160 %</i>	<i>79.6 %</i>	
<i>Surrogate: Fluoranthene-d10</i>					<i>30-160 %</i>	<i>91.6 %</i>	



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**USMPDI-058RAB-10-20-210317**  
**21C0277-02 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM	Preparation Method: EPA 3546 (Microwave)	Sampled: 03/17/2021 14:25
Instrument: NT8 Analyst: JZ	Preparation Batch: BJC0714	Analyzed: 04/09/2021 16:17
Sample Preparation:	Sample Size: 5.86 g (wet)	Extract ID: 21C0277-02 A 03
	Final Volume: 0.5 mL	Dry Weight: 5.00 g
		% Solids: 85.37
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-02 A 03
	Cleanup Batch: CJD0030	
	Cleaned: 05-Apr-2021	
	Initial Volume: 0.5 mL	
	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.450	3.86	ND	ug/kg	U
Surrogate: Tripentyltin				30-160 %	44.5	%	
Surrogate: Tripropyltin				30-160 %	23.8	%	*



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**USMPDI-058RAB-10-20-210317**  
**21C0277-02 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx	Preparation Method: EPA 3546 (Microwave)	Sampled: 03/17/2021 14:25
Instrument: FID4 Analyst: CTO	Preparation Batch: BJC0702	Analyzed: 03/31/2021 18:56
Sample Preparation:	Sample Size: 10 g (wet)	Extract ID: 21C0277-02 A 01
	Final Volume: 1 mL	Dry Weight: 8.54 g
		% Solids: 85.37

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	5.86	104	mg/kg	
HC ID: DIESEL						
Surrogate: <i>o</i> -Terphenyl			50-150 %	117	%	



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**USMPDI-058RAB-10-20-210317**  
**21C0277-02 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH	Sampled: 03/17/2021 14:25
Instrument: FID8 Analyst: JGR	Analyzed: 04/08/2021 19:44
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)
	Preparation Batch: BJC0716
	Prepared: 03/26/2021
	Sample Size: 10 g (wet)
	Final Volume: 1 mL
	Extract ID: 21C0277-02 A 04
	Dry Weight: 8.54 g
	% Solids: 85.37
Sample Cleanup:	Cleanup Method: Silica Gel
	Cleanup Batch: CJD0068
	Cleaned: 07-Apr-2021
	Initial Volume: 1 mL
	Final Volume: 1 mL
	Extract ID: 21C0277-02 A 04

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	2340	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	52.1	%	



Anchor QEA, LLC 1201 3rd Ave, Suite 2600 Seattle WA, 98101	Project: Gasco Siltronic - US Moorings Project Number: [none] Project Manager: Delaney Peterson	Reported: 16-Apr-2021 12:53
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**USMPDI-058RAB-10-20-210317**  
**21C0277-02 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97	Preparation Method: No Prep Wet Chem	Sample Size: 5 g (wet)	Extract ID: 21C0277-02
Instrument: BAL2 Analyst: KLE	Preparation Batch: BJC0561	Final Volume: 5 g	Dry Weight: 4.30 g
Sample Preparation:	Prepared: 03/21/2021		% Solids: 85.95

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	85.95	%	



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-058RAB-10-20-210317**  
**21C0277-02RE1 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM	Sampled: 03/17/2021 14:25
Instrument: NT11 Analyst: VTS	Analyzed: 04/13/2021 15:32
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level
	Preparation Batch: BJC0711
	Sample Size: 11.76 g (wet)
	Prepared: 03/26/2021
	Final Volume: 0.5 mL
	Extract ID: 21C0277-02RE1 A 02
	Dry Weight: 10.04 g
	% Solids: 85.37
Sample Cleanup:	Cleanup Method: Silica Gel
	Cleanup Batch: CJD0066
	Initial Volume: 0.5 mL
	Cleaned: 07-Apr-2021
	Final Volume: 0.5 mL
	Extract ID: 21C0277-02RE1 A 02

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	50	21.9	29.9	163	ug/kg	D
2-Methylnaphthalene	91-57-6	50	6.37	24.9	78.8	ug/kg	D
Acenaphthylene	208-96-8	50	3.19	24.9	33.6	ug/kg	D
Acenaphthene	83-32-9	50	4.43	24.9	329	ug/kg	D
Fluorene	86-73-7	50	3.39	24.9	375	ug/kg	D
Phenanthrene	85-01-8	50	5.68	24.9	829	ug/kg	D
Anthracene	120-12-7	50	3.69	24.9	227	ug/kg	D
Fluoranthene	206-44-0	50	4.03	24.9	1240	ug/kg	D
Pyrene	129-00-0	50	4.43	24.9	1790	ug/kg	D
Benzo(a)anthracene	56-55-3	50	3.59	24.9	455	ug/kg	D
Chrysene	218-01-9	50	3.49	24.9	562	ug/kg	D
Benzo(b)fluoranthene	205-99-2	50	3.29	24.9	416	ug/kg	D
Benzo(k)fluoranthene	207-08-9	50	5.03	24.9	236	ug/kg	D
Benzo(j)fluoranthene	205-82-3	50	4.83	24.9	263	ug/kg	D
Benzo(a)pyrene	50-32-8	50	4.33	24.9	766	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	50	4.38	24.9	477	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	50	5.23	24.9	76.6	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	50	4.23	24.9	662	ug/kg	D
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	D1	D1
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	D1	D1
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	D1	D1



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-058RAB-20-26.2-210317**  
**21C0277-03 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM		Sampled: 03/17/2021 15:10
Instrument: NT11 Analyst: VTS		Analyzed: 04/10/2021 13:11
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-03 A 02
	Preparation Batch: BJC0711	Sample Size: 14.36 g (wet)
	Prepared: 03/26/2021	Final Volume: 0.5 mL
		Dry Weight: 10.01 g
		% Solids: 69.72
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-03 A 02
	Cleanup Batch: CJD0066	
	Cleaned: 07-Apr-2021	
	Initial Volume: 0.5 mL	
	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	10	4.38	5.99	521	ug/kg	D, E
2-Methylnaphthalene	91-57-6	10	1.28	4.99	126	ug/kg	D
Acenaphthylene	208-96-8	10	0.64	4.99	100	ug/kg	D
Acenaphthene	83-32-9	10	0.89	4.99	310	ug/kg	D
Fluorene	86-73-7	10	0.68	4.99	188	ug/kg	D
Phenanthrene	85-01-8	10	1.14	4.99	1090	ug/kg	D, E
Anthracene	120-12-7	10	0.74	4.99	340	ug/kg	D
Fluoranthene	206-44-0	10	0.81	4.99	1330	ug/kg	D, E
Pyrene	129-00-0	10	0.89	4.99	1480	ug/kg	D, E
Benzo(a)anthracene	56-55-3	10	0.72	4.99	707	ug/kg	D, E
Chrysene	218-01-9	10	0.70	4.99	817	ug/kg	D, E
Benzo(b)fluoranthene	205-99-2	10	0.66	4.99	738	ug/kg	D, E
Benzo(k)fluoranthene	207-08-9	10	1.01	4.99	420	ug/kg	D
Benzo(j)fluoranthene	205-82-3	10	0.97	4.99	385	ug/kg	D
Benzo(a)pyrene	50-32-8	10	0.87	4.99	1170	ug/kg	D, E
Indeno(1,2,3-cd)pyrene	193-39-5	10	0.88	4.99	1170	ug/kg	D, E
Dibenzo(a,h)anthracene	53-70-3	10	1.05	4.99	208	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	10	0.85	4.99	1490	ug/kg	D, E
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	70.3	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	76.5	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	89.7	%



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**USMPDI-058RAB-20-26.2-210317**  
**21C0277-03 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM	Sampled: 03/17/2021 15:10	
Instrument: NT8 Analyst: JZ	Analyzed: 04/09/2021 16:33	
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Extract ID: 21C0277-03 A 03
	Preparation Batch: BJC0714	Dry Weight: 5.03 g
	Sample Size: 7.22 g (wet)	% Solids: 69.72
	Prepared: 03/26/2021	Final Volume: 0.5 mL
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-03 A 03
	Cleanup Batch: CJD0030	Initial Volume: 0.5 mL
	Cleaned: 05-Apr-2021	Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.447	3.83	ND	ug/kg	U
Surrogate: Tripentyltin				30-160 %	50.0	%	
Surrogate: Tripropyltin				30-160 %	25.4	%	*



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**USMPDI-058RAB-20-26.2-210317**  
**21C0277-03 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx	Sampled: 03/17/2021 15:10
Instrument: FID4 Analyst: CTO	Analyzed: 03/31/2021 19:18
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)
	Preparation Batch: BJC0702
	Prepared: 03/26/2021
	Sample Size: 10 g (wet)
	Final Volume: 1 mL
	Extract ID: 21C0277-03 A 01
	Dry Weight: 6.97 g
	% Solids: 69.72

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)		DRO	7.17	165	mg/kg	
HC ID: DIESEL						
Surrogate: <i>o</i> -Terphenyl			50-150 %	116	%	



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-058RAB-20-26.2-210317**  
**21C0277-03 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH			Sampled: 03/17/2021 15:10
Instrument: FID8 Analyst: JGR			Analyzed: 04/08/2021 20:09
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Sample Size: 10 g (wet)	Extract ID: 21C0277-03 A 04
	Preparation Batch: BJC0716	Final Volume: 1 mL	Dry Weight: 6.97 g
	Prepared: 03/26/2021		% Solids: 69.72
Sample Cleanup:	Cleanup Method: Silica Gel	Initial Volume: 1 mL	Extract ID: 21C0277-03 A 04
	Cleanup Batch: CJD0068	Final Volume: 1 mL	
	Cleaned: 07-Apr-2021		

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	2870	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	54.9	%	



Anchor QEA, LLC  
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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

**Reported:**  
16-Apr-2021 12:53

**USMPDI-058RAB-20-26.2-210317**  
**21C0277-03 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97 Sampled: 03/17/2021 15:10  
Instrument: BAL2 Analyst: KLE Analyzed: 03/21/2021 10:22

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 21C0277-03  
Preparation Batch: BJC0561 Dry Weight: 3.50 g  
Prepared: 03/21/2021 Final Volume: 5 g % Solids: 70.01

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	70.01	%	



Anchor QEA, LLC  
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Seattle WA, 98101

Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-058RAB-20-26.2-210317**  
**21C0277-03RE1 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM	Sampled: 03/17/2021 15:10
Instrument: NT11 Analyst: VTS	Analyzed: 04/13/2021 16:04
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level
	Preparation Batch: BJC0711
	Sample Size: 14.36 g (wet)
	Prepared: 03/26/2021
	Final Volume: 0.5 mL
	Extract ID: 21C0277-03RE1 A 02
	Dry Weight: 10.01 g
	% Solids: 69.72
Sample Cleanup:	Cleanup Method: Silica Gel
	Cleanup Batch: CJD0066
	Initial Volume: 0.5 mL
	Cleaned: 07-Apr-2021
	Final Volume: 0.5 mL
	Extract ID: 21C0277-03RE1 A 02

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	100	43.8	59.9	697	ug/kg	D
2-Methylnaphthalene	91-57-6	100	12.8	49.9	140	ug/kg	D
Acenaphthylene	208-96-8	100	6.39	49.9	121	ug/kg	D
Acenaphthene	83-32-9	100	8.89	49.9	389	ug/kg	D
Fluorene	86-73-7	100	6.79	49.9	226	ug/kg	D
Phenanthrene	85-01-8	100	11.4	49.9	2620	ug/kg	D
Anthracene	120-12-7	100	7.39	49.9	508	ug/kg	D
Fluoranthene	206-44-0	100	8.09	49.9	3810	ug/kg	D
Pyrene	129-00-0	100	8.89	49.9	4880	ug/kg	D
Benzo(a)anthracene	56-55-3	100	7.19	49.9	1180	ug/kg	D
Chrysene	218-01-9	100	6.99	49.9	1470	ug/kg	D
Benzo(b)fluoranthene	205-99-2	100	6.59	49.9	1110	ug/kg	D
Benzo(k)fluoranthene	207-08-9	100	10.1	49.9	646	ug/kg	D
Benzo(j)fluoranthene	205-82-3	100	9.69	49.9	720	ug/kg	D
Benzo(a)pyrene	50-32-8	100	8.69	49.9	2300	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	100	8.79	49.9	1400	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	100	10.5	49.9	182	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	100	8.49	49.9	2020	ug/kg	D
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	D1	D1
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	D1	D1
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	D1	D1



Anchor QEA, LLC  
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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-059RAB-00-10-210318**  
**21C0277-04 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM		Sampled: 03/18/2021 08:40
Instrument: NT11 Analyst: VTS		Analyzed: 04/10/2021 13:43
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-04 A 02
	Preparation Batch: BJC0711	Sample Size: 11.41 g (wet)
	Prepared: 03/26/2021	Final Volume: 0.5 mL
		Dry Weight: 10.01 g
		% Solids: 87.73
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-04 A 02
	Cleanup Batch: CJD0066	
	Cleaned: 07-Apr-2021	
	Initial Volume: 0.5 mL	
	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	10	4.39	5.99	15.6	ug/kg	D
2-Methylnaphthalene	91-57-6	10	1.28	5.00	4.28	ug/kg	J, D
Acenaphthylene	208-96-8	10	0.64	5.00	6.52	ug/kg	D
Acenaphthene	83-32-9	10	0.89	5.00	28.2	ug/kg	D
Fluorene	86-73-7	10	0.68	5.00	21.1	ug/kg	D
Phenanthrene	85-01-8	10	1.14	5.00	65.6	ug/kg	D
Anthracene	120-12-7	10	0.74	5.00	17.8	ug/kg	D
Fluoranthene	206-44-0	10	0.81	5.00	184	ug/kg	D
Pyrene	129-00-0	10	0.89	5.00	230	ug/kg	D
Benzo(a)anthracene	56-55-3	10	0.72	5.00	85.9	ug/kg	D
Chrysene	218-01-9	10	0.70	5.00	111	ug/kg	D
Benzo(b)fluoranthene	205-99-2	10	0.66	5.00	125	ug/kg	D
Benzo(k)fluoranthene	207-08-9	10	1.01	5.00	57.3	ug/kg	D
Benzo(j)fluoranthene	205-82-3	10	0.97	5.00	54.0	ug/kg	D
Benzo(a)pyrene	50-32-8	10	0.87	5.00	178	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	10	0.88	5.00	178	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	10	1.05	5.00	29.6	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	10	0.85	5.00	235	ug/kg	D
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	61.8	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	81.7	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	79.3	%



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-059RAB-00-10-210318**  
**21C0277-04 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM		Sampled: 03/18/2021 08:40
Instrument: NT8 Analyst: JZ		Analyzed: 04/09/2021 16:50
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0714 Prepared: 03/26/2021	Extract ID: 21C0277-04 A 03 Dry Weight: 5.04 g % Solids: 87.73
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0030 Cleaned: 05-Apr-2021	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 21C0277-04 A 03

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.447	3.83	1.81	ug/kg	J
Surrogate: Tripentyltin				30-160 %	42.3	%	
Surrogate: Tripropyltin				30-160 %	22.2	%	*



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Project Manager: Delaney Peterson

**Reported:**  
16-Apr-2021 12:53

**USMPDI-059RAB-00-10-210318**  
**21C0277-04 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx Sampled: 03/18/2021 08:40  
Instrument: FID4 Analyst: CTO Analyzed: 03/31/2021 19:39  
Sample Preparation: Preparation Method: EPA 3546 (Microwave) Extract ID: 21C0277-04 A 01  
Preparation Batch: BJC0702 Sample Size: 10 g (wet)  
Prepared: 03/26/2021 Final Volume: 1 mL Dry Weight: 8.77 g  
% Solids: 87.73

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	5.70	52.2	mg/kg	
HC ID: DIESEL						
Surrogate: <i>o</i> -Terphenyl			50-150 %	109	%	



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Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-059RAB-00-10-210318**  
**21C0277-04 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH		Sampled: 03/18/2021 08:40
Instrument: FID8 Analyst: JGR		Analyzed: 04/08/2021 20:34
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0716 Prepared: 03/26/2021	Extract ID: 21C0277-04 A 04 Dry Weight: 8.77 g % Solids: 87.73
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0068 Cleaned: 07-Apr-2021	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 21C0277-04 A 04

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	2280	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	65.0	%	



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Project Number: [none]  
Project Manager: Delaney Peterson

**Reported:**  
16-Apr-2021 12:53

**USMPDI-059RAB-00-10-210318**  
**21C0277-04 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97 Sampled: 03/18/2021 08:40  
Instrument: BAL2 Analyst: KLE Analyzed: 03/21/2021 10:22

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 21C0277-04  
Preparation Batch: BJC0561 Dry Weight: 4.43 g  
Prepared: 03/21/2021 Final Volume: 5 g % Solids: 88.59

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	88.59	%	



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Project Number: [none]  
Project Manager: Delaney Peterson

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**USMPDI-059RAB-10-20-210318**  
**21C0277-05 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM		Sampled: 03/18/2021 09:35
Instrument: NT11 Analyst: VTS		Analyzed: 04/10/2021 14:15
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-05 A 02
	Preparation Batch: BJC0711	Dry Weight: 10.02 g
	Sample Size: 12.35 g (wet)	% Solids: 81.15
	Prepared: 03/26/2021	Final Volume: 0.5 mL
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-05 A 02
	Cleanup Batch: CJD0066	Initial Volume: 0.5 mL
	Cleaned: 07-Apr-2021	Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	10	4.38	5.99	43.8	ug/kg	D
2-Methylnaphthalene	91-57-6	10	1.28	4.99	8.72	ug/kg	D
Acenaphthylene	208-96-8	10	0.64	4.99	15.1	ug/kg	D
Acenaphthene	83-32-9	10	0.89	4.99	12.5	ug/kg	D
Fluorene	86-73-7	10	0.68	4.99	12.2	ug/kg	D
Phenanthrene	85-01-8	10	1.14	4.99	149	ug/kg	D
Anthracene	120-12-7	10	0.74	4.99	42.8	ug/kg	D
Fluoranthene	206-44-0	10	0.81	4.99	418	ug/kg	D
Pyrene	129-00-0	10	0.89	4.99	541	ug/kg	D, E
Benzo(a)anthracene	56-55-3	10	0.72	4.99	189	ug/kg	D
Chrysene	218-01-9	10	0.70	4.99	252	ug/kg	D
Benzo(b)fluoranthene	205-99-2	10	0.66	4.99	293	ug/kg	D
Benzo(k)fluoranthene	207-08-9	10	1.01	4.99	134	ug/kg	D
Benzo(j)fluoranthene	205-82-3	10	0.97	4.99	126	ug/kg	D
Benzo(a)pyrene	50-32-8	10	0.87	4.99	444	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	10	0.88	4.99	484	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	10	1.05	4.99	71.6	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	10	0.85	4.99	641	ug/kg	D, E
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	53.7	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	76.7	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	79.9	%



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Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-059RAB-10-20-210318**  
**21C0277-05 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM		Sampled: 03/18/2021 09:35
Instrument: NT8 Analyst: JZ		Analyzed: 04/15/2021 13:20
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Extract ID: 21C0277-05 A 03
	Preparation Batch: BJC0714	Dry Weight: 5.00 g
	Sample Size: 6.16 g (wet)	% Solids: 81.15
	Prepared: 03/26/2021	Final Volume: 0.5 mL
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-05 A 03
	Cleanup Batch: CJD0030	Initial Volume: 0.5 mL
	Cleaned: 05-Apr-2021	Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.450	3.86	ND	ug/kg	U
Surrogate: Tripentyltin				30-160 %	26.2	%	*
Surrogate: Tripropyltin				30-160 %	14.8	%	*



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**USMPDI-059RAB-10-20-210318**  
**21C0277-05 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx	Instrument: FID4 Analyst: CTO	Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Preparation Batch: BJC0702	Prepared: 03/26/2021	Sample Size: 10 g (wet)	Final Volume: 1 mL	Extract ID: 21C0277-05 A 01	Dry Weight: 8.12 g	% Solids: 81.15
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Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)		DRO	6.16	38.0	mg/kg	
HC ID: DRO						
Surrogate: <i>o</i> -Terphenyl			50-150 %	102	%	



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

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**USMPDI-059RAB-10-20-210318**  
**21C0277-05 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH		Sampled: 03/18/2021 09:35
Instrument: FID8 Analyst: JGR		Analyzed: 04/08/2021 20:59
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0716 Prepared: 03/26/2021	Extract ID: 21C0277-05 A 04 Dry Weight: 8.12 g % Solids: 81.15
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0068 Cleaned: 07-Apr-2021	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 21C0277-05 A 04

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	2460	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	62.3	%	



Anchor QEA, LLC 1201 3rd Ave, Suite 2600 Seattle WA, 98101	Project: Gasco Siltronic - US Moorings Project Number: [none] Project Manager: Delaney Peterson	Reported: 16-Apr-2021 12:53
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**USMPDI-059RAB-10-20-210318**  
**21C0277-05 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97	Instrument: BAL2 Analyst: KLE	Sampled: 03/18/2021 09:35	Analyzed: 03/21/2021 10:22
Sample Preparation:	Preparation Method: No Prep Wet Chem Preparation Batch: BJC0561 Prepared: 03/21/2021	Sample Size: 5 g (wet) Final Volume: 5 g	Extract ID: 21C0277-05 Dry Weight: 4.05 g % Solids: 80.98

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	80.98	%	



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Project Number: [none]  
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**USMPDI-059RAB-10-20-210318**  
**21C0277-05RE1 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM Sampled: 03/18/2021 09:35  
Instrument: NT11 Analyst: VTS Analyzed: 04/13/2021 16:37

Sample Preparation: Preparation Method: EPA 3546 (Microwave) Low Level Extract ID: 21C0277-05RE1 A 02  
Preparation Batch: BJC0711 Sample Size: 12.35 g (wet)  
Prepared: 03/26/2021 Final Volume: 0.5 mL Dry Weight: 10.02 g  
% Solids: 81.15

Sample Cleanup: Cleanup Method: Silica Gel Extract ID: 21C0277-05RE1 A 02  
Cleanup Batch: CJD0066 Initial Volume: 0.5 mL  
Cleaned: 07-Apr-2021 Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	20	8.76	12.0	44.9	ug/kg	D
2-Methylnaphthalene	91-57-6	20	2.55	9.98	8.54	ug/kg	J, D
Acenaphthylene	208-96-8	20	1.28	9.98	15.7	ug/kg	D
Acenaphthene	83-32-9	20	1.78	9.98	12.5	ug/kg	D
Fluorene	86-73-7	20	1.36	9.98	12.9	ug/kg	D
Phenanthrene	85-01-8	20	2.27	9.98	158	ug/kg	D
Anthracene	120-12-7	20	1.48	9.98	51.3	ug/kg	D
Fluoranthene	206-44-0	20	1.62	9.98	485	ug/kg	D
Pyrene	129-00-0	20	1.78	9.98	652	ug/kg	D
Benzo(a)anthracene	56-55-3	20	1.44	9.98	207	ug/kg	D
Chrysene	218-01-9	20	1.40	9.98	287	ug/kg	D
Benzo(b)fluoranthene	205-99-2	20	1.32	9.98	284	ug/kg	D
Benzo(k)fluoranthene	207-08-9	20	2.02	9.98	157	ug/kg	D
Benzo(j)fluoranthene	205-82-3	20	1.94	9.98	172	ug/kg	D
Benzo(a)pyrene	50-32-8	20	1.74	9.98	525	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	20	1.76	9.98	451	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	20	2.10	9.98	56.9	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	20	1.70	9.98	653	ug/kg	D
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	52.9	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	34.3	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	84.3	%



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**USMPDI-059RAB-20-25.5-210318**  
**21C0277-06 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM	Sampled: 03/18/2021 10:30
Instrument: NT11 Analyst: VTS	Analyzed: 04/10/2021 14:48
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level
	Preparation Batch: BJC0711
	Sample Size: 12.3 g (wet)
	Prepared: 03/26/2021
	Final Volume: 0.5 mL
	Extract ID: 21C0277-06 A 02
	Dry Weight: 10.03 g
	% Solids: 81.51
Sample Cleanup:	Cleanup Method: Silica Gel
	Cleanup Batch: CJD0066
	Initial Volume: 0.5 mL
	Cleaned: 07-Apr-2021
	Final Volume: 0.5 mL
	Extract ID: 21C0277-06 A 02

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	10	4.38	5.98	49.3	ug/kg	D
2-Methylnaphthalene	91-57-6	10	1.28	4.99	11.3	ug/kg	D
Acenaphthylene	208-96-8	10	0.64	4.99	15.9	ug/kg	D
Acenaphthene	83-32-9	10	0.89	4.99	19.6	ug/kg	D
Fluorene	86-73-7	10	0.68	4.99	21.7	ug/kg	D
Phenanthrene	85-01-8	10	1.14	4.99	204	ug/kg	D
Anthracene	120-12-7	10	0.74	4.99	57.0	ug/kg	D
Fluoranthene	206-44-0	10	0.81	4.99	461	ug/kg	D
Pyrene	129-00-0	10	0.89	4.99	575	ug/kg	D, E
Benzo(a)anthracene	56-55-3	10	0.72	4.99	201	ug/kg	D
Chrysene	218-01-9	10	0.70	4.99	259	ug/kg	D
Benzo(b)fluoranthene	205-99-2	10	0.66	4.99	275	ug/kg	D
Benzo(k)fluoranthene	207-08-9	10	1.01	4.99	129	ug/kg	D
Benzo(j)fluoranthene	205-82-3	10	0.97	4.99	119	ug/kg	D
Benzo(a)pyrene	50-32-8	10	0.87	4.99	419	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	10	0.88	4.99	438	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	10	1.05	4.99	69.5	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	10	0.85	4.99	577	ug/kg	D, E
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	75.1	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	80.9	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	82.3	%



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Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-059RAB-20-25.5-210318**  
**21C0277-06 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM		Sampled: 03/18/2021 10:30
Instrument: NT8 Analyst: JZ		Analyzed: 04/09/2021 17:23
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0714 Prepared: 03/26/2021	Extract ID: 21C0277-06 A 03 Dry Weight: 5.08 g % Solids: 81.51
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0030 Cleaned: 05-Apr-2021	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 21C0277-06 A 03

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.443	3.80	ND	ug/kg	U
Surrogate: Tripentyltin				30-160 %	46.6	%	
Surrogate: Tripropyltin				30-160 %	23.5	%	*



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**USMPDI-059RAB-20-25.5-210318**  
**21C0277-06 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx  
Instrument: FID4 Analyst: CTO  
Sample Preparation: Preparation Method: EPA 3546 (Microwave)  
Preparation Batch: BJC0702 Sample Size: 10 g (wet)  
Prepared: 03/26/2021 Final Volume: 1 mL  
Extract ID: 21C0277-06 A 01  
Dry Weight: 8.15 g  
% Solids: 81.51

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.13	55.2	mg/kg	
HC ID: DIESEL						
Surrogate: <i>o</i> -Terphenyl			50-150 %	97.9	%	



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Project Manager: Delaney Peterson

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**USMPDI-059RAB-20-25.5-210318**  
**21C0277-06 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH		Sampled: 03/18/2021 10:30
Instrument: FID8 Analyst: JGR		Analyzed: 04/08/2021 21:24
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0716 Prepared: 03/26/2021	Extract ID: 21C0277-06 A 04 Dry Weight: 8.15 g % Solids: 81.51
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0068 Cleaned: 07-Apr-2021	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 21C0277-06 A 04

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	2450	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	61.6	%	



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**USMPDI-059RAB-20-25.5-210318**  
**21C0277-06 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97			Sampled: 03/18/2021 10:30
Instrument: BAL2 Analyst: KLE			Analyzed: 03/21/2021 10:22
Sample Preparation:	Preparation Method: No Prep Wet Chem	Sample Size: 5 g (wet)	Extract ID: 21C0277-06
	Preparation Batch: BJC0561	Final Volume: 5 g	Dry Weight: 4.06 g
	Prepared: 03/21/2021		% Solids: 81.11

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	81.11	%	



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-059RAB-20-25.5-210318**  
**21C0277-06RE1 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM	Sampled: 03/18/2021 10:30
Instrument: NT11 Analyst: VTS	Analyzed: 04/13/2021 17:09
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level
	Preparation Batch: BJC0711
	Sample Size: 12.3 g (wet)
	Prepared: 03/26/2021
	Final Volume: 0.5 mL
	Extract ID: 21C0277-06RE1 A 02
	Dry Weight: 10.03 g
	% Solids: 81.51
Sample Cleanup:	Cleanup Method: Silica Gel
	Cleanup Batch: CJD0066
	Initial Volume: 0.5 mL
	Cleaned: 07-Apr-2021
	Final Volume: 0.5 mL
	Extract ID: 21C0277-06RE1 A 02

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	20	8.76	12.0	51.8	ug/kg	D
2-Methylnaphthalene	91-57-6	20	2.55	9.97	11.4	ug/kg	D
Acenaphthylene	208-96-8	20	1.28	9.97	17.0	ug/kg	D
Acenaphthene	83-32-9	20	1.78	9.97	18.4	ug/kg	D
Fluorene	86-73-7	20	1.36	9.97	23.4	ug/kg	D
Phenanthrene	85-01-8	20	2.27	9.97	225	ug/kg	D
Anthracene	120-12-7	20	1.48	9.97	56.2	ug/kg	D
Fluoranthene	206-44-0	20	1.62	9.97	550	ug/kg	D
Pyrene	129-00-0	20	1.78	9.97	716	ug/kg	D
Benzo(a)anthracene	56-55-3	20	1.44	9.97	224	ug/kg	D
Chrysene	218-01-9	20	1.40	9.97	299	ug/kg	D
Benzo(b)fluoranthene	205-99-2	20	1.32	9.97	269	ug/kg	D
Benzo(k)fluoranthene	207-08-9	20	2.01	9.97	152	ug/kg	D
Benzo(j)fluoranthene	205-82-3	20	1.94	9.97	164	ug/kg	D
Benzo(a)pyrene	50-32-8	20	1.74	9.97	493	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	20	1.76	9.97	408	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	20	2.09	9.97	55.1	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	20	1.70	9.97	569	ug/kg	D
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	52.9	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	34.3	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	83.9	%



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-060RAB-00-10-210317**  
**21C0277-07 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM		Sampled: 03/17/2021 09:50
Instrument: NT11 Analyst: VTS		Analyzed: 04/10/2021 15:20
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-07 A 02
	Preparation Batch: BJC0711	Sample Size: 11.46 g (wet)
	Prepared: 03/26/2021	Final Volume: 0.5 mL
		Dry Weight: 10.05 g
		% Solids: 87.70
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-07 A 02
	Cleanup Batch: CJD0066	
	Cleaned: 07-Apr-2021	
	Initial Volume: 0.5 mL	
	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	10	4.37	5.97	8.09	ug/kg	D
2-Methylnaphthalene	91-57-6	10	1.27	4.97	3.74	ug/kg	J, D
Acenaphthylene	208-96-8	10	0.64	4.97	6.04	ug/kg	D
Acenaphthene	83-32-9	10	0.89	4.97	7.38	ug/kg	D
Fluorene	86-73-7	10	0.68	4.97	6.00	ug/kg	D
Phenanthrene	85-01-8	10	1.13	4.97	41.2	ug/kg	D
Anthracene	120-12-7	10	0.74	4.97	10.7	ug/kg	D
Fluoranthene	206-44-0	10	0.81	4.97	138	ug/kg	D
Pyrene	129-00-0	10	0.89	4.97	184	ug/kg	D
Benzo(a)anthracene	56-55-3	10	0.72	4.97	64.5	ug/kg	D
Chrysene	218-01-9	10	0.70	4.97	82.9	ug/kg	D
Benzo(b)fluoranthene	205-99-2	10	0.66	4.97	85.3	ug/kg	D
Benzo(k)fluoranthene	207-08-9	10	1.00	4.97	40.8	ug/kg	D
Benzo(j)fluoranthene	205-82-3	10	0.97	4.97	39.9	ug/kg	D
Benzo(a)pyrene	50-32-8	10	0.87	4.97	132	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	10	0.88	4.97	118	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	10	1.04	4.97	19.5	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	10	0.85	4.97	163	ug/kg	D
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	60.2	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	82.1	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	78.9	%



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Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-060RAB-00-10-210317**  
**21C0277-07 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM		Sampled: 03/17/2021 09:50
Instrument: NT8 Analyst: JZ		Analyzed: 04/09/2021 17:39
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0714 Prepared: 03/26/2021	Extract ID: 21C0277-07 A 03 Dry Weight: 5.00 g % Solids: 87.70
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0030 Cleaned: 05-Apr-2021	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 21C0277-07 A 03

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.450	3.86	5.97	ug/kg	
Surrogate: Tripentyltin				30-160 %	38.4	%	
Surrogate: Tripropyltin				30-160 %	21.0	%	*



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**Reported:**  
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**USMPDI-060RAB-00-10-210317**  
**21C0277-07 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx Sampled: 03/17/2021 09:50  
Instrument: FID4 Analyst: CTO Analyzed: 03/31/2021 20:42  
Sample Preparation: Preparation Method: EPA 3546 (Microwave) Extract ID: 21C0277-07 A 01  
Preparation Batch: BJC0702 Sample Size: 10 g (wet)  
Prepared: 03/26/2021 Final Volume: 1 mL Dry Weight: 8.77 g  
% Solids: 87.70

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	5.70	7.95	mg/kg	
HC ID: DRO						
Surrogate: <i>o</i> -Terphenyl			50-150 %	107	%	



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**USMPDI-060RAB-00-10-210317**  
**21C0277-07 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH			Sampled: 03/17/2021 09:50
Instrument: FID8 Analyst: JGR			Analyzed: 04/08/2021 21:49
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Sample Size: 10 g (wet)	Extract ID: 21C0277-07 A 04
	Preparation Batch: BJC0716	Final Volume: 1 mL	Dry Weight: 8.77 g
	Prepared: 03/26/2021		% Solids: 87.70
Sample Cleanup:	Cleanup Method: Silica Gel	Initial Volume: 1 mL	Extract ID: 21C0277-07 A 04
	Cleanup Batch: CJD0068	Final Volume: 1 mL	
	Cleaned: 07-Apr-2021		

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	2280	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	68.7	%	



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**USMPDI-060RAB-00-10-210317**  
**21C0277-07 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97	Preparation Method: No Prep Wet Chem	Sample Size: 5 g (wet)	Sampled: 03/17/2021 09:50
Instrument: BAL2 Analyst: KLE	Preparation Batch: BJC0561	Final Volume: 5 g	Analyzed: 03/21/2021 10:22
Sample Preparation:	Prepared: 03/21/2021		Extract ID: 21C0277-07 Dry Weight: 4.42 g % Solids: 88.49

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	88.49	%	



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**USMPDI-060RAB-10-20-210317**  
**21C0277-08 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM		Sampled: 03/17/2021 11:00
Instrument: NT11 Analyst: VTS		Analyzed: 04/10/2021 15:52
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-08 A 02
	Preparation Batch: BJC0711	Dry Weight: 10.00 g
	Sample Size: 12 g (wet)	% Solids: 83.32
	Prepared: 03/26/2021	Final Volume: 0.5 mL
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-08 A 02
	Cleanup Batch: CJD0066	Initial Volume: 0.5 mL
	Cleaned: 07-Apr-2021	Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	10	4.39	6.00	31.6	ug/kg	D
2-Methylnaphthalene	91-57-6	10	1.28	5.00	6.86	ug/kg	D
Acenaphthylene	208-96-8	10	0.64	5.00	12.0	ug/kg	D
Acenaphthene	83-32-9	10	0.89	5.00	18.8	ug/kg	D
Fluorene	86-73-7	10	0.68	5.00	18.0	ug/kg	D
Phenanthrene	85-01-8	10	1.14	5.00	107	ug/kg	D
Anthracene	120-12-7	10	0.74	5.00	33.3	ug/kg	D
Fluoranthene	206-44-0	10	0.81	5.00	288	ug/kg	D
Pyrene	129-00-0	10	0.89	5.00	468	ug/kg	D
Benzo(a)anthracene	56-55-3	10	0.72	5.00	150	ug/kg	D
Chrysene	218-01-9	10	0.70	5.00	189	ug/kg	D
Benzo(b)fluoranthene	205-99-2	10	0.66	5.00	190	ug/kg	D
Benzo(k)fluoranthene	207-08-9	10	1.01	5.00	90.0	ug/kg	D
Benzo(j)fluoranthene	205-82-3	10	0.97	5.00	86.0	ug/kg	D
Benzo(a)pyrene	50-32-8	10	0.87	5.00	299	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	10	0.88	5.00	265	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	10	1.05	5.00	41.0	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	10	0.85	5.00	364	ug/kg	D
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	48.2	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	78.5	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	78.4	%



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Project Number: [none]  
Project Manager: Delaney Peterson

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**USMPDI-060RAB-10-20-210317**  
**21C0277-08 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM		Sampled: 03/17/2021 11:00
Instrument: NT8 Analyst: JZ		Analyzed: 04/09/2021 17:56
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0714 Prepared: 03/26/2021	Extract ID: 21C0277-08 A 03 Dry Weight: 5.00 g % Solids: 83.32
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0030 Cleaned: 05-Apr-2021	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 21C0277-08 A 03

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.450	3.86	ND	ug/kg	U
Surrogate: Tripentyltin				30-160 %	45.4	%	
Surrogate: Tripropyltin				30-160 %	22.3	%	*



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**USMPDI-060RAB-10-20-210317**  
**21C0277-08 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx	Instrument: FID4 Analyst: CTO	Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Preparation Batch: BJC0702	Prepared: 03/26/2021	Sample Size: 10 g (wet)	Final Volume: 1 mL	Reporting Limit	Result	Units	Notes
								6.00	23.0	mg/kg	
								50-150 %	119	%	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.00	23.0	mg/kg	
HC ID: DRO						
Surrogate: <i>o</i> -Terphenyl			50-150 %	119	%	



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Project: Gasco Siltronic - US Moorings  
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**Reported:**  
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**USMPDI-060RAB-10-20-210317**  
**21C0277-08 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH		Sampled: 03/17/2021 11:00
Instrument: FID8 Analyst: JGR		Analyzed: 04/08/2021 22:13
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Extract ID: 21C0277-08 A 04
	Preparation Batch: BJC0716	Dry Weight: 8.33 g
	Sample Size: 10 g (wet)	% Solids: 83.32
	Prepared: 03/26/2021	Final Volume: 1 mL
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-08 A 04
	Cleanup Batch: CJD0068	Initial Volume: 1 mL
	Cleaned: 07-Apr-2021	Final Volume: 1 mL

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	2400	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	68.1	%	



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Project: Gasco Siltronic - US Moorings  
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Project Manager: Delaney Peterson

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**USMPDI-060RAB-10-20-210317**  
**21C0277-08 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97 Sampled: 03/17/2021 11:00  
Instrument: BAL2 Analyst: KLE Analyzed: 03/21/2021 10:22

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 21C0277-08  
Preparation Batch: BJC0561 Dry Weight: 4.16 g  
Prepared: 03/21/2021 Final Volume: 5 g % Solids: 83.29

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	83.29	%	



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Project Manager: Delaney Peterson

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16-Apr-2021 12:53

**USMPDI-060RAB-20-28.1-210317**  
**21C0277-09 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM		Sampled: 03/17/2021 11:40
Instrument: NT11 Analyst: VTS		Analyzed: 04/10/2021 17:29
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-09 A 02
	Preparation Batch: BJC0711	Dry Weight: 10.04 g
	Prepared: 03/26/2021	Sample Size: 12.44 g (wet)
		Final Volume: 0.5 mL
		% Solids: 80.67
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-09 A 02
	Cleanup Batch: CJD0066	
	Cleaned: 07-Apr-2021	
		Initial Volume: 0.5 mL
		Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	10	4.37	5.98	94.0	ug/kg	D
2-Methylnaphthalene	91-57-6	10	1.28	4.98	22.6	ug/kg	D
Acenaphthylene	208-96-8	10	0.64	4.98	20.4	ug/kg	D
Acenaphthene	83-32-9	10	0.89	4.98	36.3	ug/kg	D
Fluorene	86-73-7	10	0.68	4.98	28.3	ug/kg	D
Phenanthrene	85-01-8	10	1.14	4.98	258	ug/kg	D
Anthracene	120-12-7	10	0.74	4.98	65.3	ug/kg	D
Fluoranthene	206-44-0	10	0.81	4.98	485	ug/kg	D
Pyrene	129-00-0	10	0.89	4.98	623	ug/kg	D, E
Benzo(a)anthracene	56-55-3	10	0.72	4.98	197	ug/kg	D
Chrysene	218-01-9	10	0.70	4.98	243	ug/kg	D
Benzo(b)fluoranthene	205-99-2	10	0.66	4.98	240	ug/kg	D
Benzo(k)fluoranthene	207-08-9	10	1.01	4.98	119	ug/kg	D
Benzo(j)fluoranthene	205-82-3	10	0.97	4.98	116	ug/kg	D
Benzo(a)pyrene	50-32-8	10	0.87	4.98	385	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	10	0.88	4.98	338	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	10	1.05	4.98	57.4	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	10	0.85	4.98	444	ug/kg	D
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	47.6	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	73.9	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	76.3	%



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

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16-Apr-2021 12:53

**USMPDI-060RAB-20-28.1-210317**  
**21C0277-09 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM		Sampled: 03/17/2021 11:40
Instrument: NT8 Analyst: JZ		Analyzed: 04/09/2021 18:46
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0714 Prepared: 03/26/2021	Extract ID: 21C0277-09 A 03 Dry Weight: 5.04 g % Solids: 80.67
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0030 Cleaned: 05-Apr-2021	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 21C0277-09 A 03

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.446	3.83	ND	ug/kg	U
Surrogate: Tripentyltin				30-160 %	49.2	%	
Surrogate: Tripropyltin				30-160 %	25.9	%	*



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**USMPDI-060RAB-20-28.1-210317**  
**21C0277-09 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx	Instrument: FID4 Analyst: CTO	Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Preparation Batch: BJC0702	Prepared: 03/26/2021	Sample Size: 10 g (wet)	Final Volume: 1 mL	Reporting Limit	Result	Units	Notes
								6.20	46.3	mg/kg	
								50-150 %	97.7	%	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)		DRO	6.20	46.3	mg/kg	
HC ID: DRO						
Surrogate: o-Terphenyl			50-150 %	97.7	%	



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

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**USMPDI-060RAB-20-28.1-210317**  
**21C0277-09 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH			Sampled: 03/17/2021 11:40
Instrument: FID8 Analyst: JGR			Analyzed: 04/08/2021 22:38
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Sample Size: 10 g (wet)	Extract ID: 21C0277-09 A 04
	Preparation Batch: BJC0716	Final Volume: 1 mL	Dry Weight: 8.07 g
	Prepared: 03/26/2021		% Solids: 80.67
Sample Cleanup:	Cleanup Method: Silica Gel	Initial Volume: 1 mL	Extract ID: 21C0277-09 A 04
	Cleanup Batch: CJD0068	Final Volume: 1 mL	
	Cleaned: 07-Apr-2021		

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	2480	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	65.3	%	



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**USMPDI-060RAB-20-28.1-210317**  
**21C0277-09 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97	Preparation Method: No Prep Wet Chem	Sample Size: 5 g (wet)	Sampled: 03/17/2021 11:40
Instrument: BAL2 Analyst: KLE	Preparation Batch: BJC0561	Final Volume: 5 g	Analyzed: 03/21/2021 10:22
Sample Preparation:	Prepared: 03/21/2021		Extract ID: 21C0277-09 Dry Weight: 4.02 g % Solids: 80.49

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	80.49	%	



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-060RAB-20-28.1-210317**  
**21C0277-09RE1 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM	Sampled: 03/17/2021 11:40
Instrument: NT11 Analyst: VTS	Analyzed: 04/13/2021 17:42
Sample Preparation: Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-09RE1 A 02
Preparation Batch: BJC0711	Sample Size: 12.44 g (wet)
Prepared: 03/26/2021	Final Volume: 0.5 mL
	Dry Weight: 10.04 g
	% Solids: 80.67
Sample Cleanup: Cleanup Method: Silica Gel	Extract ID: 21C0277-09RE1 A 02
Cleanup Batch: CJD0066	Initial Volume: 0.5 mL
Cleaned: 07-Apr-2021	Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	20	8.75	12.0	99.4	ug/kg	D
2-Methylnaphthalene	91-57-6	20	2.55	9.96	22.9	ug/kg	D
Acenaphthylene	208-96-8	20	1.28	9.96	21.4	ug/kg	D
Acenaphthene	83-32-9	20	1.77	9.96	35.7	ug/kg	D
Fluorene	86-73-7	20	1.36	9.96	29.5	ug/kg	D
Phenanthrene	85-01-8	20	2.27	9.96	280	ug/kg	D
Anthracene	120-12-7	20	1.47	9.96	76.8	ug/kg	D
Fluoranthene	206-44-0	20	1.61	9.96	565	ug/kg	D
Pyrene	129-00-0	20	1.77	9.96	748	ug/kg	D
Benzo(a)anthracene	56-55-3	20	1.43	9.96	214	ug/kg	D
Chrysene	218-01-9	20	1.40	9.96	271	ug/kg	D
Benzo(b)fluoranthene	205-99-2	20	1.32	9.96	231	ug/kg	D
Benzo(k)fluoranthene	207-08-9	20	2.01	9.96	136	ug/kg	D
Benzo(j)fluoranthene	205-82-3	20	1.93	9.96	150	ug/kg	D
Benzo(a)pyrene	50-32-8	20	1.73	9.96	437	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	20	1.75	9.96	300	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	20	2.09	9.96	44.0	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	20	1.69	9.96	419	ug/kg	D
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	48.7	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	31.6	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	85.8	%



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-1060RAB-00-10-210317**  
**21C0277-10 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM		Sampled: 03/17/2021 00:00
Instrument: NT11 Analyst: VTS		Analyzed: 04/10/2021 18:01
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-10 A 02
	Preparation Batch: BJC0711	Sample Size: 11.41 g (wet)
	Prepared: 03/26/2021	Final Volume: 0.5 mL
		Dry Weight: 10.05 g
		% Solids: 88.06
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-10 A 02
	Cleanup Batch: CJD0066	Initial Volume: 0.5 mL
	Cleaned: 07-Apr-2021	Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	10	4.37	5.97	11.1	ug/kg	D
2-Methylnaphthalene	91-57-6	10	1.27	4.98	6.43	ug/kg	D
Acenaphthylene	208-96-8	10	0.64	4.98	17.6	ug/kg	D
Acenaphthene	83-32-9	10	0.89	4.98	15.0	ug/kg	D
Fluorene	86-73-7	10	0.68	4.98	11.3	ug/kg	D
Phenanthrene	85-01-8	10	1.13	4.98	129	ug/kg	D
Anthracene	120-12-7	10	0.74	4.98	26.1	ug/kg	D
Fluoranthene	206-44-0	10	0.81	4.98	433	ug/kg	D
Pyrene	129-00-0	10	0.89	4.98	560	ug/kg	D, E
Benzo(a)anthracene	56-55-3	10	0.72	4.98	177	ug/kg	D
Chrysene	218-01-9	10	0.70	4.98	225	ug/kg	D
Benzo(b)fluoranthene	205-99-2	10	0.66	4.98	202	ug/kg	D
Benzo(k)fluoranthene	207-08-9	10	1.01	4.98	98.1	ug/kg	D
Benzo(j)fluoranthene	205-82-3	10	0.97	4.98	95.1	ug/kg	D
Benzo(a)pyrene	50-32-8	10	0.87	4.98	311	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	10	0.88	4.98	254	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	10	1.05	4.98	40.6	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	10	0.85	4.98	338	ug/kg	D
<i>Surrogate: 2-Methylnaphthalene-d10</i>					<i>30-160 %</i>	<i>49.2</i>	<i>%</i>
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					<i>30-160 %</i>	<i>73.8</i>	<i>%</i>
<i>Surrogate: Fluoranthene-d10</i>					<i>30-160 %</i>	<i>73.1</i>	<i>%</i>



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**USMPDI-1060RAB-00-10-210317**  
**21C0277-10 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM	Preparation Method: EPA 3546 (Microwave)	Sampled: 03/17/2021 00:00
Instrument: NT8 Analyst: JZ	Preparation Batch: BJC0714	Analyzed: 04/09/2021 19:02
Sample Preparation:	Sample Size: 5.69 g (wet)	Extract ID: 21C0277-10 A 03
	Final Volume: 0.5 mL	Dry Weight: 5.01 g
		% Solids: 88.06
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-10 A 03
	Cleanup Batch: CJD0030	
	Cleaned: 05-Apr-2021	
	Initial Volume: 0.5 mL	
	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
Surrogate: Tripentyltin				30-160 %	41.8	%	
Surrogate: Tripropyltin				30-160 %	24.9	%	*



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**USMPDI-1060RAB-00-10-210317**  
**21C0277-10 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx	Sampled: 03/17/2021 00:00
Instrument: FID4 Analyst: CTO	Analyzed: 04/01/2021 23:10
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)
	Preparation Batch: BJC0702
	Prepared: 03/26/2021
	Sample Size: 10 g (wet)
	Final Volume: 1 mL
	Extract ID: 21C0277-10 A 01
	Dry Weight: 8.81 g
	% Solids: 88.06

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	5.68	26.5	mg/kg	
HC ID: DRO						
Surrogate: <i>o</i> -Terphenyl			50-150 %	108	%	



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Project Manager: Delaney Peterson

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16-Apr-2021 12:53

**USMPDI-1060RAB-00-10-210317**  
**21C0277-10 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH		Sampled: 03/17/2021 00:00
Instrument: FID8 Analyst: JGR		Analyzed: 04/08/2021 23:03
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0716 Prepared: 03/26/2021	Extract ID: 21C0277-10 A 04 Dry Weight: 8.81 g % Solids: 88.06
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0068 Cleaned: 07-Apr-2021	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 21C0277-10 A 04

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	2270	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	70.7	%	



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**USMPDI-1060RAB-00-10-210317**  
**21C0277-10 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97	Preparation Method: No Prep Wet Chem	Sample Size: 5 g (wet)	Sampled: 03/17/2021 00:00
Instrument: BAL2 Analyst: KLE	Preparation Batch: BJC0561	Final Volume: 5 g	Analyzed: 03/21/2021 10:22
Sample Preparation:	Prepared: 03/21/2021		Extract ID: 21C0277-10 Dry Weight: 4.37 g % Solids: 87.36

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	87.36	%	



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-1060RAB-00-10-210317**  
**21C0277-10RE1 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM		Sampled: 03/17/2021 00:00
Instrument: NT11 Analyst: VTS		Analyzed: 04/13/2021 18:15
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-10RE1 A 02
	Preparation Batch: BJC0711	Sample Size: 11.41 g (wet)
	Prepared: 03/26/2021	Final Volume: 0.5 mL
		Dry Weight: 10.05 g
		% Solids: 88.06
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-10RE1 A 02
	Cleanup Batch: CJD0066	Initial Volume: 0.5 mL
	Cleaned: 07-Apr-2021	Final Volume: 0.5 mL

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes	
Naphthalene	91-20-3	20	8.74	11.9	12.1	ug/kg	D	
2-Methylnaphthalene	91-57-6	20	2.55	9.95	6.87	ug/kg	J, D	
Acenaphthylene	208-96-8	20	1.27	9.95	19.5	ug/kg	D	
Acenaphthene	83-32-9	20	1.77	9.95	15.7	ug/kg	D	
Fluorene	86-73-7	20	1.35	9.95	11.5	ug/kg	D	
Phenanthrene	85-01-8	20	2.27	9.95	139	ug/kg	D	
Anthracene	120-12-7	20	1.47	9.95	29.4	ug/kg	D	
Fluoranthene	206-44-0	20	1.61	9.95	495	ug/kg	D	
Pyrene	129-00-0	20	1.77	9.95	653	ug/kg	D	
Benzo(a)anthracene	56-55-3	20	1.43	9.95	187	ug/kg	D	
Chrysene	218-01-9	20	1.39	9.95	249	ug/kg	D	
Benzo(b)fluoranthene	205-99-2	20	1.31	9.95	172	ug/kg	D	
Benzo(k)fluoranthene	207-08-9	20	2.01	9.95	110	ug/kg	D	
Benzo(j)fluoranthene	205-82-3	20	1.93	9.95	129	ug/kg	D	
Benzo(a)pyrene	50-32-8	20	1.73	9.95	344	ug/kg	D	
Indeno(1,2,3-cd)pyrene	193-39-5	20	1.75	9.95	212	ug/kg	D	
Dibenzo(a,h)anthracene	53-70-3	20	2.09	9.95	27.1	ug/kg	D	
Benzo(g,h,i)perylene	191-24-2	20	1.69	9.95	311	ug/kg	D	
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	50.2	%	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	27.7	%	*
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	77.5	%	



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-067RAB-00-10-210316**  
**21C0277-11 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM	Sampled: 03/16/2021 10:05
Instrument: NT11 Analyst: VTS	Analyzed: 04/10/2021 18:34
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level
	Preparation Batch: BJC0711
	Sample Size: 11.35 g (wet)
	Prepared: 03/26/2021
	Final Volume: 0.5 mL
	Extract ID: 21C0277-11 A 02
	Dry Weight: 10.04 g
	% Solids: 88.48
Sample Cleanup:	Cleanup Method: Silica Gel
	Cleanup Batch: CJD0066
	Initial Volume: 0.5 mL
	Cleaned: 07-Apr-2021
	Final Volume: 0.5 mL
	Extract ID: 21C0277-11 A 02

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	10	4.37	5.97	8.65	ug/kg	D
2-Methylnaphthalene	91-57-6	10	1.27	4.98	2.33	ug/kg	J, D
Acenaphthylene	208-96-8	10	0.64	4.98	10.5	ug/kg	D
Acenaphthene	83-32-9	10	0.89	4.98	2.45	ug/kg	J, D
Fluorene	86-73-7	10	0.68	4.98	2.51	ug/kg	J, D
Phenanthrene	85-01-8	10	1.14	4.98	72.9	ug/kg	D
Anthracene	120-12-7	10	0.74	4.98	23.5	ug/kg	D
Fluoranthene	206-44-0	10	0.81	4.98	254	ug/kg	D
Pyrene	129-00-0	10	0.89	4.98	367	ug/kg	D
Benzo(a)anthracene	56-55-3	10	0.72	4.98	136	ug/kg	D
Chrysene	218-01-9	10	0.70	4.98	183	ug/kg	D
Benzo(b)fluoranthene	205-99-2	10	0.66	4.98	173	ug/kg	D
Benzo(k)fluoranthene	207-08-9	10	1.01	4.98	88.9	ug/kg	D
Benzo(j)fluoranthene	205-82-3	10	0.97	4.98	80.4	ug/kg	D
Benzo(a)pyrene	50-32-8	10	0.87	4.98	262	ug/kg	D
Indeno(1,2,3-cd)pyrene	193-39-5	10	0.88	4.98	243	ug/kg	D
Dibenzo(a,h)anthracene	53-70-3	10	1.05	4.98	42.0	ug/kg	D
Benzo(g,h,i)perylene	191-24-2	10	0.85	4.98	324	ug/kg	D
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	53.0	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	83.5	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	82.8	%



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**USMPDI-067RAB-00-10-210316**  
**21C0277-11 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM	Preparation Method: EPA 3546 (Microwave)	Sampled: 03/16/2021 10:05
Instrument: NT8 Analyst: JZ	Preparation Batch: BJC0714	Analyzed: 04/15/2021 13:36
Sample Preparation:	Sample Size: 5.68 g (wet)	Extract ID: 21C0277-11 A 03
	Final Volume: 0.5 mL	Dry Weight: 5.03 g
		% Solids: 88.48
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-11 A 03
	Cleanup Batch: CJD0030	
	Cleaned: 05-Apr-2021	
	Initial Volume: 0.5 mL	
	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.448	3.84	ND	ug/kg	U
Surrogate: Tripentyltin				30-160 %	40.3	%	
Surrogate: Tripropyltin				30-160 %	26.3	%	*



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

**Reported:**  
16-Apr-2021 12:53

**USMPDI-067RAB-00-10-210316**  
**21C0277-11 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx		Sampled: 03/16/2021 10:05
Instrument: FID4 Analyst: CTO		Analyzed: 04/01/2021 23:31
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Extract ID: 21C0277-11 A 01
	Preparation Batch: BJC0702	Dry Weight: 8.85 g
	Prepared: 03/26/2021	% Solids: 88.48
	Sample Size: 10 g (wet)	
	Final Volume: 1 mL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	5.65	17.8	mg/kg	
HC ID: DRO						
Surrogate: <i>o</i> -Terphenyl			50-150 %	108	%	



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-067RAB-00-10-210316**  
**21C0277-11 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH		Sampled: 03/16/2021 10:05
Instrument: FID8 Analyst: JGR		Analyzed: 04/08/2021 23:52
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Extract ID: 21C0277-11 A 04
	Preparation Batch: BJC0716	Dry Weight: 8.85 g
	Prepared: 03/26/2021	% Solids: 88.48
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-11 A 04
	Cleanup Batch: CJD0068	
	Cleaned: 07-Apr-2021	
	Sample Size: 10 g (wet)	
	Final Volume: 1 mL	
	Initial Volume: 1 mL	
	Final Volume: 1 mL	

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	2260	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	54.6	%	



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**USMPDI-067RAB-00-10-210316**  
**21C0277-11 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97	Preparation Method: No Prep Wet Chem	Sample Size: 5 g (wet)	Sampled: 03/16/2021 10:05
Instrument: BAL2 Analyst: KLE	Preparation Batch: BJC0561	Final Volume: 5 g	Analyzed: 03/21/2021 10:22
Sample Preparation:	Prepared: 03/21/2021		Extract ID: 21C0277-11 Dry Weight: 4.48 g % Solids: 89.67

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	89.67	%	



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**USMPDI-067RAB-10-20-210316**  
**21C0277-12 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM		Sampled: 03/16/2021 11:15
Instrument: NT11 Analyst: VTS		Analyzed: 04/10/2021 19:06
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-12 A 02
	Preparation Batch: BJC0711	Sample Size: 13.25 g (wet)
	Prepared: 03/26/2021	Final Volume: 0.5 mL
		Dry Weight: 10.00 g
		% Solids: 75.46
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-12 A 02
	Cleanup Batch: CJD0066	
	Cleaned: 07-Apr-2021	
	Initial Volume: 0.5 mL	
	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.44	0.60	2.74	ug/kg	
2-Methylnaphthalene	91-57-6	1	0.13	0.50	0.73	ug/kg	
Acenaphthylene	208-96-8	1	0.06	0.50	0.83	ug/kg	
Acenaphthene	83-32-9	1	0.09	0.50	0.50	ug/kg	
Fluorene	86-73-7	1	0.07	0.50	0.72	ug/kg	
Phenanthrene	85-01-8	1	0.11	0.50	5.20	ug/kg	
Anthracene	120-12-7	1	0.07	0.50	1.83	ug/kg	
Fluoranthene	206-44-0	1	0.08	0.50	9.28	ug/kg	
Pyrene	129-00-0	1	0.09	0.50	14.0	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.07	0.50	6.02	ug/kg	
Chrysene	218-01-9	1	0.07	0.50	6.86	ug/kg	
Benzo(b)fluoranthene	205-99-2	1	0.07	0.50	5.60	ug/kg	
Benzo(k)fluoranthene	207-08-9	1	0.10	0.50	2.72	ug/kg	
Benzo(j)fluoranthene	205-82-3	1	0.10	0.50	2.75	ug/kg	
Benzo(a)pyrene	50-32-8	1	0.09	0.50	7.72	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.09	0.50	5.73	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	0.11	0.50	1.39	ug/kg	
Benzo(g,h,i)perylene	191-24-2	1	0.09	0.50	7.08	ug/kg	
<i>Surrogate: 2-Methylnaphthalene-d10</i>					30-160 %	35.7	%
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					30-160 %	86.2	%
<i>Surrogate: Fluoranthene-d10</i>					30-160 %	58.6	%



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**USMPDI-067RAB-10-20-210316**  
**21C0277-12 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM		Sampled: 03/16/2021 11:15
Instrument: NT8 Analyst: JZ		Analyzed: 04/09/2021 19:36
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0714 Prepared: 03/26/2021	Extract ID: 21C0277-12 A 03 Dry Weight: 5.02 g % Solids: 75.46
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0030 Cleaned: 05-Apr-2021	Initial Volume: 0.5 mL Final Volume: 0.5 mL Extract ID: 21C0277-12 A 03

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.448	3.85	ND	ug/kg	U
Surrogate: Tripentyltin				30-160 %	39.1	%	
Surrogate: Tripropyltin				30-160 %	17.4	%	*



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Project Number: [none]  
Project Manager: Delaney Peterson

**Reported:**  
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**USMPDI-067RAB-10-20-210316**  
**21C0277-12 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx	Preparation Method: EPA 3546 (Microwave)	Sampled: 03/16/2021 11:15
Instrument: FID4 Analyst: CTO	Preparation Batch: BJC0702	Analyzed: 04/01/2021 23:53
Sample Preparation:	Sample Size: 10 g (wet)	Extract ID: 21C0277-12 A 01
	Final Volume: 1 mL	Dry Weight: 7.55 g
		% Solids: 75.46

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	6.63	ND	mg/kg	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	109	%	



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Project Manager: Delaney Peterson

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**USMPDI-067RAB-10-20-210316**  
**21C0277-12 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH			Sampled: 03/16/2021 11:15
Instrument: FID8 Analyst: JGR			Analyzed: 04/09/2021 00:17
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)	Sample Size: 10 g (wet)	Extract ID: 21C0277-12 A 04
	Preparation Batch: BJC0716	Final Volume: 1 mL	Dry Weight: 7.55 g
	Prepared: 03/26/2021		% Solids: 75.46
Sample Cleanup:	Cleanup Method: Silica Gel	Initial Volume: 1 mL	Extract ID: 21C0277-12 A 04
	Cleanup Batch: CJD0068	Final Volume: 1 mL	
	Cleaned: 07-Apr-2021		

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	2650	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	55.9	%	



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**USMPDI-067RAB-10-20-210316**  
**21C0277-12 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97	Sampled: 03/16/2021 11:15	
Instrument: BAL2 Analyst: KLE	Analyzed: 03/21/2021 10:22	
Sample Preparation:	Preparation Method: No Prep Wet Chem	Extract ID: 21C0277-12
	Preparation Batch: BJC0561	Sample Size: 5 g (wet)
	Prepared: 03/21/2021	Final Volume: 5 g
		Dry Weight: 3.78 g
		% Solids: 75.53

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	75.53	%	



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16-Apr-2021 12:53

**USMPDI-067RAB-20-21.9-210316**  
**21C0277-13 (Solid)**

**Semivolatile Organic Compounds - SIM**

Method: EPA 8270E-SIM		Sampled: 03/16/2021 11:45
Instrument: NT11 Analyst: VTS		Analyzed: 04/10/2021 19:39
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Low Level	Extract ID: 21C0277-13 A 02
	Preparation Batch: BJC0711	Dry Weight: 10.01 g
	Sample Size: 15.53 g (wet)	% Solids: 64.43
	Prepared: 03/26/2021	
	Final Volume: 0.5 mL	
Sample Cleanup:	Cleanup Method: Silica Gel	Extract ID: 21C0277-13 A 02
	Cleanup Batch: CJD0066	
	Initial Volume: 0.5 mL	
	Cleaned: 07-Apr-2021	
	Final Volume: 0.5 mL	

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Naphthalene	91-20-3	1	0.44	0.60	0.64	ug/kg	
2-Methylnaphthalene	91-57-6	1	0.13	0.50	0.21	ug/kg	J
Acenaphthylene	208-96-8	1	0.06	0.50	0.11	ug/kg	J
Acenaphthene	83-32-9	1	0.09	0.50	0.14	ug/kg	J
Fluorene	86-73-7	1	0.07	0.50	0.14	ug/kg	J
Phenanthrene	85-01-8	1	0.11	0.50	0.74	ug/kg	
Anthracene	120-12-7	1	0.07	0.50	0.33	ug/kg	J
Fluoranthene	206-44-0	1	0.08	0.50	1.99	ug/kg	
Pyrene	129-00-0	1	0.09	0.50	3.13	ug/kg	
Benzo(a)anthracene	56-55-3	1	0.07	0.50	0.68	ug/kg	
Chrysene	218-01-9	1	0.07	0.50	0.96	ug/kg	
Benzo(b)fluoranthene	205-99-2	1	0.07	0.50	1.13	ug/kg	
Benzo(k)fluoranthene	207-08-9	1	0.10	0.50	0.51	ug/kg	
Benzo(j)fluoranthene	205-82-3	1	0.10	0.50	0.50	ug/kg	J
Benzo(a)pyrene	50-32-8	1	0.09	0.50	1.48	ug/kg	
Indeno(1,2,3-cd)pyrene	193-39-5	1	0.09	0.50	1.58	ug/kg	
Dibenzo(a,h)anthracene	53-70-3	1	0.10	0.50	0.27	ug/kg	J
Benzo(g,h,i)perylene	191-24-2	1	0.08	0.50	2.32	ug/kg	
<i>Surrogate: 2-Methylnaphthalene-d10</i>					<i>30-160 %</i>	<i>31.4 %</i>	
<i>Surrogate: Dibenzo[a,h]anthracene-d14</i>					<i>30-160 %</i>	<i>83.8 %</i>	
<i>Surrogate: Fluoranthene-d10</i>					<i>30-160 %</i>	<i>63.6 %</i>	



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**USMPDI-067RAB-20-21.9-210316**  
**21C0277-13 (Solid)**

**Butyl Tins**

Method: EPA 8270E-SIM	Sampled: 03/16/2021 11:45
Instrument: NT8 Analyst: JZ	Analyzed: 04/09/2021 19:52
Sample Preparation:	Preparation Method: EPA 3546 (Microwave)
	Preparation Batch: BJC0714
	Prepared: 03/26/2021
	Sample Size: 7.79 g (wet)
	Final Volume: 0.5 mL
	Extract ID: 21C0277-13 A 03
	Dry Weight: 4.87 g
	% Solids: 62.51
Sample Cleanup:	Cleanup Method: Silica Gel
	Cleanup Batch: CJD0030
	Cleaned: 05-Apr-2021
	Initial Volume: 0.5 mL
	Final Volume: 0.5 mL
	Extract ID: 21C0277-13 A 03

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Tributyltin Ion	36643-28-4	1	0.462	3.96	ND	ug/kg	U
Surrogate: Tripentyltin				30-160 %	41.4	%	
Surrogate: Tripropyltin				30-160 %	20.4	%	*



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**Reported:**  
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**USMPDI-067RAB-20-21.9-210316**  
**21C0277-13 (Solid)**

**Petroleum Hydrocarbons**

Method: NWTPH-Dx Sampled: 03/16/2021 11:45  
Instrument: FID4 Analyst: CTO Analyzed: 04/01/2021 00:14  
Sample Preparation: Preparation Method: EPA 3546 (Microwave) Extract ID: 21C0277-13 A 01  
Preparation Batch: BJC0702 Dry Weight: 6.44 g  
Prepared: 03/26/2021 Final Volume: 1 mL % Solids: 64.43

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
Diesel Range Organics (C12-C24)	DRO	1	7.76	ND	mg/kg	U
<i>Surrogate: o-Terphenyl</i>			50-150 %	93.7	%	



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**USMPDI-067RAB-20-21.9-210316**  
**21C0277-13 (Solid)**

**Washington Department of Ecology Methods**

Method: WA EPH		Sampled: 03/16/2021 11:45
Instrument: FID8 Analyst: JGR		Analyzed: 04/09/2021 00:41
Sample Preparation:	Preparation Method: EPA 3546 (Microwave) Preparation Batch: BJC0716 Prepared: 03/26/2021	Extract ID: 21C0277-13 A 04 Dry Weight: 6.44 g % Solids: 64.43
Sample Cleanup:	Cleanup Method: Silica Gel Cleanup Batch: CJD0068 Cleaned: 07-Apr-2021	Initial Volume: 1 mL Final Volume: 1 mL Extract ID: 21C0277-13 A 04

Analyte	CAS Number	Dilution	Reporting Limit	Result	Units	Notes
C10-C12 Aliphatics	ALI-C10-C12	1	3100	ND	ug/kg	U
<i>Surrogate: 1-Chloro-octadecane</i>			30-160 %	62.9	%	



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**Reported:**  
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**USMPDI-067RAB-20-21.9-210316**  
**21C0277-13 (Solid)**

**Wet Chemistry**

Method: SM 2540 G-97 Sampled: 03/16/2021 11:45  
Instrument: BAL2 Analyst: KLE Analyzed: 03/21/2021 10:22

Sample Preparation: Preparation Method: No Prep Wet Chem Extract ID: 21C0277-13  
Preparation Batch: BJC0561 Dry Weight: 3.13 g  
Prepared: 03/21/2021 Final Volume: 5 g % Solids: 62.51

Analyte	CAS Number	Dilution	Detection Limit	Reporting Limit	Result	Units	Notes
Total Solids		1	0.04	0.04	62.51	%	



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

Semivolatile Organic Compounds - SIM - Quality Control

Batch BJC0711 - EPA 3546 (Microwave) Low Level

Instrument: NT11 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Blank (BJC0711-BLK1)</b>											
						Prepared: 26-Mar-2021	Analyzed: 10-Apr-2021 09:26				
Naphthalene	ND	0.44	0.60	ug/kg							U
2-Methylnaphthalene	ND	0.13	0.50	ug/kg							U
Acenaphthylene	ND	0.06	0.50	ug/kg							U
Acenaphthene	0.09	0.09	0.50	ug/kg							J
Fluorene	ND	0.07	0.50	ug/kg							U
Phenanthrene	0.12	0.11	0.50	ug/kg							J
Anthracene	ND	0.07	0.50	ug/kg							U
Fluoranthene	0.08	0.08	0.50	ug/kg							J
Pyrene	0.11	0.09	0.50	ug/kg							J
Benzo(a)anthracene	ND	0.07	0.50	ug/kg							U
Chrysene	ND	0.07	0.50	ug/kg							U
Benzo(b)fluoranthene	ND	0.07	0.50	ug/kg							U
Benzo(k)fluoranthene	ND	0.10	0.50	ug/kg							U
Benzo(j)fluoranthene	ND	0.10	0.50	ug/kg							U
Benzo(a)pyrene	ND	0.09	0.50	ug/kg							U
Indeno(1,2,3-cd)pyrene	ND	0.09	0.50	ug/kg							U
Dibenzo(a,h)anthracene	ND	0.11	0.50	ug/kg							U
Benzo(g,h,i)perylene	ND	0.09	0.50	ug/kg							U
Surrogate: 2-Methylnaphthalene-d10	8.38			ug/kg	15.0		55.9	30-160			
Surrogate: Dibenzo[a,h]anthracene-d14	11.1			ug/kg	15.0		74.2	30-160			
Surrogate: Fluoranthene-d10	10.1			ug/kg	15.0		67.4	30-160			

<b>LCS (BJC0711-BS1)</b>											
						Prepared: 26-Mar-2021	Analyzed: 10-Apr-2021 09:58				
Naphthalene	8.93	0.44	0.60	ug/kg	15.0		59.6	30-160			
2-Methylnaphthalene	8.99	0.13	0.50	ug/kg	15.0		59.9	30-160			
Acenaphthylene	7.24	0.06	0.50	ug/kg	15.0		48.3	30-160			
Acenaphthene	7.84	0.09	0.50	ug/kg	15.0		52.2	30-160			
Fluorene	8.36	0.07	0.50	ug/kg	15.0		55.7	30-160			
Phenanthrene	8.68	0.11	0.50	ug/kg	15.0		57.9	30-160			
Anthracene	9.71	0.07	0.50	ug/kg	15.0		64.7	30-160			
Fluoranthene	10.4	0.08	0.50	ug/kg	15.0		69.0	30-160			
Pyrene	10.6	0.09	0.50	ug/kg	15.0		70.7	30-160			
Benzo(a)anthracene	10.0	0.07	0.50	ug/kg	15.0		66.7	30-160			
Chrysene	10.0	0.07	0.50	ug/kg	15.0		66.7	30-160			
Benzo(b)fluoranthene	9.82	0.07	0.50	ug/kg	15.0		65.5	30-160			



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Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

**Semivolatile Organic Compounds - SIM - Quality Control**

**Batch BJC0711 - EPA 3546 (Microwave) Low Level**

Instrument: NT11 Analyst: VTS

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>LCS (BJC0711-BS1)</b>					Prepared: 26-Mar-2021 Analyzed: 10-Apr-2021 09:58						
Benzo(k)fluoranthene	9.61	0.10	0.50	ug/kg	15.0		64.1	30-160			
Benzo(j)fluoranthene	11.4	0.10	0.50	ug/kg	15.0		76.1	30-160			
Benzo(a)pyrene	10.7	0.09	0.50	ug/kg	15.0		71.0	30-160			
Indeno(1,2,3-cd)pyrene	11.9	0.09	0.50	ug/kg	15.0		79.4	30-160			
Dibenzo(a,h)anthracene	11.7	0.11	0.50	ug/kg	15.0		77.7	30-160			
Benzo(g,h,i)perylene	11.3	0.09	0.50	ug/kg	15.0		75.6	30-160			
Surrogate: 2-Methylnaphthalene-d10	9.21			ug/kg	15.0		61.4	30-160			
Surrogate: Dibenzo[a,h]anthracene-d14	11.8			ug/kg	15.0		79.0	30-160			
Surrogate: Fluoranthene-d10	10.5			ug/kg	15.0		70.0	30-160			

<b>Matrix Spike (BJC0711-MS1)</b>					Source: 21C0277-08 Prepared: 26-Mar-2021 Analyzed: 10-Apr-2021 16:25						
Naphthalene	57.7	4.39	6.00	ug/kg	15.0	31.6	174	30-160			*, D
2-Methylnaphthalene	13.9	1.28	5.00	ug/kg	15.0	6.86	46.8	30-160			D
Acenaphthylene	29.6	0.64	5.00	ug/kg	15.0	12.0	117	30-160			D
Acenaphthene	15.9	0.89	5.00	ug/kg	15.0	18.8	-19.5	30-160			*, D
Fluorene	19.4	0.68	5.00	ug/kg	15.0	18.0	9.59	30-160			*, D
Phenanthrene	171	1.14	5.00	ug/kg	15.0	107	426	30-160			*, D
Anthracene	71.8	0.74	5.00	ug/kg	15.0	33.3	257	30-160			*, D
Fluoranthene	948	0.81	5.00	ug/kg	15.0	288	4400	30-160			*, D, E
Pyrene	1160	0.89	5.00	ug/kg	15.0	468	4630	30-160			*, D, E
Benzo(a)anthracene	510	0.72	5.00	ug/kg	15.0	150	2400	30-160			*, D, E
Chrysene	615	0.70	5.00	ug/kg	15.0	189	2840	30-160			*, D, E
Benzo(b)fluoranthene	679	0.66	5.00	ug/kg	15.0	190	3260	30-160			*, D, E
Benzo(k)fluoranthene	342	1.01	5.00	ug/kg	15.0	90.0	1680	30-160			*, D
Benzo(j)fluoranthene	318	0.97	5.00	ug/kg	15.0	86.0	1550	30-160			*, D
Benzo(a)pyrene	1060	0.87	5.00	ug/kg	15.0	299	5050	30-160			*, D, E
Indeno(1,2,3-cd)pyrene	1020	0.88	5.00	ug/kg	15.0	265	5010	30-160			*, D, E
Dibenzo(a,h)anthracene	164	1.05	5.00	ug/kg	15.0	41.0	822	30-160			*, D
Benzo(g,h,i)perylene	1270	0.85	5.00	ug/kg	15.0	364	6060	30-160			*, D, E
Surrogate: 2-Methylnaphthalene-d10	5.14			ug/kg	15.0	7.24	34.3	30-160			
Surrogate: Dibenzo[a,h]anthracene-d14	11.6			ug/kg	15.0	11.8	77.2	30-160			
Surrogate: Fluoranthene-d10	11.7			ug/kg	15.0	11.8	78.1	30-160			

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



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Project: Gasco Siltronic - US Moorings  
Project Number: [none]  
Project Manager: Delaney Peterson

Reported:  
16-Apr-2021 12:53

Semivolatile Organic Compounds - SIM - Quality Control

Batch BJC0711 - EPA 3546 (Microwave) Low Level

Instrument: NT11 Analyst: VTS

QC Sample/Analyte	Detection Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD	RPD Limit	Notes
<b>Matrix Spike Dup (BJC0711-MSD1)</b>											
Source: 21C0277-08 Prepared: 26-Mar-2021 Analyzed: 10-Apr-2021 16:57											
Naphthalene	38.9	4.39	6.00	ug/kg	15.0	31.6	48.2	30-160	39.00	30	*, D
2-Methylnaphthalene	12.7	1.28	5.00	ug/kg	15.0	6.86	38.9	30-160	8.88	30	D
Acenaphthylene	72.1	0.64	5.00	ug/kg	15.0	12.0	401	30-160	83.70	30	*, D
Acenaphthene	25.3	0.89	5.00	ug/kg	15.0	18.8	43.7	30-160	46.00	30	*, D
Fluorene	26.9	0.68	5.00	ug/kg	15.0	18.0	59.5	30-160	32.30	30	*, D
Phenanthrene	467	1.14	5.00	ug/kg	15.0	107	2400	30-160	92.70	30	*, D
Anthracene	246	0.74	5.00	ug/kg	15.0	33.3	1410	30-160	109.00	30	*, D
Fluoranthene	1020	0.81	5.00	ug/kg	15.0	288	4890	30-160	7.53	30	*, D, E
Pyrene	1200	0.89	5.00	ug/kg	15.0	468	4850	30-160	2.81	30	*, D, E
Benzo(a)anthracene	542	0.72	5.00	ug/kg	15.0	150	2620	30-160	6.16	30	*, D, E
Chrysene	703	0.70	5.00	ug/kg	15.0	189	3430	30-160	13.40	30	*, D, E
Benzo(b)fluoranthene	629	0.66	5.00	ug/kg	15.0	190	2930	30-160	7.65	30	*, D, E
Benzo(k)fluoranthene	341	1.01	5.00	ug/kg	15.0	90.0	1670	30-160	0.27	30	*, D
Benzo(j)fluoranthene	316	0.97	5.00	ug/kg	15.0	86.0	1540	30-160	0.60	30	*, D
Benzo(a)pyrene	993	0.87	5.00	ug/kg	15.0	299	4630	30-160	6.15	30	*, D, E
Indeno(1,2,3-cd)pyrene	998	0.88	5.00	ug/kg	15.0	265	4890	30-160	1.87	30	*, D, E
Dibenzo(a,h)anthracene	175	1.05	5.00	ug/kg	15.0	41.0	892	30-160	6.20	30	*, D
Benzo(g,h,i)perylene	1320	0.85	5.00	ug/kg	15.0	364	6370	30-160	3.58	30	*, D, E
Surrogate: 2-Methylnaphthalene-d10	5.64			ug/kg	15.0	7.24	37.6	30-160			
Surrogate: Dibenzo[a,h]anthracene-d14	13.5			ug/kg	15.0	11.8	89.7	30-160			
Surrogate: Fluoranthene-d10	11.8			ug/kg	15.0	11.8	78.8	30-160			

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



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Project Number: [none]  
Project Manager: Delaney Peterson

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**Butyl Tins - Quality Control**

**Batch BJC0714 - 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
<b>Blank (BJC0714-BLK1)</b>					Prepared: 26-Mar-2021 Analyzed: 09-Apr-2021 15:27						
Tributyltin Ion	ND	0.450	3.86	ug/kg							U
Surrogate: Triphenyltin	24.7			ug/kg	45.2	54.6		30-160			
Surrogate: Tripropyltin	17.4			ug/kg	43.7	39.9		30-160			

<b>LCS (BJC0714-BS1)</b>					Prepared: 26-Mar-2021 Analyzed: 09-Apr-2021 15:43						
Tributyltin Ion	19.5	0.450	3.86	ug/kg	44.6		43.8	30-160			
Surrogate: Triphenyltin	22.5			ug/kg	45.2	49.7		30-160			
Surrogate: Tripropyltin	14.7			ug/kg	43.7	33.5		30-160			

<b>Matrix Spike (BJC0714-MS1)</b>					<b>Source: 21C0277-08</b>		Prepared: 26-Mar-2021 Analyzed: 09-Apr-2021 18:13				
Tributyltin Ion	15.1	0.450	3.86	ug/kg	44.6	ND	33.8	30-160			
Surrogate: Triphenyltin	21.4			ug/kg	45.2	20.5	47.3	30-160			
Surrogate: Tripropyltin	10.8			ug/kg	43.8	9.75	24.7	30-160			*

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

<b>Matrix Spike Dup (BJC0714-MSD1)</b>					<b>Source: 21C0277-08</b>		Prepared: 26-Mar-2021 Analyzed: 09-Apr-2021 18:29				
Tributyltin Ion	15.1	0.450	3.86	ug/kg	44.6	ND	33.8	30-160	0.07	30	
Surrogate: Triphenyltin	21.4			ug/kg	45.2	20.5	47.4	30-160			
Surrogate: Tripropyltin	10.9			ug/kg	43.8	9.75	25.0	30-160			*

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



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**Petroleum Hydrocarbons - Quality Control**

**Batch BJC0702 - EPA 3546 (Microwave)**

Instrument: FID4 Analyst: CTO

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Blank (BJC0702-BLK1)</b>				Prepared: 26-Mar-2021 Analyzed: 31-Mar-2021 17:32						
Diesel Range Organics (C12-C24)	ND	5.00	mg/kg							U
Surrogate: <i>o</i> -Terphenyl	10.6		mg/kg	11.3		94.3	50-150			
<b>LCS (BJC0702-BS1)</b>				Prepared: 26-Mar-2021 Analyzed: 31-Mar-2021 17:53						
Diesel Range Organics (C12-C24)	173	5.00	mg/kg	150		115	63-120			
Surrogate: <i>o</i> -Terphenyl	13.0		mg/kg	11.3		115	50-150			
<b>Matrix Spike (BJC0702-MS1)</b>				Source: 21C0277-08 Prepared: 26-Mar-2021 Analyzed: 31-Mar-2021 21:25						
Diesel Range Organics (C12-C24)	187	6.00	mg/kg	180	23.0	91.1	63-120			
Surrogate: <i>o</i> -Terphenyl	11.8		mg/kg	13.5	16.1	87.6	50-150			

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

<b>Matrix Spike Dup (BJC0702-MSD1)</b>				Source: 21C0277-08 Prepared: 26-Mar-2021 Analyzed: 31-Mar-2021 21:46						
Diesel Range Organics (C12-C24)	208	6.00	mg/kg	180	23.0	103	63-120	10.60	30	
Surrogate: <i>o</i> -Terphenyl	12.9		mg/kg	13.5	16.1	95.6	50-150			

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



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Washington Department of Ecology Methods - Quality Control

Batch BJC0716 - EPA 3546 (Microwave)

Instrument: FID8 Analyst: JGR

QC Sample/Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Blank (BJC0716-BLK1)</b>				Prepared: 26-Mar-2021 Analyzed: 11-Apr-2021 18:11						
C10-C12 Aliphatics	ND	2000	ug/kg							U
Surrogate: 1-Chloro-octadecane	6890		ug/kg	15000		45.9	30-160			
<b>LCS (BJC0716-BS1)</b>				Prepared: 26-Mar-2021 Analyzed: 11-Apr-2021 18:35						
C10-C12 Aliphatics	3940	2000	ug/kg	15000		26.3	30-160			*
Surrogate: 1-Chloro-octadecane	7250		ug/kg	15000		48.3	30-160			
<b>Matrix Spike (BJC0716-MS1)</b>				Source: 21C0277-08		Prepared: 26-Mar-2021 Analyzed: 09-Apr-2021 01:05				
C10-C12 Aliphatics	8070	2400	ug/kg	18000	ND	43.6	30-160			
Surrogate: 1-Chloro-octadecane	12300		ug/kg	18000	12300	68.6	30-160			

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

<b>Matrix Spike Dup (BJC0716-MSD1)</b>				Source: 21C0277-08		Prepared: 26-Mar-2021 Analyzed: 09-Apr-2021 01:30				
C10-C12 Aliphatics	7670	2400	ug/kg	18000	ND	41.4	30-160	5.03	30	
Surrogate: 1-Chloro-octadecane	11800		ug/kg	18000	12300	65.4	30-160			

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



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**Wet Chemistry - Quality Control**

**Batch BJC0561 - No Prep Wet Chem**

Instrument: BAL2 Analyst: KLE

QC Sample/Analyte	Result	Detection Limit	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
<b>Blank (BJC0561-BLK1)</b>						Prepared: 21-Mar-2021 Analyzed: 21-Mar-2021 10:22					
Total Solids	ND	0.04	0.04	%							U
<b>Duplicate (BJC0561-DUP1)</b>						Source: 21C0277-08 Prepared: 21-Mar-2021 Analyzed: 21-Mar-2021 10:22					
Total Solids	82.06	0.04	0.04	%		83.29			1.49	20	



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**Certified Analyses included in this Report**

Analyte	Certifications
<b>EPA 8270E-SIM in Solid</b>	
Tributyltin Ion	WADOE,DoD-ELAP
Tributyltin Ion	WADOE,DoD-ELAP
Tributyltin Ion	WADOE,DoD-ELAP
Tributyltin Ion	DoD-ELAP
Dibutyltin Ion	WADOE,DoD-ELAP
Dibutyltin Ion	WADOE,DoD-ELAP
Dibutyltin Ion	DoD-ELAP
Dibutyltin Ion	WADOE,DoD-ELAP
Butyltin Ion	WADOE
Butyltin Ion	
Butyltin Ion	WADOE
Butyltin Ion	WADOE
<b>NWTPH-Dx in Solid</b>	
Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP
Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C12-C24)	DoD-ELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,WADOE
Diesel Range Organics (C10-C25)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP
Diesel Range Organics (Tol-C18)	DoD-ELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C24)	DoD-ELAP,NELAP
Diesel Range Organics (C10-C24)	DoD-ELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP,WADOE
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP
Diesel Range Organics (C10-C28)	DoD-ELAP,NELAP
Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C22)	DoD-ELAP



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Diesel Range Organics (C12-C22)	DoD-ELAP
Diesel Range Organics (C12-C22)	DoD-ELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C38)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C38)	DoD-ELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,WADOE
Motor Oil Range Organics (C25-C36)	DoD-ELAP,NELAP
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP
Motor Oil Range Organics (C24-C40)	DoD-ELAP,WADOE
Motor Oil Range Organics (C24-C40)	DoD-ELAP,NELAP,WADOE
Residual Range Organics (C23-C32)	DoD-ELAP
Residual Range Organics (C23-C32)	DoD-ELAP
Residual Range Organics (C23-C32)	DoD-ELAP
Residual Range Organics (C23-C32)	DoD-ELAP
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Mineral Oil Range Organics (C16-C28)	DoD-ELAP,NELAP,WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,WADOE
Mineral Spirits Range Organics (Tol-C12)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP
JP8 Range Organics (C8-C18)	DoD-ELAP,WADOE
JP8 Range Organics (C8-C18)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP,WADOE
JP5 Range Organics (C10-C16)	DoD-ELAP,NELAP
JP5 Range Organics (C10-C16)	DoD-ELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP
JP4 Range Organics (Tol-C14)	DoD-ELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
JP4 Range Organics (Tol-C14)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,WADOE



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Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Jet-A Range Organics (C10-C18)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Kerosene Range Organics (Tol-C18)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP
Stoddard Range Organics (C8-C12)	DoD-ELAP,NELAP,WADOE
Stoddard Range Organics (C8-C12)	DoD-ELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP,WADOE
Creosote Range Organics (C12-C22)	DoD-ELAP,NELAP
Creosote Range Organics (C12-C22)	DoD-ELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP,WADOE
Bunker C Range Organics (C10-C38)	DoD-ELAP,NELAP
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,WADOE
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP
Transformer Oil Range Organics (C12-C28)	DoD-ELAP,NELAP,WADOE

**WA EPH in Solid**

C10-C12 Aliphatics	WADOE,DoD-ELAP,NELAP
C10-C12 Aliphatics	WADOE,DoD-ELAP,NELAP
C10-C12 Aliphatics	WADOE,DoD-ELAP
C10-C12 Aliphatics	DoD-ELAP,NELAP

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



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### Notes and Definitions

- \* Flagged value is not within established control limits.
- D The reported value is from a dilution
- D1 Surrogate was not detected due to sample extract 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.
- 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.