

ANALYTICAL REPORT

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Laboratory Job ID: 320-72716-2
Client Project/Site: 437865 RockGen

For:

TRC Environmental Corporation
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Authorized for release by:
5/4/2021 9:26:15 AM

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Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: TRC Environmental Corporation
Project/Site: 437865 RockGen

Job ID: 320-72716-2

Qualifiers

LCMS

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
♠	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: TRC Environmental Corporation
Project/Site: 437865 RockGen

Job ID: 320-72716-2

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Laboratory: Eurofins TestAmerica, Sacramento

Narrative

Job Narrative 320-72716-2

Receipt

The samples were received on 4/22/2021 9:55 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.4° C.

LCMS

Method 537 (modified): The native sample, matrix spike, and matrix spike duplicate (MS/MSD) associated with preparation batch 320-484311 and analytical batch 320-485478 were performed at the same dilution. Due to the additional level of analyte present in the spiked samples, the concentration of 8:2 FTS in the MS/MSD was above the instrument calibration range. The data have been reported and qualified.

Method 537 (modified): Results for samples SB-10(7.5-9.5) (320-72716-12) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: TRC Environmental Corporation
 Project/Site: 437865 RockGen

Job ID: 320-72716-2

Client Sample ID: SB-10(7.5-9.5)

Lab Sample ID: 320-72716-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	0.11	J	0.21	0.079	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.15	J	0.21	0.043	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.34		0.21	0.030	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	1.7		0.21	0.088	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.95		0.21	0.037	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.51		0.21	0.023	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	0.28	J	0.51	0.21	ug/Kg	1	✳	537 (modified)	Total/NA
6:2 FTS	2.5		2.1	0.15	ug/Kg	1	✳	537 (modified)	Total/NA
8:2 FTS - DL	28		10	1.3	ug/Kg	5	✳	537 (modified)	Total/NA

Client Sample ID: SB-13(9-11)

Lab Sample ID: 320-72716-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.034	J	0.21	0.030	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.15	J	0.21	0.083	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.14	J	0.21	0.045	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.085	J	0.21	0.031	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.29		0.21	0.092	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.18	J	0.21	0.039	ug/Kg	1	✳	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	1.1		0.21	0.024	ug/Kg	1	✳	537 (modified)	Total/NA
6:2 FTS	0.70	J	2.1	0.16	ug/Kg	1	✳	537 (modified)	Total/NA
8:2 FTS	17		2.1	0.27	ug/Kg	1	✳	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: TRC Environmental Corporation
 Project/Site: 437865 RockGen

Job ID: 320-72716-2

Client Sample ID: SB-10(7.5-9.5)

Lab Sample ID: 320-72716-12

Date Collected: 04/20/21 15:25

Matrix: Solid

Date Received: 04/22/21 09:55

Percent Solids: 95.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.21	0.029	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluoropentanoic acid (PFPeA)	0.11	J	0.21	0.079	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorohexanoic acid (PFHxA)	0.15	J	0.21	0.043	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluoroheptanoic acid (PFHpA)	0.34		0.21	0.030	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorooctanoic acid (PFOA)	1.7		0.21	0.088	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorononanoic acid (PFNA)	0.95		0.21	0.037	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorodecanoic acid (PFDA)	0.51		0.21	0.023	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.037	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.052	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.055	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.032	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorooctanesulfonic acid (PFOS)	0.28	J	0.51	0.21	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.062	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.084	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
NMeFOSA	ND		0.21	0.042	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
NEtFOSA	ND		0.21	0.025	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
NMeFOSAA	ND		2.1	0.40	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
NEtFOSAA	ND		2.1	0.38	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
NMeFOSE	ND		0.21	0.073	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
NEtFOSE	ND		0.21	0.037	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
4:2 FTS	ND		2.1	0.38	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
6:2 FTS	2.5		2.1	0.15	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
HFPO-DA (GenX)	ND		0.26	0.11	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
9Cl-PF3ONS	ND		0.21	0.028	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
11Cl-PF3OUdS	ND		0.21	0.023	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.018	ug/Kg	✳	04/29/21 12:36	05/04/21 00:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	93		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C5 PFPeA	97		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C2 PFHxA	97		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C4 PFHpA	96		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C4 PFOA	94		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C5 PFNA	92		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C2 PFDA	79		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C2 PFUnA	84		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C2 PFDoA	85		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C2 PFTeDA	77		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C3 PFBS	85		25 - 150	04/29/21 12:36	05/04/21 00:20	1
18O2 PFHxS	83		25 - 150	04/29/21 12:36	05/04/21 00:20	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: TRC Environmental Corporation
Project/Site: 437865 RockGen

Job ID: 320-72716-2

Client Sample ID: SB-10(7.5-9.5)

Lab Sample ID: 320-72716-12

Date Collected: 04/20/21 15:25

Matrix: Solid

Date Received: 04/22/21 09:55

Percent Solids: 95.2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	76		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C8 FOSA	81		10 - 150	04/29/21 12:36	05/04/21 00:20	1
M2-4:2 FTS	80		25 - 150	04/29/21 12:36	05/04/21 00:20	1
M2-6:2 FTS	94		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C2 10:2 FTS	90		25 - 150	04/29/21 12:36	05/04/21 00:20	1
13C3 HFPO-DA	89		25 - 150	04/29/21 12:36	05/04/21 00:20	1
d3-NMeFOSAA	89		25 - 150	04/29/21 12:36	05/04/21 00:20	1
d5-NEtFOSAA	95		25 - 150	04/29/21 12:36	05/04/21 00:20	1
d-N-MeFOSA-M	61		10 - 150	04/29/21 12:36	05/04/21 00:20	1
d-N-EtFOSA-M	64		10 - 150	04/29/21 12:36	05/04/21 00:20	1
d7-N-MeFOSE-M	80		10 - 150	04/29/21 12:36	05/04/21 00:20	1
d9-N-EtFOSE-M	80		10 - 150	04/29/21 12:36	05/04/21 00:20	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2 FTS	28		10	1.3	ug/Kg	✱	04/29/21 12:36	05/04/21 00:10	5

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	89		25 - 150	04/29/21 12:36	05/04/21 00:10	5

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	4.8		0.1	0.1	%			04/29/21 11:50	1
Percent Solids	95.2		0.1	0.1	%			04/29/21 11:50	1

Client Sample ID: SB-13(9-11)

Lab Sample ID: 320-72716-18

Date Collected: 04/20/21 15:45

Matrix: Solid

Date Received: 04/22/21 09:55

Percent Solids: 93.3

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.034	J	0.21	0.030	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluoropentanoic acid (PFPeA)	0.15	J	0.21	0.083	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluorohexanoic acid (PFHxA)	0.14	J	0.21	0.045	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluoroheptanoic acid (PFHpA)	0.085	J	0.21	0.031	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluorooctanoic acid (PFOA)	0.29		0.21	0.092	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluorononanoic acid (PFNA)	0.18	J	0.21	0.039	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluorodecanoic acid (PFDA)	1.1		0.21	0.024	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluoroundecanoic acid (PFUnA)	ND		0.21	0.039	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.072	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.21	0.055	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.058	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.027	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.21	0.021	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.033	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.038	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.54	0.21	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluorononanesulfonic acid (PFNS)	ND		0.21	0.021	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.042	ug/Kg	✱	04/29/21 12:36	05/03/21 23:42	1

Eurofins TestAmerica, Sacramento

Client Sample Results

Client: TRC Environmental Corporation
Project/Site: 437865 RockGen

Job ID: 320-72716-2

Client Sample ID: SB-13(9-11)

Lab Sample ID: 320-72716-18

Date Collected: 04/20/21 15:45

Matrix: Solid

Date Received: 04/22/21 09:55

Percent Solids: 93.3

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorododecanesulfonic acid (PFDoS)	ND		0.21	0.064	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
Perfluorooctanesulfonamide (FOSA)	ND		0.21	0.088	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
NMeFOSA	ND		0.21	0.044	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
NEtFOSA	ND		0.21	0.026	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
NMeFOSAA	ND		2.1	0.42	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
NEtFOSAA	ND		2.1	0.40	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
NMeFOSE	ND		0.21	0.076	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
NEtFOSE	ND		0.21	0.039	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
4:2 FTS	ND		2.1	0.40	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
6:2 FTS	0.70	J	2.1	0.16	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
8:2 FTS	17		2.1	0.27	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
HFPO-DA (GenX)	ND		0.27	0.12	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
9Cl-PF3ONS	ND		0.21	0.029	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
11Cl-PF3OUdS	ND		0.21	0.024	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.21	0.019	ug/Kg	☆	04/29/21 12:36	05/03/21 23:42	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	83		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C5 PFPeA	93		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C2 PFHxA	90		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C4 PFHpA	90		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C4 PFOA	90		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C5 PFNA	86		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C2 PFDA	83		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C2 PFUnA	81		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C2 PFDoA	82		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C2 PFTeDA	71		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C3 PFBS	85		25 - 150	04/29/21 12:36	05/03/21 23:42	1
18O2 PFHxS	78		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C4 PFOS	84		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C8 FOSA	89		10 - 150	04/29/21 12:36	05/03/21 23:42	1
M2-4:2 FTS	81		25 - 150	04/29/21 12:36	05/03/21 23:42	1
M2-6:2 FTS	89		25 - 150	04/29/21 12:36	05/03/21 23:42	1
M2-8:2 FTS	78		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C2 10:2 FTS	83		25 - 150	04/29/21 12:36	05/03/21 23:42	1
13C3 HFPO-DA	88		25 - 150	04/29/21 12:36	05/03/21 23:42	1
d3-NMeFOSAA	83		25 - 150	04/29/21 12:36	05/03/21 23:42	1
d5-NEtFOSAA	83		25 - 150	04/29/21 12:36	05/03/21 23:42	1
d-N-MeFOSA-M	79		10 - 150	04/29/21 12:36	05/03/21 23:42	1
d-N-EtFOSA-M	85		10 - 150	04/29/21 12:36	05/03/21 23:42	1
d7-N-MeFOSE-M	79		10 - 150	04/29/21 12:36	05/03/21 23:42	1
d9-N-EtFOSE-M	76		10 - 150	04/29/21 12:36	05/03/21 23:42	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	6.7		0.1	0.1	%			04/29/21 11:50	1
Percent Solids	93.3		0.1	0.1	%			04/29/21 11:50	1

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Isotope Dilution Summary

Client: TRC Environmental Corporation
Project/Site: 437865 RockGen

Job ID: 320-72716-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M282FTS (25-150)
320-72716-12 - DL	SB-10(7.5-9.5)	89

Surrogate Legend

M282FTS = M2-8:2 FTS

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-72716-12	SB-10(7.5-9.5)	93	97	97	96	94	92	79	84
320-72716-18	SB-13(9-11)	83	93	90	90	90	86	83	81
320-72716-18 MS	SB-13(9-11)	75	99	100	93	91	91	82	83
320-72716-18 MSD	SB-13(9-11)	89	86	91	92	95	86	73	84
LCS 320-484311/2-A	Lab Control Sample	94	97	93	86	94	92	83	89
MB 320-484311/1-A	Method Blank	93	97	92	91	95	89	80	82

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOA (25-150)	PFOSA (10-150)	M242FTS (25-150)	M262FTS (25-150)
320-72716-12	SB-10(7.5-9.5)	85	77	85	83	76	81	80	94
320-72716-18	SB-13(9-11)	82	71	85	78	84	89	81	89
320-72716-18 MS	SB-13(9-11)	84	73	85	87	84	85	83	93
320-72716-18 MSD	SB-13(9-11)	76	64	82	82	76	86	79	87
LCS 320-484311/2-A	Lab Control Sample	84	71	83	87	91	93	80	98
MB 320-484311/1-A	Method Blank	78	61	85	85	80	87	92	93

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M282FTS (25-150)	M102FTS (25-150)	HFPODA (25-150)	d3NMFOA (25-150)	d5NEFOA (25-150)	dMeFOA (10-150)	dEtFOA (10-150)	NMFM (10-150)
320-72716-12	SB-10(7.5-9.5)		90	89	89	95	61	64	80
320-72716-18	SB-13(9-11)	78	83	88	83	83	79	85	79
320-72716-18 MS	SB-13(9-11)	77	81	91	80	84	84	85	77
320-72716-18 MSD	SB-13(9-11)	71	84	88	74	85	76	71	74
LCS 320-484311/2-A	Lab Control Sample	81	88	86	89	92	55	59	77
MB 320-484311/1-A	Method Blank	82	85	94	81	82	59	57	72

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	NEFM (10-150)
320-72716-12	SB-10(7.5-9.5)	80
320-72716-18	SB-13(9-11)	76
320-72716-18 MS	SB-13(9-11)	75
320-72716-18 MSD	SB-13(9-11)	73
LCS 320-484311/2-A	Lab Control Sample	79
MB 320-484311/1-A	Method Blank	71

Surrogate Legend

PFBA = 13C4 PFBA

PFPeA = 13C5 PFPeA

PFHxA = 13C2 PFHxA

C4PFHA = 13C4 PFHpA

Eurofins TestAmerica, Sacramento

Isotope Dilution Summary

Client: TRC Environmental Corporation
Project/Site: 437865 RockGen

Job ID: 320-72716-2

PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
M102FTS = 13C2 10:2 FTS
HFPODA = 13C3 HFPO-DA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFm = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M

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QC Sample Results

Client: TRC Environmental Corporation
 Project/Site: 437865 RockGen

Job ID: 320-72716-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-484311/1-A
Matrix: Solid
Analysis Batch: 485478

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 484311

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.20	0.028	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorotridecanoic acid (PFTrDA)	ND		0.20	0.051	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluoropentanesulfonic acid (PFPeS)	ND		0.20	0.020	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.50	0.20	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorononanesulfonic acid (PFNS)	ND		0.20	0.020	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorododecanesulfonic acid (PFDoS)	ND		0.20	0.060	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
Perfluorooctanesulfonamide (FOSA)	ND		0.20	0.082	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
NMeFOSA	ND		0.20	0.041	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
NEtFOSA	ND		0.20	0.024	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
NMeFOSAA	ND		2.0	0.39	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
NEtFOSAA	ND		2.0	0.37	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
NMeFOSE	ND		0.20	0.071	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
NEtFOSE	ND		0.20	0.036	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
4:2 FTS	ND		2.0	0.37	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
6:2 FTS	ND		2.0	0.15	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
8:2 FTS	ND		2.0	0.25	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
HFPO-DA (GenX)	ND		0.25	0.11	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
9Cl-PF3ONS	ND		0.20	0.027	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
11Cl-PF3OUdS	ND		0.20	0.022	ug/Kg		04/29/21 12:36	05/03/21 23:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.20	0.018	ug/Kg		04/29/21 12:36	05/03/21 23:23	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	93		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C5 PFPeA	97		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C2 PFHxA	92		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C4 PFHpA	91		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C4 PFOA	95		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C5 PFNA	89		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C2 PFDA	80		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C2 PFUnA	82		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C2 PFDoA	78		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C2 PFTeDA	61		25 - 150	04/29/21 12:36	05/03/21 23:23	1

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QC Sample Results

Client: TRC Environmental Corporation
 Project/Site: 437865 RockGen

Job ID: 320-72716-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-484311/1-A
Matrix: Solid
Analysis Batch: 485478

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 484311

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
13C3 PFBS	85		25 - 150	04/29/21 12:36	05/03/21 23:23	1
18O2 PFHxS	85		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C4 PFOS	80		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C8 FOSA	87		10 - 150	04/29/21 12:36	05/03/21 23:23	1
M2-4:2 FTS	92		25 - 150	04/29/21 12:36	05/03/21 23:23	1
M2-6:2 FTS	93		25 - 150	04/29/21 12:36	05/03/21 23:23	1
M2-8:2 FTS	82		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C2 10:2 FTS	85		25 - 150	04/29/21 12:36	05/03/21 23:23	1
13C3 HFPO-DA	94		25 - 150	04/29/21 12:36	05/03/21 23:23	1
d3-NMeFOSAA	81		25 - 150	04/29/21 12:36	05/03/21 23:23	1
d5-NEtFOSAA	82		25 - 150	04/29/21 12:36	05/03/21 23:23	1
d-N-MeFOSA-M	59		10 - 150	04/29/21 12:36	05/03/21 23:23	1
d-N-EtFOSA-M	57		10 - 150	04/29/21 12:36	05/03/21 23:23	1
d7-N-MeFOSE-M	72		10 - 150	04/29/21 12:36	05/03/21 23:23	1
d9-N-EtFOSE-M	71		10 - 150	04/29/21 12:36	05/03/21 23:23	1

Lab Sample ID: LCS 320-484311/2-A
Matrix: Solid
Analysis Batch: 485478

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoropentanoic acid (PFPeA)	2.00	1.81		ug/Kg		91	60 - 135
Perfluorohexanoic acid (PFHxA)	2.00	1.94		ug/Kg		97	60 - 135
Perfluoroheptanoic acid (PFHpA)	2.00	2.23		ug/Kg		112	60 - 135
Perfluorooctanoic acid (PFOA)	2.00	2.12		ug/Kg		106	60 - 135
Perfluorononanoic acid (PFNA)	2.00	2.12		ug/Kg		106	60 - 135
Perfluorodecanoic acid (PFDA)	2.00	2.02		ug/Kg		101	60 - 135
Perfluoroundecanoic acid (PFUnA)	2.00	2.02		ug/Kg		101	60 - 135
Perfluorododecanoic acid (PFDoA)	2.00	2.07		ug/Kg		103	60 - 135
Perfluorotridecanoic acid (PFTrDA)	2.00	1.80		ug/Kg		90	60 - 135
Perfluorotetradecanoic acid (PFTeA)	2.00	2.15		ug/Kg		107	60 - 135
Perfluorobutanesulfonic acid (PFBS)	1.77	1.73		ug/Kg		98	60 - 135
Perfluoropentanesulfonic acid (PFPeS)	1.88	2.07		ug/Kg		110	60 - 135
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.80		ug/Kg		99	60 - 135
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	1.94		ug/Kg		102	60 - 135
Perfluorooctanesulfonic acid (PFOS)	1.86	1.68		ug/Kg		91	60 - 135
Perfluorononanesulfonic acid (PFNS)	1.92	1.54		ug/Kg		80	60 - 135
Perfluorodecanesulfonic acid (PFDS)	1.93	1.76		ug/Kg		91	60 - 135
Perfluorododecanesulfonic acid (PFDoS)	1.94	1.53		ug/Kg		79	60 - 135

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QC Sample Results

Client: TRC Environmental Corporation
 Project/Site: 437865 RockGen

Job ID: 320-72716-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-484311/2-A
Matrix: Solid
Analysis Batch: 485478

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 484311

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorooctanesulfonamide (FOSA)	2.00	1.91		ug/Kg		95	60 - 135
NMeFOSA	2.00	2.07		ug/Kg		104	60 - 135
NEtFOSA	2.00	1.86		ug/Kg		93	60 - 135
NMeFOSAA	2.00	1.90	J	ug/Kg		95	60 - 135
NEtFOSAA	2.00	1.94	J	ug/Kg		97	60 - 135
NMeFOSE	2.00	2.10		ug/Kg		105	60 - 135
NEtFOSE	2.00	2.03		ug/Kg		102	60 - 135
4:2 FTS	1.87	1.92	J	ug/Kg		103	60 - 135
6:2 FTS	1.90	1.90	J	ug/Kg		100	60 - 135
8:2 FTS	1.92	1.83	J	ug/Kg		96	60 - 135
HFPO-DA (GenX)	2.00	2.05		ug/Kg		103	60 - 135
9Cl-PF3ONS	1.86	1.85		ug/Kg		99	60 - 135
11Cl-PF3OUdS	1.88	1.59		ug/Kg		84	60 - 135
4,8-Dioxa-3H-perfluoronanoic acid (ADONA)	1.88	1.84		ug/Kg		98	60 - 135

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	94		25 - 150
13C5 PFPeA	97		25 - 150
13C2 PFHxA	93		25 - 150
13C4 PFHpA	86		25 - 150
13C4 PFOA	94		25 - 150
13C5 PFNA	92		25 - 150
13C2 PFDA	83		25 - 150
13C2 PFUnA	89		25 - 150
13C2 PFDoA	84		25 - 150
13C2 PFTeDA	71		25 - 150
13C3 PFBS	83		25 - 150
18O2 PFHxS	87		25 - 150
13C4 PFOS	91		25 - 150
13C8 FOSA	93		10 - 150
M2-4:2 FTS	80		25 - 150
M2-6:2 FTS	98		25 - 150
M2-8:2 FTS	81		25 - 150
13C2 10:2 FTS	88		25 - 150
13C3 HFPO-DA	86		25 - 150
d3-NMeFOSAA	89		25 - 150
d5-NEtFOSAA	92		25 - 150
d-N-MeFOSA-M	55		10 - 150
d-N-EtFOSA-M	59		10 - 150
d7-N-MeFOSE-M	77		10 - 150
d9-N-EtFOSE-M	79		10 - 150

QC Sample Results

Client: TRC Environmental Corporation
Project/Site: 437865 RockGen

Job ID: 320-72716-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-72716-18 MS

Matrix: Solid

Analysis Batch: 485478

Client Sample ID: SB-13(9-11)

Prep Type: Total/NA

Prep Batch: 484311

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
Perfluorobutanoic acid (PFBA)	0.034	J	2.09	2.32		ug/Kg	✱	110	70 - 130
Perfluoropentanoic acid (PFPeA)	0.15	J	2.09	2.05		ug/Kg	✱	91	70 - 130
Perfluorohexanoic acid (PFHxA)	0.14	J	2.09	1.94		ug/Kg	✱	86	70 - 130
Perfluoroheptanoic acid (PFHpA)	0.085	J	2.09	2.32		ug/Kg	✱	107	70 - 130
Perfluorooctanoic acid (PFOA)	0.29		2.09	2.34		ug/Kg	✱	98	70 - 130
Perfluorononanoic acid (PFNA)	0.18	J	2.09	2.40		ug/Kg	✱	107	70 - 130
Perfluorodecanoic acid (PFDA)	1.1		2.09	2.88		ug/Kg	✱	84	70 - 130
Perfluoroundecanoic acid (PFUnA)	ND		2.09	2.15		ug/Kg	✱	103	70 - 130
Perfluorododecanoic acid (PFDoA)	ND		2.09	2.13		ug/Kg	✱	102	70 - 130
Perfluorotridecanoic acid (PFTTrDA)	ND		2.09	2.09		ug/Kg	✱	100	70 - 130
Perfluorotetradecanoic acid (PFTeA)	ND		2.09	2.20		ug/Kg	✱	106	70 - 130
Perfluorobutanesulfonic acid (PFBS)	ND		1.84	1.85		ug/Kg	✱	100	70 - 130
Perfluoropentanesulfonic acid (PFPeS)	ND		1.96	2.24		ug/Kg	✱	115	70 - 130
Perfluorohexanesulfonic acid (PFHxS)	ND		1.90	1.79		ug/Kg	✱	94	70 - 130
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.98	2.14		ug/Kg	✱	108	70 - 130
Perfluorooctanesulfonic acid (PFOS)	ND		1.93	1.92		ug/Kg	✱	99	70 - 130
Perfluorononanesulfonic acid (PFNS)	ND		2.00	1.83		ug/Kg	✱	91	70 - 130
Perfluorodecanesulfonic acid (PFDS)	ND		2.01	1.86		ug/Kg	✱	92	70 - 130
Perfluorododecanesulfonic acid (PFDoS)	ND		2.02	1.91		ug/Kg	✱	94	70 - 130
Perfluorooctanesulfonamide (FOSA)	ND		2.09	2.08		ug/Kg	✱	100	70 - 130
NMeFOSA	ND		2.09	2.04		ug/Kg	✱	98	70 - 130
NEtFOSA	ND		2.09	1.99		ug/Kg	✱	95	70 - 130
NMeFOSAA	ND		2.09	2.06	J	ug/Kg	✱	99	70 - 130
NEtFOSAA	ND		2.09	2.20		ug/Kg	✱	105	70 - 130
NMeFOSE	ND		2.09	1.94		ug/Kg	✱	93	70 - 130
NEtFOSE	ND		2.09	2.27		ug/Kg	✱	109	70 - 130
4:2 FTS	ND		1.95	2.26		ug/Kg	✱	116	70 - 130
6:2 FTS	0.70	J	1.98	2.54		ug/Kg	✱	93	70 - 130
8:2 FTS	17		2.00	21.4	E 4	ug/Kg	✱	241	70 - 130
HFPO-DA (GenX)	ND		2.09	2.08		ug/Kg	✱	100	70 - 130
9Cl-PF3ONS	ND		1.94	1.97		ug/Kg	✱	101	70 - 130
11Cl-PF3OUdS	ND		1.96	1.90		ug/Kg	✱	97	70 - 130
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.96	2.09		ug/Kg	✱	107	70 - 130
		MS	MS						
Isotope Dilution	%Recovery	Qualifier	Limits						
13C4 PFBA	75		25 - 150						
13C5 PFPeA	99		25 - 150						
13C2 PFHxA	100		25 - 150						

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: TRC Environmental Corporation
Project/Site: 437865 RockGen

Job ID: 320-72716-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-72716-18 MS
Matrix: Solid
Analysis Batch: 485478

Client Sample ID: SB-13(9-11)
Prep Type: Total/NA
Prep Batch: 484311

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
13C4 PFHpA	93		25 - 150
13C4 PFOA	91		25 - 150
13C5 PFNA	91		25 - 150
13C2 PFDA	82		25 - 150
13C2 PFUnA	83		25 - 150
13C2 PFDoA	84		25 - 150
13C2 PFTeDA	73		25 - 150
13C3 PFBS	85		25 - 150
18O2 PFHxS	87		25 - 150
13C4 PFOS	84		25 - 150
13C8 FOSA	85		10 - 150
M2-4:2 FTS	83		25 - 150
M2-6:2 FTS	93		25 - 150
M2-8:2 FTS	77		25 - 150
13C2 10:2 FTS	81		25 - 150
13C3 HFPO-DA	91		25 - 150
d3-NMeFOSAA	80		25 - 150
d5-NEtFOSAA	84		25 - 150
d-N-MeFOSA-M	84		10 - 150
d-N-EtFOSA-M	85		10 - 150
d7-N-MeFOSE-M	77		10 - 150
d9-N-EtFOSE-M	75		10 - 150

Lab Sample ID: 320-72716-18 MSD
Matrix: Solid
Analysis Batch: 485478

Client Sample ID: SB-13(9-11)
Prep Type: Total/NA
Prep Batch: 484311

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
Perfluorobutanoic acid (PFBA)	0.034	J	2.01	1.98		ug/Kg	⊛	97	70 - 130	16	30
Perfluoropentanoic acid (PFPeA)	0.15	J	2.01	2.22		ug/Kg	⊛	103	70 - 130	8	30
Perfluorohexanoic acid (PFHxA)	0.14	J	2.01	2.02		ug/Kg	⊛	93	70 - 130	4	30
Perfluoroheptanoic acid (PFHpA)	0.085	J	2.01	2.11		ug/Kg	⊛	100	70 - 130	10	30
Perfluorooctanoic acid (PFOA)	0.29		2.01	2.26		ug/Kg	⊛	98	70 - 130	3	30
Perfluorononanoic acid (PFNA)	0.18	J	2.01	2.43		ug/Kg	⊛	112	70 - 130	1	30
Perfluorodecanoic acid (PFDA)	1.1		2.01	3.47		ug/Kg	⊛	116	70 - 130	19	30
Perfluoroundecanoic acid (PFUnA)	ND		2.01	2.08		ug/Kg	⊛	103	70 - 130	3	30
Perfluorododecanoic acid (PFDoA)	ND		2.01	2.20		ug/Kg	⊛	109	70 - 130	3	30
Perfluorotridecanoic acid (PFTTrDA)	ND		2.01	1.91		ug/Kg	⊛	95	70 - 130	9	30
Perfluorotetradecanoic acid (PFTeA)	ND		2.01	2.04		ug/Kg	⊛	101	70 - 130	8	30
Perfluorobutanesulfonic acid (PFBS)	ND		1.78	1.66		ug/Kg	⊛	93	70 - 130	11	30
Perfluoropentanesulfonic acid (PFPeS)	ND		1.89	1.92		ug/Kg	⊛	102	70 - 130	15	30
Perfluorohexanesulfonic acid (PFHxS)	ND		1.83	1.72		ug/Kg	⊛	94	70 - 130	4	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.92	2.07		ug/Kg	⊛	108	70 - 130	3	30

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: TRC Environmental Corporation
 Project/Site: 437865 RockGen

Job ID: 320-72716-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-72716-18 MSD

Matrix: Solid

Analysis Batch: 485478

Client Sample ID: SB-13(9-11)

Prep Type: Total/NA

Prep Batch: 484311

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	ND		1.87	1.89		ug/Kg	⊛	101	70 - 130	1	30
Perfluorononanesulfonic acid (PFNS)	ND		1.93	1.52		ug/Kg	⊛	79	70 - 130	18	30
Perfluorodecanesulfonic acid (PFDS)	ND		1.94	1.73		ug/Kg	⊛	89	70 - 130	7	30
Perfluorododecanesulfonic acid (PFDoS)	ND		1.95	1.63		ug/Kg	⊛	84	70 - 130	16	30
Perfluorooctanesulfonamide (FOSA)	ND		2.01	1.98		ug/Kg	⊛	98	70 - 130	5	30
NMeFOSA	ND		2.01	1.98		ug/Kg	⊛	98	70 - 130	3	30
NEtFOSA	ND		2.01	1.98		ug/Kg	⊛	98	70 - 130	0	30
NMeFOSAA	ND		2.01	2.09		ug/Kg	⊛	104	70 - 130	1	30
NEtFOSAA	ND		2.01	2.03		ug/Kg	⊛	101	70 - 130	8	30
NMeFOSE	ND		2.01	1.90		ug/Kg	⊛	94	70 - 130	2	30
NEtFOSE	ND		2.01	2.10		ug/Kg	⊛	104	70 - 130	8	30
4:2 FTS	ND		1.88	2.04		ug/Kg	⊛	109	70 - 130	10	30
6:2 FTS	0.70	J	1.91	2.77		ug/Kg	⊛	108	70 - 130	9	30
8:2 FTS	17		1.93	20.5	E 4	ug/Kg	⊛	200	70 - 130	5	30
HFPO-DA (GenX)	ND		2.01	2.13		ug/Kg	⊛	106	70 - 130	2	30
9CI-PF3ONS	ND		1.88	1.98		ug/Kg	⊛	105	70 - 130	0	30
11CI-PF3OUdS	ND		1.90	1.69		ug/Kg	⊛	89	70 - 130	12	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	ND		1.90	2.11		ug/Kg	⊛	111	70 - 130	1	30

Isotope Dilution	MSD MSD		Limits
	%Recovery	Qualifier	
13C4 PFBA	89		25 - 150
13C5 PFPeA	86		25 - 150
13C2 PFHxA	91		25 - 150
13C4 PFHpA	92		25 - 150
13C4 PFOA	95		25 - 150
13C5 PFNA	86		25 - 150
13C2 PFDA	73		25 - 150
13C2 PFUnA	84		25 - 150
13C2 PFDoA	76		25 - 150
13C2 PFTeDA	64		25 - 150
13C3 PFBS	82		25 - 150
18O2 PFHxS	82		25 - 150
13C4 PFOS	76		25 - 150
13C8 FOSA	86		10 - 150
M2-4:2 FTS	79		25 - 150
M2-6:2 FTS	87		25 - 150
M2-8:2 FTS	71		25 - 150
13C2 10:2 FTS	84		25 - 150
13C3 HFPO-DA	88		25 - 150
d3-NMeFOSAA	74		25 - 150
d5-NEtFOSAA	85		25 - 150
d-N-MeFOSA-M	76		10 - 150
d-N-EtFOSA-M	71		10 - 150
d7-N-MeFOSE-M	74		10 - 150

Eurofins TestAmerica, Sacramento

QC Sample Results

Client: TRC Environmental Corporation
 Project/Site: 437865 RockGen

Job ID: 320-72716-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-72716-18 MSD
Matrix: Solid
Analysis Batch: 485478

Client Sample ID: SB-13(9-11)
Prep Type: Total/NA
Prep Batch: 484311

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>MSD Qualifier</i>	<i>MSD Limits</i>
<i>d9-N-EtFOSE-M</i>	73		10 - 150

Method: D 2216 - Percent Moisture

Lab Sample ID: 320-72716-12 DU
Matrix: Solid
Analysis Batch: 484256

Client Sample ID: SB-10(7.5-9.5)
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Moisture	4.8		5.0		%		3	20
Percent Solids	95.2		95.0		%		0.2	20



QC Association Summary

Client: TRC Environmental Corporation
 Project/Site: 437865 RockGen

Job ID: 320-72716-2

LCMS

Prep Batch: 484311

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-72716-12	SB-10(7.5-9.5)	Total/NA	Solid	SHAKE	
320-72716-12 - DL	SB-10(7.5-9.5)	Total/NA	Solid	SHAKE	
320-72716-18	SB-13(9-11)	Total/NA	Solid	SHAKE	
MB 320-484311/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-484311/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-72716-18 MS	SB-13(9-11)	Total/NA	Solid	SHAKE	
320-72716-18 MSD	SB-13(9-11)	Total/NA	Solid	SHAKE	

Analysis Batch: 485478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-72716-12 - DL	SB-10(7.5-9.5)	Total/NA	Solid	537 (modified)	484311
320-72716-12	SB-10(7.5-9.5)	Total/NA	Solid	537 (modified)	484311
320-72716-18	SB-13(9-11)	Total/NA	Solid	537 (modified)	484311
MB 320-484311/1-A	Method Blank	Total/NA	Solid	537 (modified)	484311
LCS 320-484311/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	484311
320-72716-18 MS	SB-13(9-11)	Total/NA	Solid	537 (modified)	484311
320-72716-18 MSD	SB-13(9-11)	Total/NA	Solid	537 (modified)	484311

General Chemistry

Analysis Batch: 484256

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-72716-12	SB-10(7.5-9.5)	Total/NA	Solid	D 2216	
320-72716-18	SB-13(9-11)	Total/NA	Solid	D 2216	
320-72716-12 DU	SB-10(7.5-9.5)	Total/NA	Solid	D 2216	

Lab Chronicle

Client: TRC Environmental Corporation
 Project/Site: 437865 RockGen

Job ID: 320-72716-2

Client Sample ID: SB-10(7.5-9.5)
Date Collected: 04/20/21 15:25
Date Received: 04/22/21 09:55

Lab Sample ID: 320-72716-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			484256	04/29/21 11:50	TCS	TAL SAC

Client Sample ID: SB-10(7.5-9.5)
Date Collected: 04/20/21 15:25
Date Received: 04/22/21 09:55

Lab Sample ID: 320-72716-12
Matrix: Solid
Percent Solids: 95.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE	DL		5.12 g	10.00 mL	484311	04/29/21 12:36	OP	TAL SAC
Total/NA	Analysis	537 (modified)	DL	5			485478	05/04/21 00:10	RS1	TAL SAC
Total/NA	Prep	SHAKE			5.12 g	10.00 mL	484311	04/29/21 12:36	OP	TAL SAC
Total/NA	Analysis	537 (modified)		1			485478	05/04/21 00:20	RS1	TAL SAC

Client Sample ID: SB-13(9-11)
Date Collected: 04/20/21 15:45
Date Received: 04/22/21 09:55

Lab Sample ID: 320-72716-18
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			484256	04/29/21 11:50	TCS	TAL SAC

Client Sample ID: SB-13(9-11)
Date Collected: 04/20/21 15:45
Date Received: 04/22/21 09:55

Lab Sample ID: 320-72716-18
Matrix: Solid
Percent Solids: 93.3

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.00 g	10.00 mL	484311	04/29/21 12:36	OP	TAL SAC
Total/NA	Analysis	537 (modified)		1			485478	05/03/21 23:42	RS1	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: TRC Environmental Corporation
Project/Site: 437865 RockGen

Job ID: 320-72716-2

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
D 2216		Solid	Percent Moisture
D 2216		Solid	Percent Solids



Method Summary

Client: TRC Environmental Corporation
Project/Site: 437865 RockGen

Job ID: 320-72716-2

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
D 2216	Percent Moisture	ASTM	TAL SAC
SHAKE	Shake Extraction with Ultrasonic Bath Extraction	SW846	TAL SAC

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



Sample Summary

Client: TRC Environmental Corporation
Project/Site: 437865 RockGen

Job ID: 320-72716-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-72716-12	SB-10(7.5-9.5)	Solid	04/20/21 15:25	04/22/21 09:55	
320-72716-18	SB-13(9-11)	Solid	04/20/21 15:45	04/22/21 09:55	

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TAL-8210

Address:

Regulatory Program: DW NPDES RCRA Other:

Client Contact		Project Manager: <u>Jeff Rainey</u>		Site Contact:		Date: <u>4/21/21</u>		COC No: <u>1</u> of <u>3</u> COCs	
Company Name: <u>TRC</u>		Tel/Email: <u>JRainey@trccompanies.com</u>		Lab Contact: <u>David Altucher</u>		Carrier:		Sampler: <u>Lydia Turner</u>	
Address: <u>708 Hartland Trail</u>		Analysis Turnaround Time		Perform MS / MSD (Y / N)		Walk-in Client:		For Lab Use Only:	
City/State/Zip: <u>Madison, WI 53717</u>		<input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS		Filtered Sample (Y / N)		Lab Sampling:			
Phone: <u>(414) 294-9247</u>		TAT if different from Below <u>5 days</u>		Sample Type (G=Comp, G=Grab)		Job / SDG No.:			
Fax: <u>(262) 879-1220</u>		<input type="checkbox"/> 2 weeks		Sample Time					
Project Name: <u>Rockwell</u>		<input type="checkbox"/> 1 week		Matrix					
Site: <u>Rockwell</u>		<input type="checkbox"/> 2 days		# of Cont.					
PO # <u>165540</u>		<input type="checkbox"/> 1 day							



320-72716 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (G=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	PTAS (w/ 33 list)	Sample Specific Notes:
SB-01 (0-2)	4/20/21	8:35	G	S	1	N	N	X	
SB-02 (0-2)	4/20/21	9:05	G	S	1	N	N	X	
SB-03 (0-2)	4/20/21	10:05	G	S	1	N	N	X	
SB-04 (0-2)	4/20/21	10:20	G	S	1	N	N	X	
SB-05 (0-2)	4/20/21	10:30	G	S	1	N	N	X	
SB-05 (4-5)	4/20/21	10:40	G	S	1	N	N	X	HOLD
SB-06 (0-1.5)	4/20/21	11:40	G	S	1	N	N	X	
SB-07 (0-2)	4/20/21	12:00	G	S	1	N	N	X	
SB-08 (0-2)	4/20/21	12:15	G	S	1	N	N	X	
SB-09 (0-2)	4/20/21	12:25	G	S	1	N	N	X	
SB-10 (2-4)	4/20/21	15:20	G	S	1	N	N	X	
SB-10 (75-9.5)	4/20/21	15:25	G	S	1	N	N	X	HOLD

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seal Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Custody Seal No.: <u>1589659</u>	Cooler Temp. (°C): Obsd: <u>14</u> Corrd: <u>14</u>	Therm ID No.: <u>605</u>
Relinquished by: <u>Lydian Turner</u>	Company: <u>TRC</u>	Received by: <u>[Signature]</u>	Company: <u>EMSS</u>
Relinquished by:	Company:	Received by:	Company:
Relinquished by:	Company:	Received in Laboratory by:	Company:



Login Sample Receipt Checklist

Client: TRC Environmental Corporation

Job Number: 320-72716-2

Login Number: 72716

List Source: Eurofins TestAmerica, Sacramento

List Number: 1

Creator: Alltucker, David R

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1569659
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	