



Addendum No. 1

Project: **Sludge Hauling Services for the Wastewater Treatment Plant**

Issued by: David Lawrence, P.E., General Manager

Issue Date: 6/1/2026

This Addendum forms part of the Contract Documents. Proposers shall acknowledge receipt of this Addendum in their proposal submittal.

Questions and Responses

No.	Question	Agency Response
1	Please provide PFAS test results. If none exist, please respond that none exist.	Please see attached report.
2	Please add an Agency PFAS testing/reporting requirement and limit (to be proposed by each proposer) to the Agreement.	REJECT. This testing is not part of the Agency's permit.
3	Please confirm that the annual CPI is as of right, not Agency discretion. It is unreasonable to expect a contractor to have the same nominal pricing for as many as 5 years. If not as of right, can Contractor submit different pricing for each of the 5 potential years of this agreement?	This can be negotiated as part of the contract if the proposer is selected.
4	In Section 3.2.2, please change 45 days to 30 days.	REJECT. This is the Agency's standard timeframe.
5	Please add to 3.2.2 that undisputed amounts not timely paid will accrue interest at 1.5% per month from the date due until paid.	REJECT.
6	In 3.3.2(C), please add as follows: Notwithstanding the foregoing, Contractor shall be entitled to recover from Agency the actual costs (without mark-up) of any Agency-approved measures to mitigate the impact of a Force Majeure Event. If Agency does not	This can be negotiated as part of the contract if the proposer is selected.

	approve measures to mitigate the impact of a Force Majeure Event, Contractor shall be under no obligation to mitigate its impact or incur additional costs to resume performance hereunder.	
7	Please add a 3.2.2(d) as follows: In the event that, after the date of this Agreement, Contractor cannot perform all or a portion of this Agreement or Contractor's costs hereunder increase, in each case, due to a change in Federal, State, or local law or ordinance; orders or judgments of any Federal, State or local court, administrative agency or governmental body or a change in permit conditions or requirements, Contractor shall be entitled to, and shall promptly provide notice of the need, if any, for additional compensation or for renegotiation of terms in order to mitigate and comply with the effects of such event. Any such additional compensation shall be paid at cost with no mark-up, overhead or profit thereon.	REJECT.
8	Please delete 3.3.10(f). Deductibles and SIRs have no effect on the amount recoverable by the Agency from an insurer; it is solely between the insured and the insurer. Most companies obtain annual policies on a company wide basis and cannot economically obtain policies for each project or change deductibles or SIRs in the middle of the policy year.	REJECT.
9	Please advise whether all or portion of the services are subject to Prevailing Wage requirements. If they are, please provide the applicable wage rates so they can be incorporated into the pricing proposal.	The services are not subject to prevailing wage. Please see attached DIR opinion which found that the hauling of biosolids from a water treatment facility and even the application of those biosolids to farmland as soil amendment was not a public work subject to the payment of prevailing wage.

10	In 3.6.1, please replace “in any manner” with “to the extent” and insert “negligent” before the word “acts”.	REJECT.
11	In 3.6.2: Please strike counsel of Agency’s choosing since in most cases counsel will be selected by the insurance company.	REJECT.
12	Please confirm that any subcontractor identified in a response to the RFP shall be deemed approved pursuant to Section 3.7.2. Due to pricing in RFP response submittal, disapproval of a subcontractor after award is inappropriate.	The Agency will conduct a due diligence analysis of the subcontractors prior to intent to recommend award. Please note, subcontractors must also have the necessary levels of insurance and must have proper licenses/registration.
13	Please confirm that the Agency will compensate Contractor for its costs if it attempts to deliver biosolids or sludge that do not meet the minimum solids content (or other quality requirements if this has to be Class B).	This can be negotiated as part of the contract if the proposer is selected.
14	Does the 121 Palomino Dr. P.O. Box accept deliveries by overnight carrier (i.e., FedEx)?	The Administrative Office accepts deliveries during office hours 8 a.m. to 3 p.m.
15	Will indicating any Exceptions/Modifications to the RFP Terms or draft Agreement cause a lowering of score or rejection of bid (i.e., suggesting that contract’s termination clause be revised with clause allowing termination for cause after a failure to cure)?	No. The section of the RFP titled, “Execution of the Agreement” states the following: “Bidder must submit any and all exceptions to this RFP with its proposal, clearly identifying the exception, including the page number and section number, as appropriate. Bidder should note that the submittal of an exception does not obligate the Agency to revise the terms of this RFP or any resulting agreement. The Agency will not consider any exceptions that are not identified in the proposal. The Agency reserves the right to negotiate with the selected bidder to amend services to meet the Agency’s financial requirements.” This section makes clear that exceptions or requested modifications can be requested and entertained and that doing so does not

		disqualify a proposer. They Agency may decide whether to entertain the suggested revisions.
16	Is there an end-use preference between Land Application vs. Composting vs. Landfilling?	No.
17	Does Contractor need to provide any staged trailers or other equipment on-site (yard goat, etc.)?	No.
18	Does Agency keep Contractor informed of adverse weather events including snowplow status of surrounding roads during events of snowfall in order to schedule pickup times that are feasible?	Yes.
19	Does Agency deem this a prevailing wage/"public works" contract, and if so, what is the prevailing wage determination and craft?	Please see Question No. 8 above.
20	Is preference given for contractors who use Alternative-Fuel (i.e., CNG) trucks instead of Diesel trucks?	No.
21	May the Contractor propose a minimum tonnage charge per load in its Cost Proposal?	The Contractor may propose a minimum load requirement, in wet tons, with short loads being adjusted accordingly.
22	For the Fuel Surcharge formula, does Contractor decide the Base Fuel Price value, Distance multiplier value, and tons per load value, to be used in this contract and the Tons per load? And please confirm that all 3 values can remain fixed during the contract term?	The tons per load is determined by the Contractor's minimum load requirement. See Section 3.2.5 and 3.2.6 of the Agreement for information on rate increases and the fuel surcharge. An updated Attachment A: Cost Proposal is attached to this Addendum. Each proposer shall indicate the distance multiplier formula for each location.
23	Who is current hauler, what is the hauling rate/s, and what site/s is the material currently hauled to?	Bidders are responsible for determining their own costs. The current hauler is Synagro West, LLC. The current rate per wet ton is \$69.00 with a base fuel price of \$4.758 per gallon. The current hauler listed two locations in their proposal: 1) Helendale, CA and 2) Vicksburg, AZ.

24	Does Agency confirm hauler compliance with CA Assembly Bill 5 (prohibits the use of independent contractor-drivers [instead of employees] by trucking companies)?	Yes. Haulers must comply with AB 5.
25	May the Contractor propose a separate line-item for the Trailer rentals, or does Agency instead require that the Trailer rentals be rolled into the per-ton Pricing?	There will be no separate line item for trailer rentals.
26	May the Contractor propose a minimum tonnage charge per load in its Cost Proposal?	The Contractor may propose a minimum load requirement, in wet tons, with short loads being adjusted accordingly.
27	May the Contractor propose more than 1 destination?	Yes. Please make sure to indicate each location in your proposal and provide the fuel surcharge formula for both.

Contract Document Revisions

Clarifications and Additions

None.

Plan Revisions

None.

Acknowledgement of Receipt

The undersigned acknowledges receipt of Addendum No. 1 and confirms that the requirements of this Addendum have been incorporated into the proposal submitted.

Firm Name: _____

Authorized Representative (Printed Name): _____

Signature: _____

Title: _____

Date: _____

Sludge Hauling Services for the Wastewater Treatment Plant

Addendum No. 1

Attachment A: Cost Proposal

Name of Contractor: _____

Base price per ton \$ _____. This applies to the period of September 1, 2026 to August 31, 2027.

Fuel Surcharge Increase Formula:

Distance Multiplier X (EIA fuel cost per Gallon - Base Fuel Price) X Tons of Biosolids Managed.

1. Distance Multiplier: Round Trip Miles _____/Miles Per Gallon _____/Tons Hauled _____ = _____.
2. EIA Fuel Cost per Gallon is based on the EIA California Monthly Retail Gasoline and Diesel On-Highway Prices.
3. Base Fuel Price of \$ _____ is based on the Weekly EIA California Retail Gasoline and Diesel On-Highway Price published as of the week of _____.



Big Bear Area Regional Wastewater Agency (BBARWA)
121 Palomino Drive
PO Box 517
Big Bear City, Ca 92314
Phone: 909-584-4018

February 17, 2021

Ms. Hope Smythe, Executive Officer
California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, CA 92501 - 3339
Re: PFAS Groundwater Monitoring Report

Dear Ms. Smythe,

The groundwater monitoring final report is attached with the following information; text, tables, figures, laboratory analytical data, appendices (one PDF for the entire report), and analytical data.

If you have any questions, please do not hesitate to contact me.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

BIG BEAR AREA REGIONAL
WASTEWATER AGENCY
John Shimmin, CPO / Plant Manager

**WATER CODE SECTIONS 13267 AND 13383 ORDER FOR THE
DETERMINATION OF THE PRESENCE OF PER- AND POLYFLUOROALKYL
SUBSTANCES AT PUBLICLY OWNED TREATMENT WORKS
ORDER WQ 2020-0015-DWQ**



February 16, 2020

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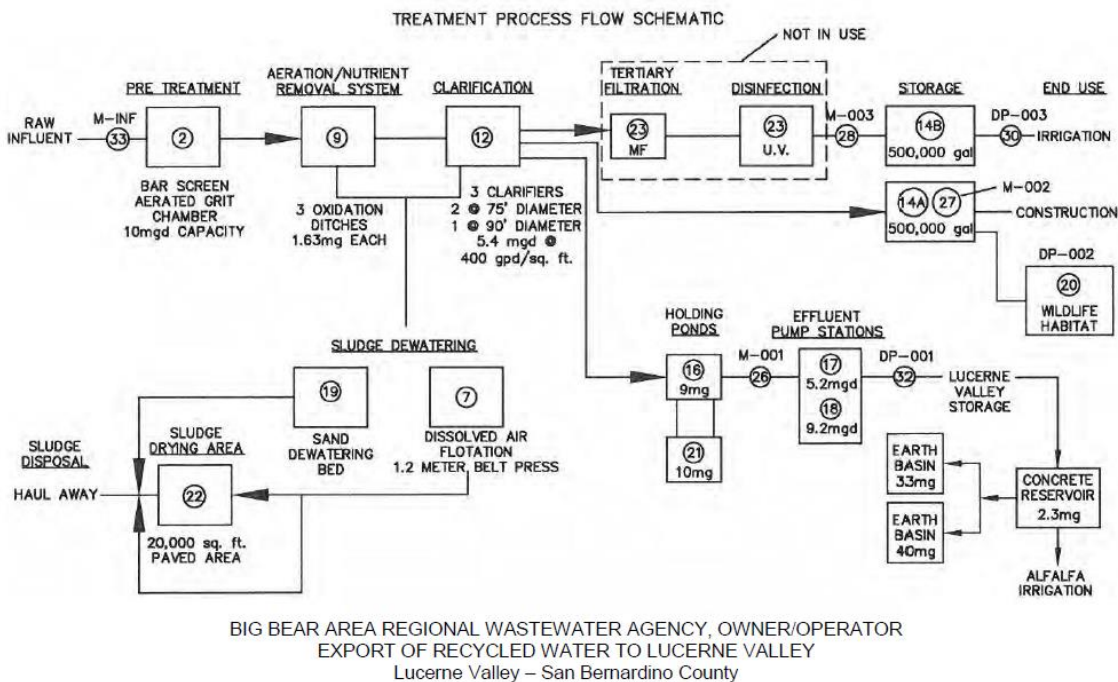
Facility Information

Big Bear Area Regional Wastewater Agency (BBARWA) collects and treats the wastewater for its Member Agencies (the City of Big Bear Lake, Big Bear City Community Services District, and San Bernardino County on behalf of Service Area 53B) in the Big Bear Valley in the San Bernardino Mountains of California. BBARWA owns and operates a 4.9 million gallon per day (MGD) capacity wastewater treatment plant (WWTP). The WWTP currently treats approximately 2.2 MGD of municipal wastewater. The WWTP discharge is currently regulated by two regulatory boards and discharge permits:

- Santa Ana Region of the California Regional Water Quality Control Board (RWQCB) under Waste Discharge and Producer/User Water Recycling Requirement (WDR) Order No. R8-2005-0044 (Santa Ana WDR), issued on June 24, 2005. The Santa Ana WDR regulates two discharge points in the Big Bear Valley.
- Colorado River Basin RWQCB under WDR Order No. R7-2016-0026 (Colorado River Basin WDR), issued on June 30, 2016. The Colorado River Basin WDR regulates one discharge point in the Lucerne Valley.

Wastewater passes through pretreatment, aeration/nutrient removal, clarification, and then is sent to effluent storage. Water flows from the effluent storage out to the Lucerne Valley for alfalfa irrigation. Currently, the facility treats approximately 2.2 MGD of wastewater. The flow schematic is as follows:

Figure 1: Treatment Process Flow Schematic



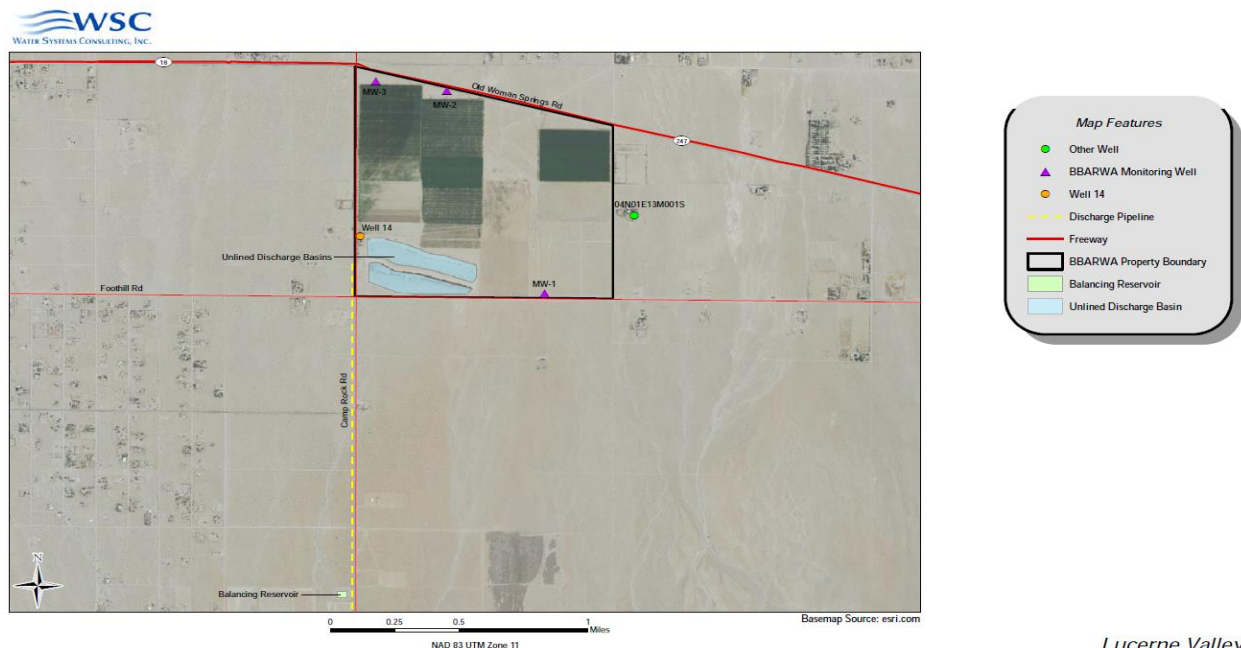
Effluent flow metering occurs at DP-001 and influent metering occurs at M-INF. The meter calibration logs are in Attachment A.

BBARWA’s treated undisinfected secondary effluent is discharged to a 480-acre site in Lucerne Valley (Lucerne Valley Facility) for crop irrigation. The use of treated effluent for crop irrigation at the Lucerne Valley Facility began in 1980, and 100% of the WWTP effluent is currently discharged to this location. The Lucerne Valley Facility also includes two earthen basins that are used to dispose of excess treated effluent by percolation and evaporation.

There are three permanent monitoring wells at the Lucerne Valley Facility. Monitoring Well 1 is located along the south-eastern side of the farm and is upgradient from the aquifer. Monitoring Wells 2 and 3 are located along the north-western side of the farm. See Figure 2 for monitoring well locations in relation to the irrigation fields.

Each monitoring well is constructed of 4-inch diameter polyvinyl chloride (PVC) casing to a depth of 250 feet below ground surface (ft bgs). The wells are each constructed with multiple perforation intervals between 135 ft bgs and 250 ft bgs. The monitoring wells are completed 2.5 ft above ground surface with locking monument casing.

Figure 2 Lucerne Valley Monitoring Well Location Map



Thomas Harder & Co. Groundwater Consulting

Lucerne Valley Land Discharge Location Figure 2

Reported Data

The sub-contract laboratory analyzed the PFAS samples under drinking water methods, not wastewater methods. This caused the influent sample to be diluted due to matrices, which subsequently raised the method reporting limit (MRL). The matrices also caused 18 of 31 target

PFAS analytes to be analyzed. Influent and effluent samples were re-sampled on February 10, 2021.

There were no variations in sampling and BBARWA followed all guidance document listed in Section B.1.l and B.1.m in the PFAS Order. The samples were taken following the BBARWA Laboratory Quality Assurance Manual. The sampling details of the 5 samples by their field name are as follows (See Figure 1 for exact locations):

- EFFLUENT - Effluent was a grab sample from DP-001.
- INFLUENT - Influent was a grab sample from M-INF.
- BELT PRESS - Biosolids were a grab sample from three locations of the final stage of the belt press.
- LV WELL 1, LV WELL 2, LV WELL 3 - Lucerne Valley monitoring wells were sampled following BBARWA's Standard Operation Procedure. A high-pressure, low volume pump was used. Before sampling, the three well volumes were purged to flush the well, as well as the pump and tubing.

Analytical Results Tables

PFAS Testing - Liquids	Method Reporting Limit ng/l	LV Well 1 ng/l	LV Well 2 ng/l
Perfluorobutanoic acid (PFBA)	1/*1,000	7.4	*ND
Perfluoropentanoic acid (PFPeA)	1.0	34	130
Perfluorohexanoic acid (PFHxA)	1.0	22	77
Perfluoroheptanoic acid (PFHpA)	1.0	6.7	11
Perfluorooctanoic acid (PFOA)	1.0	35	ND
Perfluorononanoic acid (PFNA)	1.0	1.7	ND
Perfluorodecanoic acid (PFDA)	1.0	ND	ND
Perfluoroundecanoic acid (PFUnDA)	1.0	3.0	ND
Perfluorododecanoic acid (PFDoDA)	1.0	ND	ND
Perfluorotridecanoic acid (PFTrDA)	1.0	10	3.4
Perfluorotetradecanoic acid (PFTeDA)	1.0	ND	ND
Perfluorobutane sulfonic acid (PFBS)	1.0	10	40
Perfluoropentane sulfonic acid (PFPeS)	1.0	1.1	11
Perfluorohexane sulfonic acid (PFHxS)	1.0	7.7	2.7
Perfluoroheptane sulfonic acid (PFHpS)	1.0	ND	ND
Perfluorooctane sulfonic acid (PFOS)	1.0	16	ND
Perfluorononane sulfonic acid (PFNS)	1.0	ND	ND
Perfluorodecane sulfonic acid (PFDS)	1.0	ND	ND
Perfluorooctanesulfonamide (PFOSA)	1.0	ND	ND
N-Ethyl perfluorooctane sulfonamide ethanol (EtFOSE)	1.0	ND	ND
N-Methyl perfluorooctane sulfonamide ethanol (MeFOSE)	1.0	ND	ND
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	1.0	ND	ND
N-Methyl perfluorooctane sulfonamide (MeFOSA)	1.0	ND	ND
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	1.0	ND	ND
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	1.0	ND	ND
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	1.0	ND	ND
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	1.0	ND	ND
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	1.0	ND	ND
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	1.0	ND	ND
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.0	ND	ND
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	1.0	ND	ND
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	1.0	ND	ND

PFAS Testing - Liquids Chemical Name/Abbreviation	LV Well 3		Effluent		Influent	
	MRL ng/l	Results ng/l	MRL ng/l	Results ng/l	MRL ng/l	Results ng/l
Perfluorobutanoic acid (PFBA)	1,000	ND	1,000	ND	---	---
Perfluoropentanoic acid (PFPeA)	0.9	88	1.0	31	---	---
Perfluorohexanoic acid (PFHxA)	0.9	51	1.0	24	20	ND
Perfluoroheptanoic acid (PFHpA)	0.9	6.8	1.0	1.9	20	ND
Perfluorooctanoic acid (PFOA)	0.9	1.3	1.0	13	20	ND
Perfluorononanoic acid (PFNA)	0.9	ND	1.0	ND	20	ND
Perfluorodecanoic acid (PFDA)	0.9	ND	1.0	ND	20	ND
Perfluoroundecanoic acid (PFUnDA)	0.9	ND	1.0	ND	20	ND
Perfluorododecanoic acid (PFDoDA)	0.9	ND	1.0	ND	20	ND
Perfluorotridecanoic acid (PFTrDA)	0.9	2.1	1.0	ND	20	ND
Perfluorotetradecanoic acid (PFTeDA)	0.9	ND	1,000	ND	20	ND
Perfluorobutane sulfonic acid (PFBS)	0.9	21	1.0	2.9	20	ND
Perfluoropentane sulfonic acid (PFPeS)	0.9	6.2	1.0	ND	---	---
Perfluorohexane sulfonic acid (PFHxS)	0.9	3.2	1.0	3.8	20	ND
Perfluoroheptane sulfonic acid (PFHpS)	0.9	ND	1.0	ND	---	---
Perfluorooctane sulfonic acid (PFOS)	0.9	ND	1.0	1.7	20	ND
Perfluorononane sulfonic acid (PFNS)	0.9	ND	1.0	ND	---	---
Perfluorodecane sulfonic acid (PFDS)	0.9	ND	1.0	ND	---	---
Perfluorooctanesulfonamide (PFOSA)	0.9	ND	1.0	ND	---	---
N-Ethyl perfluorooctane sulfonamide ethanol (EtFOSE)	0.9	ND	1.0	ND	---	---
N-Methyl perfluorooctane sulfonamide ethanol (MeFOSE)	0.9	ND	1.0	ND	---	---
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	0.9	ND	1.0	ND	---	---
N-Methyl perfluorooctane sulfonamide (MeFOSA)	0.9	ND	1.0	ND	---	---
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	0.9	ND	1.0	ND	20	ND
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	0.9	ND	1,000	ND	20	ND
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	0.9	ND	1.0	ND	---	---
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	0.9	ND	1,000	ND	---	---
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	0.9	ND	1.0	ND	---	---
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.9	ND	1.0	ND	20	ND
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	0.9	ND	1.0	ND	20	ND
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.9	ND	1.0	ND	20	ND
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.9	ND	1.0	ND	20	ND

PFAS Testing for BIOSOLIDS		
Chemical Name/Abbreviation	Method Reporting Limit µg/kg dry	Belt Press Results µg/kg dry
Perfluorobutanoic acid (PFBA)	4.0	ND
Perfluoropentanoic acid (PFPeA)	6.0	14
Perfluorohexanoic acid (PFHxA)	6.0	6
Perfluoroheptanoic acid (PFHpA)	4.0	ND
Perfluorooctanoic acid (PFOA)	6.0	12
Perfluorononanoic acid (PFNA)	4.0	ND
Perfluorodecanoic acid (PFDA)	6.0	11
Perfluoroundecanoic acid (PFUnDA)	4.0	ND
Perfluorododecanoic acid (PFDoDA)	6.0	ND
Perfluorotridecanoic acid (PFTrDA)	4.0	ND
Perfluorotetradecanoic acid (PFTeDA)	16.0	ND
Perfluorobutane sulfonic acid (PFBS)	4.0	ND
Perfluoropentane sulfonic acid (PFPeS)	8.0	ND
Perfluorohexane sulfonic acid (PFHxS)	12.0	ND
Perfluoroheptane sulfonic acid (PFHpS)	12.0	ND
Perfluorooctane sulfonic acid (PFOS)	8.0	11
Perfluorononane sulfonic acid (PFNS)	20.0	ND
Perfluorodecane sulfonic acid (PFDS)	16.0	ND
Perfluorooctanesulfonamide (PFOSA)	4.0	ND
N-Ethyl perfluorooctane sulfonamide ethanol (EtFOSE)	16.0	ND
N-Methyl perfluorooctane sulfonamide ethanol (MeFOSE)	16.0	ND
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	16.0	ND
N-Methyl perfluorooctane sulfonamide (MeFOSA)	16.0	ND
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	16.0	12
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	16.0	9.1
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	16.0	ND
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	16.0	ND
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	12.0	ND
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	40.0	ND
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	40.0	ND
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	40.0	ND
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	40.0	ND

Flow Measurement Table

2020	Effluent DP- 001 Total (MG)	Effluent DP-001 Daily Avg. (MGD)
January	66.0810	2.1316
February	57.5630	1.9849
March	77.1980	2.4903
April	86.7250	2.8908
May	56.0980	1.8096
June	56.4810	1.8827
July	61.2746	1.9766
August	61.4535	1.9824
September	49.9000	1.6633
October	53.5670	1.7280
November	58.1533	1.9384
December	60.7292	1.9590

Average	62.1020	2.0365
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Total	745.2238
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Groundwater Monitoring Well Measurements Table

Depth to Groundwater in Feet			
Date	LV Well 1	LV Well 2	LV Well 3
3/24/2020	168.8	124.0	138.0
6/2/2020	168.2	121.7	134.8
9/8/2020	167.5	119.0	131.9
12/1/2020	167.5	113.0	127.1

Perjury Statement

"I, David Lawrence, certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision, and the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant civil penalties for submitting false information."

2/17/2021
Date


DAVID LAWRENCE, General Manager

Appendix A: Influent and Effluent Flow Meter Calibration



Technologies, Inc.

Measurement, Control & Recording

CALIBRATION VERIFICATION CERTIFICATE

GENERAL INFORMATION			
Customer Name:	Big Bear Area Regional Wastewater Agency	Job Site:	Big Bear Area Regional Wastewater Agency
Tag Number:	Total Plant Influent Flowmeter		122 Palomino Drive Big Bear City.
Model Number:	ABB MagMaster	Flow Range:	0-10 MGD
Serial Number:	A1971398/1/1	Pipe Size:	20"

SETUP VERIFICATION			
Meter & Flow Orientation / Direction / Depth	<input checked="" type="checkbox"/> Acceptable	<input type="checkbox"/> Unacceptable	<input type="checkbox"/> N/A
Proper Upstream/Downstream Distance	<input checked="" type="checkbox"/> Acceptable	<input type="checkbox"/> Unacceptable	<input type="checkbox"/> N/A
Proper Installation of Bolts & Gaskets / Grounding Rings	<input checked="" type="checkbox"/> Acceptable	<input type="checkbox"/> Unacceptable	<input type="checkbox"/> N/A
Wiring/Cable & Terminations	<input checked="" type="checkbox"/> Acceptable	<input type="checkbox"/> Unacceptable	<input type="checkbox"/> N/A
Visible Leakage	<input checked="" type="checkbox"/> Acceptable	<input type="checkbox"/> Unacceptable	<input type="checkbox"/> N/A

ANALOG OUTPUT VERIFICATION				
Test %	Indication (MGD)	mA as Found	mA as Left	% Errors
0.00	0.000	3.999	3.999	0.025
25.00	2.500	7.990	7.990	0.125
50.00	5.000	11.987	11.987	0.108
75.00	7.500	15.983	15.983	0.106
100.00	10.000	19.979	19.979	0.105

NOTES
• •

TEST EQUIPMENT USED:							
Manufacturer:	Fluke	Model:	787	Due Date:	9/20/20	Calibrated:	9/20/19
Manufacturer:	Meriam	Model:	4100	Due Date:	N/A	Calibrated:	N/A
Manufacturer:		Model:		Due Date:		Calibrated:	

MCR Representative Signature:

Payam Doshan

Calibration Date: 9/10/20

Next Due Date: 9/10/21



Technologies, Inc.

Measurement, Control & Recording

CALIBRATION VERIFICATION CERTIFICATE

GENERAL INFORMATION			
Customer Name:	Big Bear Area Regional Wastewater Agency	Job Site:	Big Bear Area Regional Wastewater Agency
Tag Number:	MPB Effluent Flowmeter		122 Palomino Drive Big Bear City.
Model Number:	ABB WaterMaster	Flow Range:	0-5.76 MGD
Serial Number:	3K620000314973	Pipe Size:	14"

SETUP VERIFICATION			
Meter & Flow Orientation / Direction / Depth	<input checked="" type="checkbox"/> Acceptable	<input type="checkbox"/> Unacceptable	<input type="checkbox"/> N/A
Proper Upstream/Downstream Distance	<input checked="" type="checkbox"/> Acceptable	<input type="checkbox"/> Unacceptable	<input type="checkbox"/> N/A
Proper Installation of Bolts & Gaskets / Grounding Rings	<input checked="" type="checkbox"/> Acceptable	<input type="checkbox"/> Unacceptable	<input type="checkbox"/> N/A
Wiring/Cable & Terminations	<input checked="" type="checkbox"/> Acceptable	<input type="checkbox"/> Unacceptable	<input type="checkbox"/> N/A
Visible Leakage	<input checked="" type="checkbox"/> Acceptable	<input type="checkbox"/> Unacceptable	<input type="checkbox"/> N/A

ANALOG OUTPUT VERIFICATION				
Test %	Indication (MGD)	mA as Found	mA as Left	% Errors
0.00	0.000	4.004	4.004	0.100
25.00	1.440	7.995	7.995	0.062
50.00	2.880	11.994	11.994	0.050
75.00	4.320	15.998	15.998	0.013
100.00	5.760	20.008	20.008	0.040

NOTES
• •

TEST EQUIPMENT USED:							
Manufacturer:	Fluke	Model:	787	Due Date:	9/20/20	Calibrated:	9/20/19
Manufacturer:	Meriam	Model:	4100	Due Date:	N/A	Calibrated:	N/A
Manufacturer:		Model:		Due Date:		Calibrated:	

MCR Representative Signature:

Payam Dosh...

Calibration Date: 9/10/20

Next Due Date: 9/10/21

Appendix B: Analytical Results

Clinical Laboratory of San Bernardino, Inc.

Celebrating 50 Years of Analytical Service 1967-2017



20 January 2021

Clinical Lab No.: 20L0333

Nikki Crumpler
Big Bear Area Reg Wastewater
P. O. Box 517
Big Bear City, CA 92314

Project Name: PFAS

Enclosed are the results of the analysis for sample(s) received at the laboratory on 12/02/20 . These sample(s) were analyzed at a sub-contract laboratory, with the final reports indicating the analyzing/reporting laboratory.

If applicable, these final reports will also indicate any state EDT transfer that has occurred. Please call if any additional information and/or assistance are needed.

Thank you for choosing Clinical Laboratory of San Bernardino for your analytical needs.

Sincerely,

Leticia Bernstein
Project Manager

Work Orders: 0L04040

Report Date: 1/06/2021

Project: 20L033

Received Date: 12/4/2020

Turnaround Time: Normal

Phones: (909) 825-7693

Fax: (909) 825-7696

Attn: clinical

P.O. #:

Client: Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Billing Code:

DoD-ISO ANAB # • ELAP-CA #1132 • EPA-UCMR #CA00211 • HW-DOH # • ISO17025 ANAB #L2457.01 • LACSD #10143 •
NELAP-OR #4047 • NJ-DEP #CA015

This is a complete final report. The information in this report applies to the samples analyzed in accordance with the chain-of-custody document. Weck Laboratories certifies that the test results meet all requirements of TNI unless noted by qualifiers or written in the Case Narrative. This analytical report must be reproduced in its entirety.

Dear clinical,

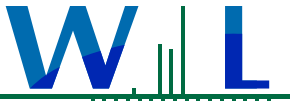
Enclosed are the results of analyses for samples received 12/04/20 with the Chain-of-Custody document. The samples were received in good condition, at 2.9 °C and on ice. All analyses met the method criteria except as noted in the case narrative or in the report with data qualifiers.

Reviewed by:



Regina M. Giancola
Project Manager





WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Certificate of Analysis

FINAL REPORT

Project Number: 20L033

Reported:

01/06/2021 13:05

Project Manager: clinical

Sample Summary

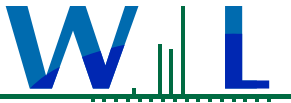
Sample Name	Sampled By	Lab ID	Matrix	Sampled	Qualifiers
LV Well 1/ 20L0333-01	Client	0L04040-01	Water	12/01/20 11:05	
LV Well 2/ 20L0333-02	Client	0L04040-02	Water	12/01/20 11:48	
LV Well 3/ 20L0333-03	Client	0L04040-03	Water	12/01/20 12:24	
Effluent/ 20L0333-04	Client	0L04040-04	Water	12/02/20 08:41	
Influent/ 20L0333-05	Client	0L04040-05	Water	12/02/20 08:00	
Belt Press/ 20L0333-06	Client	0L04040-06	Solid	12/02/20 09:04	

Analyses Accreditation Summary

Analyte	CAS #	Not By NELAP	ANAB ISO 17025
EPA 537M in Water			
PFBA	375-22-4	✓	
PFBA	375-22-4	✓	
PFPeA	2706-90-3	✓	
4:2 FTS		✓	
PFHxA	307-24-4	✓	
PFBS	375-73-5	✓	
PFHpA	375-85-9	✓	
6:2 FTS		✓	
6:2 FTS		✓	
Perfluorooctanoic acid (PFOA)	335-67-1	✓	
PFHxS	355-46-4	✓	
PFNA	375-95-1	✓	
PFHpS	375-92-8	✓	
8:2 FTS	39108-34-4	✓	
PFDA	335-76-2	✓	
PFOS	1763-23-1	✓	
MeFOSAA	2355-31-9	✓	
PFUnA	2058-94-8	✓	
EtFOSAA	2991-50-6	✓	
EtFOSAA	2991-50-6	✓	
PFDaA	307-55-1	✓	
PFDS	335-77-3	✓	
PFTTrDA	72629-94-8	✓	
PFTeDA	376-06-7	✓	
PFTeDA	376-06-7	✓	
FOSA	754-91-6	✓	
MeFOSE	24448-09-7	✓	
MeFOSA	31506-32-8	✓	
EtFOSE	1691-99-2	✓	
EtFOSA	4151-50-2	✓	
PFPeS	2706-91-4	✓	
PFNS	98789-57-2	✓	
9Cl-PF3ONS	756426-58-1	✓	
HFPO-DA	13252-13-6	✓	
11Cl-PF3OUdS	763051-92-9	✓	

0L04040

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WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Project Number: 20L033

Project Manager: clinical

Certificate of Analysis

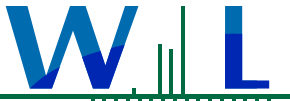
FINAL REPORT

Reported:
01/06/2021 13:05

Analyses Accreditation Summary

(Continued)

Analyte	CAS #	Not By NELAP	ANAB ISO 17025
EPA 537M in Water (Continued) ADONA	958445-44-8	✓	



WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Project Number: 20L033

Project Manager: clinical

Certificate of Analysis

FINAL REPORT

Reported:

01/06/2021 13:05

Sample Results

Sample: LV Well 1/ 20L0333-01
0L04040-01 (Water)

Sampled: 12/01/20 11:05 by Client

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
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Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS

Method: EPA 537M

Instr: LCMS06

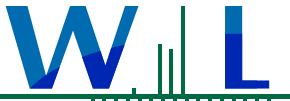
Batch ID: W0L0770

Preparation: EPA 537/SPE

Prepared: 12/15/20 10:05

Analyst: jna

11CI-PF3OUdS	ND	1.0	ng/l	1	12/18/20	
4:2 FTS	ND	1.0	ng/l	1	12/18/20	
6:2 FTS	ND	1.0	ng/l	1	12/18/20	
8:2 FTS	ND	1.0	ng/l	1	12/18/20	
9CI-PF3ONS	ND	1.0	ng/l	1	12/18/20	
ADONA	ND	1.0	ng/l	1	12/18/20	
EtFOSA	ND	1.0	ng/l	1	12/18/20	
EtFOSAA	ND	1.0	ng/l	1	12/18/20	
EtFOSE	ND	1.0	ng/l	1	12/18/20	
FOSA	ND	1.0	ng/l	1	12/18/20	
HFPO-DA	ND	1.0	ng/l	1	12/18/20	
MeFOSA	ND	1.0	ng/l	1	12/18/20	
MeFOSAA	ND	1.0	ng/l	1	12/18/20	
MeFOSE	ND	1.0	ng/l	1	12/18/20	
Perfluorooctanoic acid (PFOA)	35	1.0	ng/l	1	12/18/20	
PFBA	7.4	1.0	ng/l	1	12/18/20	
PFBS	10	1.0	ng/l	1	12/18/20	
PFDA	ND	1.0	ng/l	1	12/18/20	
PFDoA	ND	1.0	ng/l	1	12/18/20	
PFDS	ND	1.0	ng/l	1	12/18/20	
PFHpA	6.7	1.0	ng/l	1	12/18/20	
PFHpS	ND	1.0	ng/l	1	12/18/20	
PFHxA	22	1.0	ng/l	1	12/18/20	
PFHxS	7.7	1.0	ng/l	1	12/18/20	
PFNA	1.7	1.0	ng/l	1	12/18/20	
PFNS	ND	1.0	ng/l	1	12/18/20	
PFOS	16	1.0	ng/l	1	12/18/20	
PFPeA	34	1.0	ng/l	1	12/18/20	
PFPeS	1.1	1.0	ng/l	1	12/18/20	
PFTeDA	ND	1.0	ng/l	1	12/18/20	
PFTTrDA	10	1.0	ng/l	1	12/18/20	
PFUnA	3.0	1.0	ng/l	1	12/18/20	



WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Project Number: 20L033

Project Manager: clinical

Certificate of Analysis

FINAL REPORT

Reported:

01/06/2021 13:05

Sample Results

(Continued)

Sample: LV Well 2/ 20L0333-02
0L04040-02 (Water)

Sampled: 12/01/20 11:48 by Client

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
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Per- and Polyfluorinated Alkyl Substances (PFAS) by Dir.Inj/LCMSMS

Method: EPA 537M

Instr: LCMS06

Batch ID: W0L0943

Preparation: EPA 537M

Prepared: 12/17/20 11:55

Analyst: jna

PFBA	ND	1000	ng/l	1	12/17/20	
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Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS

Method: EPA 537M

Instr: LCMS06

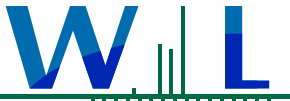
Batch ID: W0L0770

Preparation: EPA 537/SPE

Prepared: 12/15/20 10:05

Analyst: jna

11CI-PF3OUdS	ND	1.0	ng/l	1	12/18/20	
4:2 FTS	ND	1.0	ng/l	1	12/18/20	
6:2 FTS	ND	1.0	ng/l	1	12/18/20	
8:2 FTS	ND	1.0	ng/l	1	12/18/20	
9CI-PF3ONS	ND	1.0	ng/l	1	12/18/20	
ADONA	ND	1.0	ng/l	1	12/18/20	
EtFOSA	ND	1.0	ng/l	1	12/18/20	
EtFOSAA	ND	1.0	ng/l	1	12/18/20	
EtFOSE	ND	1.0	ng/l	1	12/18/20	
FOSA	ND	1.0	ng/l	1	12/18/20	
HFPO-DA	ND	1.0	ng/l	1	12/18/20	
MeFOSA	ND	1.0	ng/l	1	12/18/20	
MeFOSAA	ND	1.0	ng/l	1	12/18/20	
MeFOSE	ND	1.0	ng/l	1	12/18/20	
Perfluorooctanoic acid (PFOA)	ND	1.0	ng/l	1	12/18/20	
PFBS	40	1.0	ng/l	1	12/18/20	
PFDA	ND	1.0	ng/l	1	12/18/20	
PFDoA	ND	1.0	ng/l	1	12/18/20	
PFDS	ND	1.0	ng/l	1	12/18/20	
PFHpA	11	1.0	ng/l	1	12/18/20	
PFHpS	ND	1.0	ng/l	1	12/18/20	
PFHxA	77	1.0	ng/l	1	12/18/20	
PFHxS	2.7	1.0	ng/l	1	12/18/20	
PFNA	ND	1.0	ng/l	1	12/18/20	
PFNS	ND	1.0	ng/l	1	12/18/20	
PFOS	ND	1.0	ng/l	1	12/18/20	
PFPeA	130	1.0	ng/l	1	12/18/20	E-01
PFPeS	11	1.0	ng/l	1	12/18/20	
PFTeDA	ND	1.0	ng/l	1	12/18/20	
PFTTrDA	3.4	1.0	ng/l	1	12/18/20	
PFUnA	ND	1.0	ng/l	1	12/18/20	



WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Project Number: 20L033

Project Manager: clinical

Certificate of Analysis

FINAL REPORT

Reported:

01/06/2021 13:05

Sample Results

(Continued)

Sample: LV Well 3/ 20L0333-03
0L04040-03 (Water)

Sampled: 12/01/20 12:24 by Client

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
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Per- and Polyfluorinated Alkyl Substances (PFAS) by Dir.Inj/LCMSMS

Method: EPA 537M

Instr: LCMS06

Batch ID: W0L0943

Preparation: EPA 537M

Prepared: 12/17/20 11:55

Analyst: jna

PFBA	ND	1000	ng/l	1	12/17/20	
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Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS

Method: EPA 537M

Instr: LCMS06

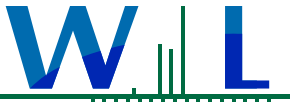
Batch ID: W0L0770

Preparation: EPA 537/SPE

Prepared: 12/15/20 10:05

Analyst: jna

11CI-PF3OUdS	ND	0.90	ng/l	1	12/18/20	
4:2 FTS	ND	0.90	ng/l	1	12/18/20	
6:2 FTS	ND	0.90	ng/l	1	12/18/20	
8:2 FTS	ND	0.90	ng/l	1	12/18/20	
9CI-PF3ONS	ND	0.90	ng/l	1	12/18/20	
ADONA	ND	0.90	ng/l	1	12/18/20	
EtFOSA	ND	0.90	ng/l	1	12/18/20	
EtFOSAA	ND	0.90	ng/l	1	12/18/20	
EtFOSE	ND	0.90	ng/l	1	12/18/20	
FOSA	ND	0.90	ng/l	1	12/18/20	
HFPO-DA	ND	0.90	ng/l	1	12/18/20	
MeFOSA	ND	0.90	ng/l	1	12/18/20	
MeFOSAA	ND	0.90	ng/l	1	12/18/20	
MeFOSE	ND	0.90	ng/l	1	12/18/20	
Perfluorooctanoic acid (PFOA)	1.3	0.90	ng/l	1	12/18/20	
PFBS	21	0.90	ng/l	1	12/18/20	
PFDA	ND	0.90	ng/l	1	12/18/20	
PFDoA	ND	0.90	ng/l	1	12/18/20	
PFDS	ND	0.90	ng/l	1	12/18/20	
PFHpA	6.8	0.90	ng/l	1	12/18/20	
PFHpS	ND	0.90	ng/l	1	12/18/20	
PFHxA	51	0.90	ng/l	1	12/18/20	
PFHxS	3.2	0.90	ng/l	1	12/18/20	
PFNA	ND	0.90	ng/l	1	12/18/20	
PFNS	ND	0.90	ng/l	1	12/18/20	
PFOS	ND	0.90	ng/l	1	12/18/20	
PFPeA	88	0.90	ng/l	1	12/18/20	
PFPeS	6.2	0.90	ng/l	1	12/18/20	
PFTeDA	ND	0.90	ng/l	1	12/18/20	
PFTTrDA	2.1	0.90	ng/l	1	12/18/20	
PFOA	ND	0.90	ng/l	1	12/18/20	



WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Project Number: 20L033

Project Manager: clinical

Certificate of Analysis

FINAL REPORT

Reported:
01/06/2021 13:05

Sample Results

(Continued)

Sample: Effluent/ 20L0333-04
0L04040-04 (Water)

Sampled: 12/02/20 8:41 by Client

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
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Per- and Polyfluorinated Alkyl Substances (PFAS) by Dir.Inj/LCMSMS

Method: EPA 537M

Instr: LCMS06

Batch ID: W0L0943

Preparation: EPA 537M

Prepared: 12/17/20 11:55

Analyst: jna

6:2 FTS	ND	1000	ng/l	1	12/17/20	
EtFOSAA	ND	1000	ng/l	1	12/17/20	
PFBA	ND	1000	ng/l	1	12/17/20	
PFTeDA	ND	1000	ng/l	1	12/17/20	

Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS

Method: EPA 537M

Instr: LCMS06

Batch ID: W0L0770

Preparation: EPA 537/SPE

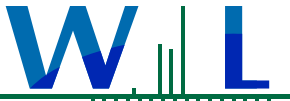
Prepared: 12/15/20 10:05

Analyst: jna

11CI-PF3OUdS	ND	1.0	ng/l	1	12/18/20	
4:2 FTS	ND	1.0	ng/l	1	12/18/20	
8:2 FTS	ND	1.0	ng/l	1	12/18/20	
9CI-PF3ONS	ND	1.0	ng/l	1	12/18/20	
ADONA	ND	1.0	ng/l	1	12/18/20	
EtFOSA	ND	1.0	ng/l	1	12/18/20	
EtFOSE	ND	1.0	ng/l	1	12/18/20	
FOSA	ND	1.0	ng/l	1	12/18/20	
HFPO-DA	ND	1.0	ng/l	1	12/18/20	
MeFOSA	ND	1.0	ng/l	1	12/18/20	
MeFOSAA	ND	1.0	ng/l	1	12/18/20	
MeFOSE	ND	1.0	ng/l	1	12/18/20	
Perfluorooctanoic acid (PFOA)	13	1.0	ng/l	1	12/18/20	
PFBS	2.9	1.0	ng/l	1	12/18/20	
PFDA	ND	1.0	ng/l	1	12/18/20	
PFDoA	ND	1.0	ng/l	1	12/18/20	
PFDS	ND	1.0	ng/l	1	12/18/20	
PFHpA	1.9	1.0	ng/l	1	12/18/20	
PFHpS	ND	1.0	ng/l	1	12/18/20	
PFHxA	24	1.0	ng/l	1	12/18/20	
PFHxS	3.8	1.0	ng/l	1	12/18/20	
PFNA	ND	1.0	ng/l	1	12/18/20	
PFNS	ND	1.0	ng/l	1	12/18/20	
PFOS	1.7	1.0	ng/l	1	12/18/20	
PFPeA	31	1.0	ng/l	1	12/18/20	
PFPeS	ND	1.0	ng/l	1	12/18/20	
PFTTrDA	ND	1.0	ng/l	1	12/18/20	
PFUnA	ND	1.0	ng/l	1	12/18/20	

0L04040

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WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Project Number: 20L033

Project Manager: clinical

Certificate of Analysis

FINAL REPORT

Reported:

01/06/2021 13:05

Sample Results

(Continued)

Sample: Influent/ 20L0333-05
0L04040-05 (Water)

Sampled: 12/02/20 8:00 by Client

Analyte	Result	MRL	Units	Dil	Analyzed	Qualifier
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Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS

Method: EPA 537.1

Instr: LCMS03

Batch ID: W0L0868

Preparation: EPA 537/SPE

Prepared: 12/16/20 14:00

Analyst: jna

11CI-PF3OUdS	ND	20	ng/l	10	12/31/20	BS-04, M-04
9CI-PF3ONS	ND	20	ng/l	10	12/31/20	M-04
ADONA	ND	20	ng/l	10	12/31/20	M-04
EtFOSAA	ND	20	ng/l	10	12/31/20	BS-04, M-04
HFPO-DA	ND	20	ng/l	10	12/31/20	M-04
MeFOSAA	ND	20	ng/l	10	12/31/20	M-04
PFBS	ND	20	ng/l	10	12/31/20	M-04
PFDA	ND	20	ng/l	10	12/31/20	BS-04, M-04
PFDoA	ND	20	ng/l	10	12/31/20	BS-04, M-04
PFHpA	ND	20	ng/l	10	12/31/20	M-04
PFHxA	ND	20	ng/l	10	12/31/20	M-04
PFHxS	ND	20	ng/l	10	12/31/20	M-04
PFNA	ND	20	ng/l	10	12/31/20	M-04
PFOA	ND	20	ng/l	10	12/31/20	M-04
PFOS	ND	20	ng/l	10	12/31/20	M-04
PFTeDA	ND	20	ng/l	10	12/31/20	BS-04, M-04
PFTrDA	ND	20	ng/l	10	12/31/20	BS-04, M-04
PFUnA	ND	20	ng/l	10	12/31/20	BS-04, M-04

Surrogate(s)

13C2-PFDA	59%	Conc: 23.6	70-130	12/31/20	M-04, S-11
13C2-PFHxA	69%	Conc: 27.5	70-130	12/31/20	M-04, S-11
d5-EtFOSAA	72%	Conc: 115	70-130	12/31/20	M-04
HFPO-DA-13C3	89%	Conc: 35.5	70-130	12/31/20	M-04



Certificate of Analysis

FINAL REPORT

Clinical Laboratory of San Bernardino, Inc.
 21881 Barton Road
 Grand Terrace, CA 92313

Project Number: 20L033

Project Manager: clinical

Reported:
 01/06/2021 13:05

Sample Results APPL, Inc., Clovis, CA SUB_APPL

Sample: Belt Press/ 20L0333-06
 OL04040-06 (Solid)

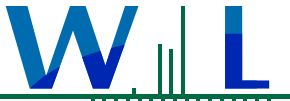
Sampled: 12/02/20 9:04 by Client

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
160.3-MOD							
Method: Moisture	Batch ID: 259395		Prepared: 12/09/20 18:09				Analyst: WET
Moisture	85.2			%	1	12/10/20	

B-15BS							
Method: PFAS IN BIO-SOLIDS	Batch ID: 259673		Prepared: 12/16/20 08:00				Analyst: HHE
PFBA	ND	2000.0	4000.0	ng/kg dry	1	12/17/20	U
PFPEA	14000	3000.0	6000.0	ng/kg dry	1	12/17/20	
PFHXA	6000	4000.0	8000.0	ng/kg dry	1	12/17/20	J
PFHPA	ND	2000.0	4000.0	ng/kg dry	1	12/17/20	U
PFOA	12000	3000.0	6000.0	ng/kg dry	1	12/17/20	
PFNA	ND	2000.0	4000.0	ng/kg dry	1	12/17/20	U
PFDA	11000	3000.0	6000.0	ng/kg dry	1	12/17/20	
PFUDA	ND	2000.0	4000.0	ng/kg dry	1	12/17/20	U
PFDOA	ND	3000.0	6000.0	ng/kg dry	1	12/17/20	U
PFTRDA	ND	2000.0	4000.0	ng/kg dry	1	12/17/20	U
PFTEDA	ND	8000.0	16000.0	ng/kg dry	1	12/17/20	U
PFBS	ND	2000.0	4000.0	ng/kg dry	1	12/17/20	U
PFPEs	ND	4000.0	8000.0	ng/kg dry	1	12/17/20	U
PFHXS	ND	6000.0	12000.0	ng/kg dry	1	12/17/20	U
PFHPS	ND	6000.0	12000.0	ng/kg dry	1	12/17/20	U
PFOS	11000	4000.0	8000.0	ng/kg dry	1	12/17/20	J
PFNS	ND	10000.0	20000.0	ng/kg dry	1	12/17/20	U
PFDS	ND	8000.0	16000.0	ng/kg dry	1	12/17/20	U
PFOSA	ND	2000.0	4000.0	ng/kg dry	1	12/17/20	U
N-MEFOSA	ND	8000.0	16000.0	ng/kg dry	1	12/17/20	U
N-ETFOSA	ND	8000.0	16000.0	ng/kg dry	1	12/17/20	U
N-MEFOSAA	12000	8000.0	16000.0	ng/kg dry	1	12/17/20	J
N-ETFOSAA	9100	8000.0	16000.0	ng/kg dry	1	12/17/20	J
N-MEFOSE	ND	8000.0	16000.0	ng/kg dry	1	12/17/20	U
N-ETFOSE	ND	8000.0	16000.0	ng/kg dry	1	12/17/20	U
FTS 4:2	ND	8000.0	16000.0	ng/kg dry	1	12/17/20	U
FTS 6:2	ND	8000.0	16000.0	ng/kg dry	1	12/17/20	U
FTS 8:2	ND	6000.0	12000.0	ng/kg dry	1	12/17/20	U
HFPO-DA	ND	20000.0	40000.0	ng/kg dry	1	12/17/20	U
ADONA	ND	20000.0	40000.0	ng/kg dry	1	12/17/20	U
9-CL-PF3ONS	ND	20000.0	40000.0	ng/kg dry	1	12/17/20	U
11-CL-PF3OUDS	ND	20000.0	40000.0	ng/kg dry	1	12/17/20	U

Surrogate(s)

OL04040



WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Project Number: 20L033

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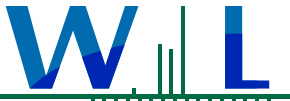
Sample Results APPL, Inc., Clovis, CA SUB_APPL

(Continued)

Sample: Belt Press/ 20L0333-06
0L04040-06 (Solid)

Sampled: 12/02/20 9:04 by Client
(Continued)

Analyte	Result	MDL	MRL	Units	Dil	Analyzed	Qualifier
B-15BS (Continued)							
13C4-PFBA	104%		50-150			12/17/20	
13C5-PFPEA	107%		50-150			12/17/20	
13C5-PFHXA	103%		50-150			12/17/20	
13C4-PFHFA	107%		50-150			12/17/20	
13C8-PFOA	108%		50-150			12/17/20	
13C9-PFNA	112%		50-150			12/17/20	
13C6-PFDA	107%		50-150			12/17/20	
13C7-PFUDA	110%		50-150			12/17/20	
13C2-PFDOA	109%		50-150			12/17/20	
13C2-PFTEDA	105%		50-150			12/17/20	
13C3-PFBS	106%		50-150			12/17/20	
13C3-PFHXS	102%		50-150			12/17/20	
13C8-PFOS	109%		50-150			12/17/20	
13C3-HFPO-DA	114%		50-150			12/17/20	
13C8-PFOSA	114%		50-150			12/17/20	
D3-NMEFOSA	114%		50-150			12/17/20	
D5-NETFOSA	113%		50-150			12/17/20	
13C2-4:2FTS	93.4%		50-150			12/17/20	
13C2-6:2FTS	95.1%		50-150			12/17/20	
13C2-8:2FTS	89.3%		50-150			12/17/20	
D3-NMEFOSAA	85.2%		50-150			12/17/20	
D5-NETFOSAA	89.0%		50-150			12/17/20	
D7-NMEFOSE	122%		50-150			12/17/20	
D9-NETFOSSE	120%		50-150			12/17/20	
13C2D4-6:2FTS	100%		50-150			12/17/20	



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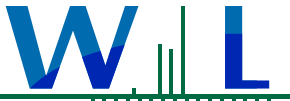
Reported:

01/06/2021 13:05

Quality Control Results

B-15BS

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: 259673 - PFAS IN BIO-SOLIDS											
BLK (BA22661-BLK-1)						Prepared: 12/16/20 Analyzed: 12/17/20					
11-CL-PF3OUDS	ND	20000.0	40000.0	ng/kg							U
9-CL-PF3ONS	ND	20000.0	40000.0	ng/kg							U
ADONA	ND	20000.0	40000.0	ng/kg							U
FTS 4:2	ND	8000.0	16000.0	ng/kg							U
FTS 6:2	ND	8000.0	16000.0	ng/kg							U
FTS 8:2	ND	6000.0	12000.0	ng/kg							U
HFPO-DA	ND	20000.0	40000.0	ng/kg							U
N-ETFOSA	ND	8000.0	16000.0	ng/kg							U
N-ETFOSAA	ND	8000.0	16000.0	ng/kg							U
N-ETFOSE	ND	8000.0	16000.0	ng/kg							U
N-MEFOSA	ND	8000.0	16000.0	ng/kg							U
N-MEFOSAA	ND	8000.0	16000.0	ng/kg							U
N-MEFOSE	ND	8000.0	16000.0	ng/kg							U
PFBA	ND	2000.0	4000.0	ng/kg							U
PFBS	ND	2000.0	4000.0	ng/kg							U
PFDA	ND	3000.0	6000.0	ng/kg							U
PFDOA	ND	3000.0	6000.0	ng/kg							U
PFDS	ND	8000.0	16000.0	ng/kg							U
PFHPA	ND	2000.0	4000.0	ng/kg							U
PFHPS	ND	6000.0	12000.0	ng/kg							U
PFHXA	ND	4000.0	8000.0	ng/kg							U
PFHXS	ND	6000.0	12000.0	ng/kg							U
PFNA	ND	2000.0	4000.0	ng/kg							U
PFNS	ND	10000.0	20000.0	ng/kg							U
PFOA	ND	3000.0	6000.0	ng/kg							U
PFOS	ND	4000.0	8000.0	ng/kg							U
PFOSA	ND	2000.0	4000.0	ng/kg							U
PFPEA	ND	3000.0	6000.0	ng/kg							U
PFPEB	ND	4000.0	8000.0	ng/kg							U
PFTEDA	ND	8000.0	16000.0	ng/kg							U
PFTRDA	ND	2000.0	4000.0	ng/kg							U
PFUDA	ND	2000.0	4000.0	ng/kg							U
<i>Surrogate(s)</i>											
13C2-4:2FTS	77.9			ng/kg	100		77.9	50-150			
13C2-6:2FTS	80.6			ng/kg	100		80.6	50-150			
13C2-8:2FTS	70.3			ng/kg	100		70.3	50-150			
13C2D4-6:2FTS	105.0			ng/kg	100		105	50-150			
13C2-PFDOA	105			ng/kg	100		105	50-150			
13C2-PFTEDA	104			ng/kg	100		104	50-150			



WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

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Quality Control Results

(Continued)

B-15BS (Continued)

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
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Batch: 259673 - PFAS IN BIO-SOLIDS (Continued)

BLK (BA22661-BLK-1)

Prepared: 12/16/20 Analyzed: 12/17/20

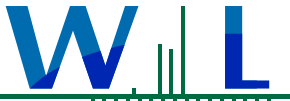
Surrogate(s)

13C3-HFPO-DA	132			ng/kg	100		132	50-150			
13C3-PFBS	95			ng/kg	100		95.4	50-150			
13C3-PFHXS	90.1			ng/kg	100		90.1	50-150			
13C4-PFBA	102			ng/kg	100		102	50-150			
13C4-PFHFA	91			ng/kg	100		91.4	50-150			
13C5-PFHXA	95			ng/kg	100		95.4	50-150			
13C5-PFPEA	99			ng/kg	100		98.8	50-150			
13C6-PFDA	96			ng/kg	100		96.2	50-150			
13C7-PFUDA	96			ng/kg	100		96.1	50-150			
13C8-PFOA	97			ng/kg	100		96.8	50-150			
13C8-PFOS	93			ng/kg	100		93.4	50-150			
13C8-PFOSA	92.5			ng/kg	100		92.5	50-150			
13C9-PFNA	95			ng/kg	100		95.0	50-150			
D3-NMEFOSA	106			ng/kg	100		106	50-150			
D3-NMEFOSAA	76.3			ng/kg	100		76.3	50-150			
D5-NETFOSA	106			ng/kg	100		106	50-150			
D5-NETFOSAA	82.6			ng/kg	100		82.6	50-150			
D7-NMEFOSE	117			ng/kg	100		117	50-150			
D9-NETFOSE	110			ng/kg	100		110	50-150			

LCS (BA22661-LCS-2)

Prepared: 12/16/20 Analyzed: 12/17/20

11-CL-PF3OUDS	43100	20000.0	40000.0	ng/kg	37700	0.0	114	73-132		30	
9-CL-PF3ONS	35400	20000.0	40000.0	ng/kg	37300	0.0	94.8	68-139		30	
ADONA	33500	20000.0	40000.0	ng/kg	37800	0.0	88.6	59-153		30	
FTS 4:2	37600	8000.0	16000.0	ng/kg	37400	0.0	101	63-143		30	
FTS 6:2	34500	8000.0	16000.0	ng/kg	38000	0.0	90.9	64-140		30	
FTS 8:2	37200	6000.0	12000.0	ng/kg	38300	0.0	97.0	67-138		30	
HFPO-DA	33500	20000.0	40000.0	ng/kg	40000	0.0	83.8	52-151		30	
N-ETFOSA	34600	8000.0	16000.0	ng/kg	40000	0.0	86.5	59-147		30	
N-ETFOSAA	40200	8000.0	16000.0	ng/kg	40000	0.0	101	61-135		30	
N-ETFOSE	33300	8000.0	16000.0	ng/kg	40000	0.0	83.3	27-163		30	
N-MEFOSA	35400	8000.0	16000.0	ng/kg	40000	0.0	88.5	35-157		30	
N-MEFOSAA	40500	8000.0	16000.0	ng/kg	40000	0.0	101	65-136		30	
N-MEFOSE	35100	8000.0	16000.0	ng/kg	40000	0.0	87.8	56-151		30	
PFBA	37900	2000.0	4000.0	ng/kg	40000	0.0	94.8	73-129		30	
PFBS	36200	2000.0	4000.0	ng/kg	35400	0.0	102	68-141		30	
PFDA	40400	3000.0	6000.0	ng/kg	40000	0.0	101	71-129		30	
PFDOA	39300	3000.0	6000.0	ng/kg	40000	0.0	98.3	72-134		30	
PFDS	38300	8000.0	16000.0	ng/kg	38500	0.0	99.4	53-142		30	



WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Project Number: 20L033

Project Manager: clinical

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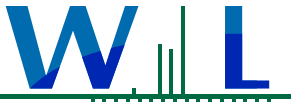
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Quality Control Results

(Continued)

B-15BS (Continued)

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: 259673 - PFAS IN BIO-SOLIDS (Continued)											
LCS (BA22661-LCS-2)						Prepared: 12/16/20 Analyzed: 12/17/20					
PFHPA	39800	2000.0	4000.0	ng/kg	40000	0.0	99.5	72-130		30	
PFHPS	40300	6000.0	12000.0	ng/kg	38100	0.0	106	69-134		30	
PFHXA	37900	4000.0	8000.0	ng/kg	40000	0.0	94.8	72-129		30	
PFHXS	36400	6000.0	12000.0	ng/kg	36400	0.0	99.9	68-131		30	
PFNA	41300	2000.0	4000.0	ng/kg	40000	0.0	103	69-130		30	
PFNS	38600	10000.0	20000.0	ng/kg	38400	0.0	101	69-127		30	
PFOA	41900	3000.0	6000.0	ng/kg	40000	0.0	105	71-133		30	
PFOS	33900	4000.0	8000.0	ng/kg	37100	0.0	91.4	65-140		30	
PFOSA	39400	2000.0	4000.0	ng/kg	40000	0.0	98.5	67-137		30	
PFPEA	39000	3000.0	6000.0	ng/kg	40000	0.0	97.5	72-129		30	
PFPEs	39500	4000.0	8000.0	ng/kg	37500	0.0	105	71-127		30	
PFTEDA	40900	8000.0	16000.0	ng/kg	40000	0.0	102	71-132		30	
PFTRDA	41800	2000.0	4000.0	ng/kg	40000	0.0	105	65-144		30	
PFUDA	41000	2000.0	4000.0	ng/kg	40000	0.0	103	69-133		30	
<i>Surrogate(s)</i>											
13C2-4:2FTS	84.2			ng/kg	100	0.0	84.2	50-150			
13C2-6:2FTS	88.2			ng/kg	100	0.0	88.2	50-150			
13C2-8:2FTS	78.1			ng/kg	100	0.0	78.1	50-150			
13C2D4-6:2FTS	90.2			ng/kg	100	0.0	90.2	50-150			
13C2-PFDOA	119			ng/kg	100	0.0	119	50-150			
13C2-PFTEDA	117			ng/kg	100	0.0	117	50-150			
13C3-HFPO-DA	113			ng/kg	100	0.0	113	50-150			
13C3-PFBS	104			ng/kg	100	0.0	104	50-150			
13C3-PFHXS	99.3			ng/kg	100	0.0	99.3	50-150			
13C4-PFBA	112			ng/kg	100	0.0	112	50-150			
13C4-PFHPA	102			ng/kg	100	0.0	102	50-150			
13C5-PFHXA	108			ng/kg	100	0.0	108	50-150			
13C5-PFPEA	110			ng/kg	100	0.0	110	50-150			
13C6-PFDA	101			ng/kg	100	0.0	101	50-150			
13C7-PFUDA	108			ng/kg	100	0.0	108	50-150			
13C8-PFOA	102			ng/kg	100	0.0	102	50-150			
13C8-PFOS	101			ng/kg	100	0.0	101	50-150			
13C8-PFOSA	96.5			ng/kg	100	0.0	96.5	50-150			
13C9-PFNA	103			ng/kg	100	0.0	103	50-150			
D3-NMEFOSA	101			ng/kg	100	0.0	101	50-150			
D3-NMEFOSAA	81.7			ng/kg	100	0.0	81.7	50-150			
D5-NETFOSA	106			ng/kg	100	0.0	106	50-150			
D5-NETFOSAA	91.8			ng/kg	100	0.0	91.8	50-150			
D7-NMEFOSE	107			ng/kg	100	0.0	107	50-150			



WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Project Number: 20L033

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Quality Control Results

(Continued)

B-15BS (Continued)

Analyte	Result	MDL	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qualifier
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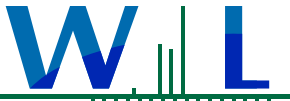
Batch: 259673 - PFAS IN BIO-SOLIDS (Continued)

LCS (BA22661-LCS-2)

Prepared: 12/16/20 Analyzed: 12/17/20

Surrogate(s)

D9-NETFOSE	102			ng/kg	100	0.0	102	50-150			
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Quality Control Results

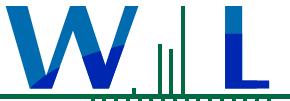
(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by Dir.Inj/LCMSMS

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: W0L0943 - EPA 537M										
Blank (W0L0943-BLK1)				Prepared & Analyzed: 12/17/20						
11CI-PF3OUdS	ND	1000	ng/l							
4:2 FTS	ND	1000	ng/l							
6:2 FTS	ND	1000	ng/l							
8:2 FTS	ND	1000	ng/l							
9CI-PF3ONS	ND	1000	ng/l							
ADONA	ND	1000	ng/l							
EtFOSA	ND	1000	ng/l							
EtFOSAA	ND	1000	ng/l							
EtFOSE	ND	1000	ng/l							
FOSA	ND	1000	ng/l							
HFPO-DA	ND	1000	ng/l							
MeFOSA	ND	1000	ng/l							
MeFOSAA	ND	1000	ng/l							
MeFOSE	ND	1000	ng/l							
Perfluorooctanoic acid (PFOA)	ND	1000	ng/l							
PFBA	ND	1000	ng/l							
PFBS	ND	1000	ng/l							
PFDA	ND	1000	ng/l							
PFDoA	ND	1000	ng/l							
PFDS	ND	1000	ng/l							
PFHpA	ND	1000	ng/l							
PFHpS	ND	1000	ng/l							
PFHxA	ND	1000	ng/l							
PFHxS	ND	1000	ng/l							
PFNA	ND	1000	ng/l							
PFNS	ND	1000	ng/l							
PFOS	ND	1000	ng/l							
PFPeA	ND	1000	ng/l							
PFPeS	ND	1000	ng/l							
PFTeDA	ND	1000	ng/l							
PFTrDA	ND	1000	ng/l							
PFOUnA	ND	1000	ng/l							
Blank (W0L0943-BLK2)				Prepared: 12/17/20 Analyzed: 12/21/20						
11CI-PF3OUdS	ND	1000	ng/l							QC-2
4:2 FTS	ND	1000	ng/l							QC-2
6:2 FTS	ND	1000	ng/l							QC-2
8:2 FTS	ND	1000	ng/l							QC-2
9CI-PF3ONS	ND	1000	ng/l							QC-2
ADONA	ND	1000	ng/l							QC-2

0L04040

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Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

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Project Manager: clinical

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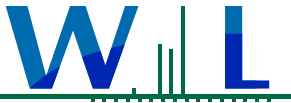
01/06/2021 13:05

Quality Control Results

(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by Dir.Inj/LCMSMS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: W0L0943 - EPA 537M (Continued)										
Blank (W0L0943-BLK2)				Prepared: 12/17/20 Analyzed: 12/21/20						
EtFOSA	ND	1000	ng/l							QC-2
EtFOSAA	ND	1000	ng/l							QC-2
EtFOSE	ND	1000	ng/l							QC-2
FOSA	ND	1000	ng/l							QC-2
HFPO-DA	ND	1000	ng/l							QC-2
MeFOSA	ND	1000	ng/l							QC-2
MeFOSAA	ND	1000	ng/l							QC-2
MeFOSE	ND	1000	ng/l							QC-2
Perfluorooctanoic acid (PFOA)	ND	1000	ng/l							QC-2
PFBA	ND	1000	ng/l							QC-2
PFBS	ND	1000	ng/l							QC-2
PFDA	ND	1000	ng/l							QC-2
PFDoA	ND	1000	ng/l							QC-2
PFDS	ND	1000	ng/l							QC-2
PFHpA	ND	1000	ng/l							QC-2
PFHpS	ND	1000	ng/l							QC-2
PFHxA	ND	1000	ng/l							QC-2
PFHxS	ND	1000	ng/l							QC-2
PFNA	ND	1000	ng/l							QC-2
PFNS	ND	1000	ng/l							QC-2
PFOS	ND	1000	ng/l							QC-2
PFPeA	ND	1000	ng/l							QC-2
PFPeS	ND	1000	ng/l							QC-2
PFTeDA	ND	1000	ng/l							QC-2
PFTTrDA	ND	1000	ng/l							QC-2
PFUnA	ND	1000	ng/l							QC-2
LCS (W0L0943-BS1)				Prepared & Analyzed: 12/17/20						
11Cl-PF3OUdS	3180	1000	ng/l	2500		127	70-130			
4:2 FTS	2480	1000	ng/l	2500		99	63-143			
6:2 FTS	2510	1000	ng/l	2500		100	64-140			
8:2 FTS	2610	1000	ng/l	2500		104	67-138			
9Cl-PF3ONS	2470	1000	ng/l	2500		99	70-130			
ADONA	2370	1000	ng/l	2500		95	70-130			
EtFOSA	2570	1000	ng/l	2500		103	70-130			
EtFOSAA	2530	1000	ng/l	2500		101	61-135			
EtFOSE	2490	1000	ng/l	2500		100	70-130			
FOSA	2550	1000	ng/l	2500		102	67-137			
HFPO-DA	2380	1000	ng/l	2500		95	70-130			
MeFOSA	2350	1000	ng/l	2500		94	68-141			



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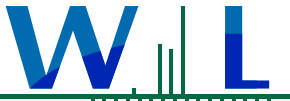
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Quality Control Results

(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by Dir.Inj/LCMSMS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: W0L0943 - EPA 537M (Continued)										
LCS (W0L0943-BS1)				Prepared & Analyzed: 12/17/20						
MeFOSAA	2460	1000	ng/l	2500		98	65-136			
MeFOSE	2440	1000	ng/l	2500		97	70-130			
Perfluorooctanoic acid (PFOA)	2420	1000	ng/l	2500		97	71-133			
PFBA	2410	1000	ng/l	2500		96	73-129			
PFBS	2490	1000	ng/l	2500		100	72-130			
PFDA	2510	1000	ng/l	2500		100	71-129			
PFDoA	2620	1000	ng/l	2500		105	72-134			
PFDS	2310	1000	ng/l	2500		92	53-142			
PFHpA	2410	1000	ng/l	2500		96	72-130			
PFHpS	2380	1000	ng/l	2500		95	69-134			
PFHxA	2500	1000	ng/l	2500		100	72-129			
PFHxS	2350	1000	ng/l	2500		94	68-131			
PFNA	2420	1000	ng/l	2500		97	69-130			
PFNS	2450	1000	ng/l	2500		98	69-127			
PFOS	2580	1000	ng/l	2500		103	65-140			
PFPeA	2440	1000	ng/l	2500		98	72-129			
PFPeS	2410	1000	ng/l	2500		96	71-127			
PFTeDA	2530	1000	ng/l	2500		101	71-132			
PFTrDA	2000	1000	ng/l	2500		80	65-144			
PFUnA	2390	1000	ng/l	2500		96	69-133			
LCS (W0L0943-BS2)				Prepared: 12/17/20 Analyzed: 12/21/20						
11Cl-PF3OUdS	2430	1000	ng/l	2500		97	70-130			QC-2
4:2 FTS	2480	1000	ng/l	2500		99	63-143			QC-2
6:2 FTS	2510	1000	ng/l	2500		100	64-140			QC-2
8:2 FTS	2570	1000	ng/l	2500		103	67-138			QC-2
9Cl-PF3ONS	2450	1000	ng/l	2500		98	70-130			QC-2
ADONA	2330	1000	ng/l	2500		93	70-130			QC-2
EtFOSA	2670	1000	ng/l	2500		107	70-130			QC-2
EtFOSAA	2400	1000	ng/l	2500		96	61-135			QC-2
EtFOSE	1980	1000	ng/l	2500		79	70-130			QC-2
FOSA	2490	1000	ng/l	2500		99	67-137			QC-2
HFPO-DA	2580	1000	ng/l	2500		103	70-130			QC-2
MeFOSA	2480	1000	ng/l	2500		99	68-141			QC-2
MeFOSAA	2460	1000	ng/l	2500		98	65-136			QC-2
MeFOSE	2260	1000	ng/l	2500		90	70-130			QC-2
Perfluorooctanoic acid (PFOA)	2450	1000	ng/l	2500		98	71-133			QC-2
PFBA	2400	1000	ng/l	2500		96	73-129			QC-2
PFBS	2430	1000	ng/l	2500		97	72-130			QC-2
PFDA	2410	1000	ng/l	2500		96	71-129			QC-2



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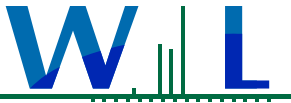
Project Manager: clinical

Quality Control Results

(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by Dir.Inj/LCMSMS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W0L0943 - EPA 537M (Continued)									
LCS (W0L0943-BS2)				Prepared: 12/17/20 Analyzed: 12/21/20					
PFDoA	2610	1000	ng/l	2500	104	72-134			QC-2
PFDS	2480	1000	ng/l	2500	99	53-142			QC-2
PFHpA	2480	1000	ng/l	2500	99	72-130			QC-2
PFHpS	2460	1000	ng/l	2500	98	69-134			QC-2
PFHxA	2400	1000	ng/l	2500	96	72-129			QC-2
PFHxS	2440	1000	ng/l	2500	98	68-131			QC-2
PFNA	2430	1000	ng/l	2500	97	69-130			QC-2
PFNS	2440	1000	ng/l	2500	98	69-127			QC-2
PFOS	2520	1000	ng/l	2500	101	65-140			QC-2
PFPeA	2450	1000	ng/l	2500	98	72-129			QC-2
PFPeS	2510	1000	ng/l	2500	100	71-127			QC-2
PFTeDA	2530	1000	ng/l	2500	101	71-132			QC-2
PFTrDA	1940	1000	ng/l	2500	78	65-144			QC-2
PFUnA	2490	1000	ng/l	2500	100	69-133			QC-2
LCS Dup (W0L0943-BSD1)				Prepared & Analyzed: 12/17/20					
11CI-PF3OUdS	2700	1000	ng/l	2500	108	70-130	16	30	
4:2 FTS	2310	1000	ng/l	2500	92	63-143	7	30	
6:2 FTS	2360	1000	ng/l	2500	94	64-140	6	30	
8:2 FTS	2420	1000	ng/l	2500	97	67-138	7	30	
9CI-PF3ONS	2330	1000	ng/l	2500	93	70-130	6	30	
ADONA	2340	1000	ng/l	2500	93	70-130	1	30	
EtFOSA	2260	1000	ng/l	2500	91	70-130	13	30	
EtFOSAA	2330	1000	ng/l	2500	93	61-135	8	30	
EtFOSE	2250	1000	ng/l	2500	90	70-130	10	30	
FOSA	2400	1000	ng/l	2500	96	67-137	6	30	
HFPO-DA	2440	1000	ng/l	2500	97	70-130	2	30	
MeFOSA	2410	1000	ng/l	2500	96	68-141	3	30	
MeFOSAA	2420	1000	ng/l	2500	97	65-136	1	30	
MeFOSE	2460	1000	ng/l	2500	98	70-130	0.9	30	
Perfluorooctanoic acid (PFOA)	2330	1000	ng/l	2500	93	71-133	4	30	
PFBA	2340	1000	ng/l	2500	93	73-129	3	30	
PFBS	2290	1000	ng/l	2500	92	72-130	8	30	
PFDA	2330	1000	ng/l	2500	93	71-129	7	30	
PFDoA	2390	1000	ng/l	2500	96	72-134	9	30	
PFDS	2340	1000	ng/l	2500	93	53-142	1	30	
PFHpA	2290	1000	ng/l	2500	91	72-130	5	30	
PFHpS	2340	1000	ng/l	2500	94	69-134	1	30	
PFHxA	2360	1000	ng/l	2500	94	72-129	6	30	
PFHxS	2330	1000	ng/l	2500	93	68-131	0.6	30	



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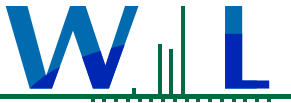
Project Manager: clinical

Quality Control Results

(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by Dir.Inj/LCMSMS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: W0L0943 - EPA 537M (Continued)										
LCS Dup (W0L0943-BSD1)				Prepared & Analyzed: 12/17/20						
PFNA	2370	1000	ng/l	2500		95	69-130	2	30	
PFNS	2360	1000	ng/l	2500		95	69-127	4	30	
PFOS	2540	1000	ng/l	2500		102	65-140	2	30	
PFPeA	2320	1000	ng/l	2500		93	72-129	5	30	
PFPeS	2430	1000	ng/l	2500		97	71-127	1	30	
PFTeDA	2350	1000	ng/l	2500		94	71-132	7	30	
PFTrDA	2030	1000	ng/l	2500		81	65-144	2	30	
PFUnA	2440	1000	ng/l	2500		98	69-133	2	30	
LCS Dup (W0L0943-BSD2)				Prepared: 12/17/20 Analyzed: 12/21/20						
11CI-PF3OUdS	2370	1000	ng/l	2500		95	70-130	2	30	QC-2
4:2 FTS	2460	1000	ng/l	2500		99	63-143	0.7	30	QC-2
6:2 FTS	2300	1000	ng/l	2500		92	64-140	9	30	QC-2
8:2 FTS	2380	1000	ng/l	2500		95	67-138	8	30	QC-2
9CI-PF3ONS	2380	1000	ng/l	2500		95	70-130	3	30	QC-2
ADONA	2270	1000	ng/l	2500		91	70-130	2	30	QC-2
EtFOSA	2320	1000	ng/l	2500		93	70-130	14	30	QC-2
EtFOSAA	2290	1000	ng/l	2500		92	61-135	5	30	QC-2
EtFOSE	2070	1000	ng/l	2500		83	70-130	4	30	QC-2
FOSA	2340	1000	ng/l	2500		93	67-137	6	30	QC-2
HFPO-DA	2430	1000	ng/l	2500		97	70-130	6	30	QC-2
MeFOSA	2130	1000	ng/l	2500		85	68-141	16	30	QC-2
MeFOSAA	2360	1000	ng/l	2500		94	65-136	4	30	QC-2
MeFOSE	2500	1000	ng/l	2500		100	70-130	10	30	QC-2
Perfluorooctanoic acid (PFOA)	2370	1000	ng/l	2500		95	71-133	3	30	QC-2
PFBA	2340	1000	ng/l	2500		94	73-129	3	30	QC-2
PFBS	2420	1000	ng/l	2500		97	72-130	0.5	30	QC-2
PFDA	2280	1000	ng/l	2500		91	71-129	5	30	QC-2
PFDoA	2620	1000	ng/l	2500		105	72-134	0.3	30	QC-2
PFDS	2310	1000	ng/l	2500		92	53-142	7	30	QC-2
PFHpA	2390	1000	ng/l	2500		96	72-130	4	30	QC-2
PFHpS	2460	1000	ng/l	2500		99	69-134	0.09	30	QC-2
PFHxA	2390	1000	ng/l	2500		96	72-129	0.3	30	QC-2
PFHxS	2250	1000	ng/l	2500		90	68-131	8	30	QC-2
PFNA	2370	1000	ng/l	2500		95	69-130	2	30	QC-2
PFNS	2340	1000	ng/l	2500		93	69-127	4	30	QC-2
PFOS	2370	1000	ng/l	2500		95	65-140	6	30	QC-2
PFPeA	2320	1000	ng/l	2500		93	72-129	5	30	QC-2
PFPeS	2290	1000	ng/l	2500		92	71-127	9	30	QC-2
PFTeDA	2370	1000	ng/l	2500		95	71-132	6	30	QC-2



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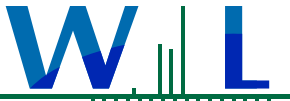
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Quality Control Results

(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by Dir.Inj/LCMSMS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: W0L0943 - EPA 537M (Continued)										
LCS Dup (W0L0943-BSD2)										
				Prepared: 12/17/20 Analyzed: 12/21/20						
PFTTrDA	1920	1000	ng/l	2500		77	65-144	1	30	QC-2
PFUnA	2360	1000	ng/l	2500		94	69-133	5	30	QC-2



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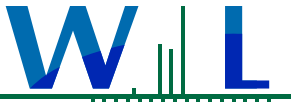
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Quality Control Results

(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: W0L0770 - EPA 537M										
Blank (W0L0770-BLK1)				Prepared: 12/15/20 Analyzed: 12/17/20						
11CI-PF3OUdS	ND	1.0	ng/l							
4:2 FTS	ND	1.0	ng/l							
6:2 FTS	ND	1.0	ng/l							
8:2 FTS	ND	1.0	ng/l							
9CI-PF3ONS	ND	1.0	ng/l							
ADONA	ND	1.0	ng/l							
EtFOSA	ND	1.0	ng/l							
EtFOSAA	ND	1.0	ng/l							
EtFOSE	ND	1.0	ng/l							
FOSA	ND	1.0	ng/l							
HFPO-DA	ND	1.0	ng/l							
MeFOSA	ND	1.0	ng/l							
MeFOSAA	ND	1.0	ng/l							
MeFOSE	ND	1.0	ng/l							
Perfluorooctanoic acid (PFOA)	ND	1.0	ng/l							
PFBA	ND	1.0	ng/l							
PFBS	ND	1.0	ng/l							
PFDA	ND	1.0	ng/l							
PFDoA	ND	1.0	ng/l							
PFDS	ND	1.0	ng/l							
PFHpA	ND	1.0	ng/l							
PFHpS	ND	1.0	ng/l							
PFHxA	ND	1.0	ng/l							
PFHxS	ND	1.0	ng/l							
PFNA	ND	1.0	ng/l							
PFNS	ND	1.0	ng/l							
PFOS	ND	1.0	ng/l							
PFPeA	ND	1.0	ng/l							
PFPeS	ND	1.0	ng/l							
PFTeDA	ND	1.0	ng/l							
PFTrDA	ND	1.0	ng/l							
PFOUnA	ND	1.0	ng/l							
LCS (W0L0770-BS1)				Prepared: 12/15/20 Analyzed: 12/17/20						
11CI-PF3OUdS	0.805	1.0	ng/l	1.00		81	50-150			
4:2 FTS	1.02	1.0	ng/l	1.00		102	50-150			
6:2 FTS	1.10	1.0	ng/l	1.00		110	50-150			
8:2 FTS	1.00	1.0	ng/l	1.00		100	50-150			
9CI-PF3ONS	0.836	1.0	ng/l	1.00		84	50-150			
ADONA	1.11	1.0	ng/l	1.00		111	50-150			



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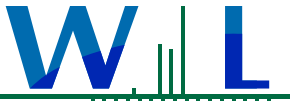
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Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W0L0770 - EPA 537M (Continued)									
LCS (W0L0770-BS1)					Prepared: 12/15/20 Analyzed: 12/17/20				
EtFOSA	0.625	1.0	ng/l	1.00	62	50-150			
EtFOSAA	0.624	1.0	ng/l	1.00	62	50-150			
EtFOSE	0.713	1.0	ng/l	1.00	71	50-150			
FOSA	0.945	1.0	ng/l	1.00	94	50-150			
HFPO-DA	0.962	1.0	ng/l	1.00	96	50-150			
MeFOSA	0.689	1.0	ng/l	1.00	69	50-150			
MeFOSAA	0.926	1.0	ng/l	1.00	93	50-150			
MeFOSE	0.844	1.0	ng/l	1.00	84	50-150			
Perfluorooctanoic acid (PFOA)	1.00	1.0	ng/l	1.00	100	50-150			
PFBA	1.14	1.0	ng/l	1.00	114	50-150			
PFBS	1.07	1.0	ng/l	1.00	107	50-150			
PFDA	0.882	1.0	ng/l	1.00	88	50-150			
PFDoA	0.863	1.0	ng/l	1.00	86	50-150			
PFDS	0.673	1.0	ng/l	1.00	67	50-150			
PFHpA	1.10	1.0	ng/l	1.00	110	50-150			
PFHpS	0.924	1.0	ng/l	1.00	92	50-150			
PFHxA	1.14	1.0	ng/l	1.00	114	50-150			
PFHxS	1.04	1.0	ng/l	1.00	104	50-150			
PFNA	1.00	1.0	ng/l	1.00	100	50-150			
PFNS	0.727	1.0	ng/l	1.00	73	50-150			
PFOS	0.933	1.0	ng/l	1.00	93	50-150			
PFPeA	1.07	1.0	ng/l	1.00	107	50-150			
PFPeS	1.08	1.0	ng/l	1.00	108	50-150			
PFTeDA	0.843	1.0	ng/l	1.00	84	50-150			
PFTTrDA	0.663	1.0	ng/l	1.00	66	50-150			
PFUnA	0.906	1.0	ng/l	1.00	91	50-150			
LCS Dup (W0L0770-BSD1)					Prepared: 12/15/20 Analyzed: 12/17/20				
11Cl-PF3OUdS	1.25	1.0	ng/l	1.00	125	50-150	43	30	Q-12
4:2 FTS	1.03	1.0	ng/l	1.00	103	50-150	0.5	30	
6:2 FTS	1.04	1.0	ng/l	1.00	104	50-150	5	30	
8:2 FTS	1.05	1.0	ng/l	1.00	105	50-150	4	30	
9Cl-PF3ONS	0.989	1.0	ng/l	1.00	99	50-150	17	30	
ADONA	1.00	1.0	ng/l	1.00	100	50-150	10	30	
EtFOSA	1.32	1.0	ng/l	1.00	132	50-150	71	30	Q-12
EtFOSAA	0.795	1.0	ng/l	1.00	80	50-150	24	30	
EtFOSE	1.00	1.0	ng/l	1.00	100	50-150	34	30	Q-12
FOSA	1.03	1.0	ng/l	1.00	103	50-150	9	30	
HFPO-DA	0.949	1.0	ng/l	1.00	95	50-150	1	30	
MeFOSA	1.05	1.0	ng/l	1.00	105	50-150	42	30	Q-12

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Quality Control Results

(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS (Continued)

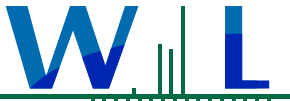
Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: W0L0770 - EPA 537M (Continued)										
LCS Dup (W0L0770-BSD1)				Prepared: 12/15/20 Analyzed: 12/17/20						
MeFOSAA	0.995	1.0	ng/l	1.00		100	50-150	7	30	
MeFOSE	1.07	1.0	ng/l	1.00		107	50-150	24	30	
Perfluorooctanoic acid (PFOA)	1.01	1.0	ng/l	1.00		101	50-150	0.9	30	
PFBA	1.12	1.0	ng/l	1.00		112	50-150	1	30	
PFBS	1.03	1.0	ng/l	1.00		103	50-150	4	30	
PFDA	1.03	1.0	ng/l	1.00		103	50-150	15	30	
PFDoA	1.04	1.0	ng/l	1.00		104	50-150	18	30	
PFDS	0.911	1.0	ng/l	1.00		91	50-150	30	30	
PFHpA	1.03	1.0	ng/l	1.00		103	50-150	6	30	
PFHpS	1.03	1.0	ng/l	1.00		103	50-150	11	30	
PFHxA	1.04	1.0	ng/l	1.00		104	50-150	9	30	
PFHxS	0.998	1.0	ng/l	1.00		100	50-150	4	30	
PFNA	1.02	1.0	ng/l	1.00		102	50-150	2	30	
PFNS	0.903	1.0	ng/l	1.00		90	50-150	22	30	
PFOS	1.02	1.0	ng/l	1.00		102	50-150	9	30	
PFPeA	1.02	1.0	ng/l	1.00		102	50-150	4	30	
PFPeS	1.05	1.0	ng/l	1.00		105	50-150	3	30	
PFTeDA	0.957	1.0	ng/l	1.00		96	50-150	13	30	
PFTrDA	0.908	1.0	ng/l	1.00		91	50-150	31	30	Q-12
PFUnA	1.06	1.0	ng/l	1.00		106	50-150	16	30	

Batch: W0L0868 - EPA 537.1

Blank (W0L0868-BLK1)				Prepared: 12/16/20 Analyzed: 12/30/20						
11CI-PF3OUdS	ND	2.0	ng/l							
9CI-PF3ONS	ND	2.0	ng/l							
ADONA	ND	2.0	ng/l							
EiFOSAA	ND	2.0	ng/l							
HFPO-DA	ND	2.0	ng/l							
MeFOSAA	ND	2.0	ng/l							
PFBS	ND	2.0	ng/l							
PFDA	ND	2.0	ng/l							
PFDoA	ND	2.0	ng/l							
PFHpA	ND	2.0	ng/l							
PFHxA	ND	2.0	ng/l							
PFHxS	ND	2.0	ng/l							
PFNA	ND	2.0	ng/l							
PFOA	ND	2.0	ng/l							
PFOS	ND	2.0	ng/l							
PFTeDA	ND	2.0	ng/l							
PFTrDA	ND	2.0	ng/l							

0L04040

Page 23 of 26



WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Project Number: 20L033

Project Manager: clinical

Certificate of Analysis

FINAL REPORT

Reported:

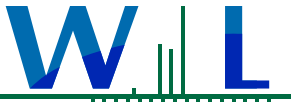
01/06/2021 13:05

Quality Control Results

(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Qualifier
Batch: W0L0868 - EPA 537.1 (Continued)									
Blank (W0L0868-BLK1)					Prepared: 12/16/20 Analyzed: 12/30/20				
PFUnA	ND	2.0	ng/l						
<i>Surrogate(s)</i>									
13C2-PFDA	30.2		ng/l	40.0		75 70-130			
13C2-PFHxA	36.1		ng/l	40.0		90 70-130			
d5-EtFOSAA	112		ng/l	160		70 70-130			
HFPO-DA-13C3	37.6		ng/l	40.0		94 70-130			
LCS (W0L0868-BS1)					Prepared: 12/16/20 Analyzed: 12/30/20				
11CI-PF3OUdS	4.68	2.0	ng/l	5.00		94 70-130			
9CI-PF3ONS	4.39	2.0	ng/l	5.00		88 70-130			
ADONA	4.68	2.0	ng/l	5.00		94 70-130			
EtFOSAA	4.34	2.0	ng/l	5.00		87 70-130			
HFPO-DA	5.43	2.0	ng/l	5.00		109 70-130			
MeFOSAA	4.54	2.0	ng/l	5.00		91 70-130			
PFBS	4.76	2.0	ng/l	5.00		95 70-130			
PFDA	4.14	2.0	ng/l	5.00		83 70-130			
PFDoA	4.86	2.0	ng/l	5.00		97 70-130			
PFHpA	4.38	2.0	ng/l	5.00		88 70-130			
PFHxA	4.76	2.0	ng/l	5.00		95 70-130			
PFHxS	4.82	2.0	ng/l	5.00		96 70-130			
PFNA	4.40	2.0	ng/l	5.00		88 70-130			
PFOA	4.60	2.0	ng/l	5.00		92 70-130			
PFOS	4.40	2.0	ng/l	5.00		88 70-130			
PFTeDA	3.93	2.0	ng/l	5.00		79 70-130			
PFTTrDA	3.89	2.0	ng/l	5.00		78 70-130			
PFUnA	3.95	2.0	ng/l	5.00		79 70-130			
<i>Surrogate(s)</i>									
13C2-PFDA	34.0		ng/l	40.0		85 70-130			
13C2-PFHxA	35.0		ng/l	40.0		88 70-130			
d5-EtFOSAA	128		ng/l	160		80 70-130			
HFPO-DA-13C3	34.4		ng/l	40.0		86 70-130			
LCS Dup (W0L0868-BS1)					Prepared: 12/16/20 Analyzed: 12/30/20				
11CI-PF3OUdS	3.02	2.0	ng/l	5.00		60 70-130	43	30	BS-04
9CI-PF3ONS	3.51	2.0	ng/l	5.00		70 70-130	22	30	
ADONA	4.49	2.0	ng/l	5.00		90 70-130	4	30	
EtFOSAA	2.65	2.0	ng/l	5.00		53 70-130	48	30	BS-04
HFPO-DA	5.32	2.0	ng/l	5.00		106 70-130	2	30	
MeFOSAA	3.67	2.0	ng/l	5.00		73 70-130	21	30	
PFBS	4.65	2.0	ng/l	5.00		93 70-130	2	30	
PFDA	3.44	2.0	ng/l	5.00		69 70-130	18	30	BS-04



WECK LABORATORIES, INC.

Clinical Laboratory of San Bernardino, Inc.
21881 Barton Road
Grand Terrace, CA 92313

Project Number: 20L033

Project Manager: clinical

Certificate of Analysis

FINAL REPORT

Reported:

01/06/2021 13:05

Quality Control Results

(Continued)

Per- and Polyfluorinated Alkyl Substances (PFAS) by SPE/LCMSMS (Continued)

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	Limits	RPD	RPD Limit	Qualifier
Batch: W0L0868 - EPA 537.1 (Continued)										
LCS Dup (W0L0868-BSD1)										
Prepared: 12/16/20 Analyzed: 12/30/20										
PFD _o A	3.39	2.0	ng/l	5.00		68	70-130	36	30	BS-04
PFHpA	4.36	2.0	ng/l	5.00		87	70-130	0.5	30	
PFHxA	4.66	2.0	ng/l	5.00		93	70-130	2	30	
PFHxS	4.63	2.0	ng/l	5.00		93	70-130	4	30	
PFNA	4.17	2.0	ng/l	5.00		83	70-130	5	30	
PFOA	4.64	2.0	ng/l	5.00		93	70-130	0.9	30	
PFOS	3.52	2.0	ng/l	5.00		70	70-130	22	30	
PFTeDA	3.37	2.0	ng/l	5.00		67	70-130	15	30	BS-04
PFT _r DA	2.94	2.0	ng/l	5.00		59	70-130	28	30	BS-04
PFUnA	2.96	2.0	ng/l	5.00		59	70-130	29	30	BS-04
<i>Surrogate(s)</i>										
13C2-PFDA	27.2		ng/l	40.0		68	70-130			S-11
13C2-PFHxA	35.2		ng/l	40.0		88	70-130			
d5-EtFOSAA	104		ng/l	160		65	70-130			S-11
HFPO-DA-13C3	35.8		ng/l	40.0		90	70-130			

Clinical Laboratory of San Bernardino, Inc.
 21881 Barton Road
 Grand Terrace, CA 92313

Project Number: 20L033

Project Manager: clinical

Reported:
 01/06/2021 13:05

Notes and Definitions

Item	Definition
BS-04	The recovery of this analyte in LCS or LCSD was outside control limit. Sample was accepted based on the remaining LCS, LCSD or LCS-LL.
E-01	The concentration indicated for this analyte is an estimated value above the calibration range.
J	Estimated value
M-04	Due to the nature of matrix interferences, sample extract was diluted prior to analysis. The MDL and MRL were raised due to the dilution.
Q-12	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on the percent recoveries and/or other acceptable QC data.
QC-2	This QC sample was reanalyzed to complement samples that require re-analysis on different date. See analysis date.
S-11	Surrogate recovery outside of control limits. The data was accepted based on valid recovery of the remaining surrogate.
U	Not detected
%REC	Percent Recovery
Dil	Dilution
dry	Sample results reported on a dry weight basis
MDL	Method Detection Limit
MRL	The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. The MRL is also known as Limit of Quantitation (LOQ)
ND	NOT DETECTED at or above the Method Reporting Limit (MRL). If Method Detection Limit (MDL) is reported, then ND means not detected at or above the MDL.
RPD	Relative Percent Difference

Any remaining sample(s) will be disposed of one month from the final report date unless other arrangements are made in advance.

All results are expressed on wet weight basis unless otherwise specified.

All samples collected by Weck Laboratories have been sampled in accordance to laboratory SOP Number MIS002.



908 North Temperance Ave. ▽ Clovis, CA 93611 ▽ Phone 559-275-2175 ▽ Fax 559-275-4422

Certification Number: CA1312 (DW & WW)
NELAP Certification number: CA00046 (HW)

December 28, 2020

WECK Laboratories, Inc
14859 East Clark Avenue
City of Industry, CA 91745-1396

Attn: Regina M. Giancola

Subject: Report of Data: Case 94317

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

Dear Ms. Giancola,

One solid sample for project “0L04040 EPA 537 v1.1 PFAS 18 Target List” was received December 8, 2020, at 0.5°C. Written results are provided on this December 28, 2020, for the requested analyses. All holding times were met.

For PFAS analysis, the sample was extracted according to APPL SOP PRE537 and analyzed according to APPL SOP ANA537 and DoD QSM Table B-15.

If you have any questions or require further information, please contact us at your convenience. Thank you for choosing APPL, Inc.

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 above. These test results meet all requirements of NELAC. Release of the hard copy has been authorized by the Laboratory Manager or her designee, as verified by the following signature.

Paula McCartney, Laboratory Director
APPL, Inc.

PM/cm
Enclosure
cc: File

PFAS IN BIO-SOLIDS

WECK
14859 East Clark Avenue
City of Industry, CA 91745-1396

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Regina M. Giancola

Project: 0L04040 EPA 537 v1.1 PFAS 18 Target List

ARF: 94317

Sample ID: 0L04040-06/BELT PRESS/ 20L0333-06

APPL ID: BA22661

Sample Collection Date: 12/02/20

CGC: #PFASC-201216A-259673

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
(Solid Concentrations have been adjusted to reflect 85.2 Percent Moisture.)							
B-15BS	11-CL-PF3OUDS	Not detected	50000	20000.0	ng/kg	12/16/20	12/17/20
B-15BS	9-CL-PF3ONS	Not detected	50000	20000.0	ng/kg	12/16/20	12/17/20
B-15BS	ADONA	Not detected	50000	20000.0	ng/kg	12/16/20	12/17/20
B-15BS	FTS 4:2	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
B-15BS	FTS 6:2	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
B-15BS	FTS 8:2	Not detected	20000	6000.0	ng/kg	12/16/20	12/17/20
B-15BS	HFPO-DA	Not detected	50000	20000.0	ng/kg	12/16/20	12/17/20
B-15BS	N-ETFOSA	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
B-15BS	N-ETFOSAA	9100 J	20000	8000.0	ng/kg	12/16/20	12/17/20
B-15BS	N-ETFOSE	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
B-15BS	N-MEFOSA	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
B-15BS	N-MEFOSAA	12000 J	20000	8000.0	ng/kg	12/16/20	12/17/20
B-15BS	N-MEFOSE	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFBA	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFBS	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFDA	11000	10000	3000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFDOA	Not detected	10000	3000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFDS	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFHPA	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFHPS	Not detected	20000	6000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFHXA	6000 J	10000	4000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFHXS	Not detected	20000	6000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFNA	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFNS	Not detected	50000	10000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFOA	12000	10000	3000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFOS	11000 J	20000	4000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFOSA	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFPEA	14000	10000	3000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFPEP	Not detected	20000	4000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFTEDA	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFTRDA	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
B-15BS	PFUDA	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
B-15BS	SURROGATE: 13C2-4:2FTS (S)	93.4	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C2-6:2FTS (S)	95.1	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C2-8:2FTS (S)	89.3	50-150		%	12/16/20	12/17/20

J = Estimated value.

Quant Method: B15\2020_12_01
Run #: 2020-12-1633
Instrument: Saphira
Sequence: 2020-12-17
Dilution Factor: 1
Initials: HHE

Printed: 12/28/20 11:07:48 AM
APPL-F1-SC-MCResOnly-REG MDLs

PFAS IN BIO-SOLIDS

WECK
14859 East Clark Avenue
City of Industry, CA 91745-1396

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Attn: Regina M. Giancola

Project: 0L04040 EPA 537 v1.1 PFAS 18 Target List

ARF: 94317

Sample ID: 0L04040-06/BELT PRESS/ 20L0333-06

APPL ID: BA22661

Sample Collection Date: 12/02/20

CGC: #PFASC-201216A-259673

Method	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
B-15BS	SURROGATE: 13C2-PFDOA (S)	109	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C2-PFTEDA (S)	105	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C2D4-6:2FTS (S)	100	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C3-HFPO-DA (S)	114	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C3-PFBS (S)	106	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C3-PFHXS (S)	102	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C4-PFBA (S)	104	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C4-PFHFA (S)	107	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C5-PFHXA (S)	103	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C5-PFPEA (S)	107	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C6-PFDA (S)	107	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C7-PFUDA (S)	110	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C8-PFOA (S)	108	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C8-PFOS (S)	109	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C8-PFOSA (S)	114	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: 13C9-PFNA (S)	112	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: D3-NMEFOSA (S)	114	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: D3-NMEFOSAA (S)	85.2	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: D5-NETFOSA (S)	113	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: D5-NETFOSAA (S)	89.0	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: D7-NMEFOSE (S)	122	50-150		%	12/16/20	12/17/20
B-15BS	SURROGATE: D9-NETFOS (S)	120	50-150		%	12/16/20	12/17/20

J = Estimated value.

Quant Method: B15\2020_12_01
Run #: 2020-12-1633
Instrument: Saphira
Sequence: 2020-12-17
Dilution Factor: 1
Initials: HHE

Printed: 12/28/20 11:07:48 AM
APPL-F1-SC-MCResOnly-REG MDLs

Wetlab Results

ARF: 94317

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

WECK
14859 East Clark Avenue
City of Industry, CA 91745-1396

Attn: Regina M. Giancola

Method	Analyte	Result	PQL	MDL	Units	Prep Date	Analysis Date
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APPL ID: BA22661 -Client Sample ID: 0L04040-06/BELT PRESS/ 20L0 -Sample Collection Date: 12/02/20 Project: 0L04040 EPA 537 v1.1

CLP MOIST	MOISTURE	85.2	2.0		%	12/09/20	12/10/20
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Method Blank

PFAS IN BIO-SOLIDS

Blank Name/QCG: **201216S-22359 - 259673**
 Batch ID: #PFASC-201216A

APPL Inc.
 908 North Temperance Avenue
 Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	11-CL-PF3OUDS	Not detected	50000	20000.0	ng/kg	12/16/20	12/17/20
BLANK	9-CL-PF3ONS	Not detected	50000	20000.0	ng/kg	12/16/20	12/17/20
BLANK	ADONA	Not detected	50000	20000.0	ng/kg	12/16/20	12/17/20
BLANK	FTS 4:2	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
BLANK	FTS 6:2	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
BLANK	FTS 8:2	Not detected	20000	6000.0	ng/kg	12/16/20	12/17/20
BLANK	HFPO-DA	Not detected	50000	20000.0	ng/kg	12/16/20	12/17/20
BLANK	N-ETFOSA	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
BLANK	N-ETFOSAA	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
BLANK	N-ETFOSE	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
BLANK	N-MEFOSA	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
BLANK	N-MEFOSAA	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
BLANK	N-MEFOSE	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
BLANK	PFBA	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
BLANK	PFBS	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
BLANK	PFDA	Not detected	10000	3000.0	ng/kg	12/16/20	12/17/20
BLANK	PFDOA	Not detected	10000	3000.0	ng/kg	12/16/20	12/17/20
BLANK	PFDS	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
BLANK	PFHPA	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
BLANK	PFHPS	Not detected	20000	6000.0	ng/kg	12/16/20	12/17/20
BLANK	PFHXA	Not detected	10000	4000.0	ng/kg	12/16/20	12/17/20
BLANK	PFHXS	Not detected	20000	6000.0	ng/kg	12/16/20	12/17/20
BLANK	PFNA	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
BLANK	PFNS	Not detected	50000	10000.0	ng/kg	12/16/20	12/17/20
BLANK	PFOA	Not detected	10000	3000.0	ng/kg	12/16/20	12/17/20
BLANK	PFOS	Not detected	20000	4000.0	ng/kg	12/16/20	12/17/20
BLANK	PFOSA	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
BLANK	PFPEA	Not detected	10000	3000.0	ng/kg	12/16/20	12/17/20
BLANK	PFPEs	Not detected	20000	4000.0	ng/kg	12/16/20	12/17/20
BLANK	PFTEDA	Not detected	20000	8000.0	ng/kg	12/16/20	12/17/20
BLANK	PFTRDA	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
BLANK	PFUDA	Not detected	10000	2000.0	ng/kg	12/16/20	12/17/20
BLANK	SURROGATE: 13C2-4:2FTS (S)	77.9	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C2-6:2FTS (S)	80.6	50-150		%	12/16/20	12/17/20

Quant Method: B15\2020_12
 Run #: 2020-12-162
 Instrument: Saphira
 Sequence: 2020-12-17
 Initials: HHE

GC SC-Blank-REG MDLs
 Printed: 12/28/20 11:07:48 AM

Method Blank

PFAS IN BIO-SOLIDS

Blank Name/QCG: **201216S-22359 - 259673**
Batch ID: #PFASC-201216A

APPL Inc.
908 North Temperance Avenue
Clovis, CA 93611

Sample Type	Analyte	Result	PQL	MDL	Units	Extraction Date	Analysis Date
BLANK	SURROGATE: 13C2-8:2FTS (S)	70.3	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C2-PFDOA (S)	105	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C2-PFTEDA (S)	104	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C2D4-6:2FTS (S)	105	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C3-HFPO-DA (S)	132	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C3-PFBS (S)	95.4	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C3-PFHXS (S)	90.1	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C4-PFBA (S)	102	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C4-PFHPA (S)	91.4	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C5-PFHXA (S)	95.4	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C5-PFPEA (S)	98.8	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C6-PFDA (S)	96.2	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C7-PFUDA (S)	96.1	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C8-PFOA (S)	96.8	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C8-PFOS (S)	93.4	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C8-PFOSA (S)	92.5	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: 13C9-PFNA (S)	95.0	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: D3-NMEFOSA (S)	106	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: D3-NMEFOSAA (S)	76.3	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: D5-NETFOSA (S)	106	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: D5-NETFOSAA (S)	82.6	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: D7-NMEFOSE (S)	117	50-150		%	12/16/20	12/17/20
BLANK	SURROGATE: D9-NETFOSSE (S)	110	50-150		%	12/16/20	12/17/20

Quant Method: B15\2020_12
Run #: 2020-12-162
Instrument: Saphira
Sequence: 2020-12-17
Initials: HHE

GC SC-Blank-REG MDLs
Printed: 12/28/20 11:07:48 AM

Laboratory Control Spike Recovery

PFAS IN BIO-SOLIDS

APPL ID: 201216S-22359 LCS - 259673

Batch ID: #PFASC-201216A

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ng/kg	SPK Result ng/kg	SPK % Recovery	Recovery Limits
11-CL-PF3OUDS	37700	43100	114	73-132
9-CL-PF3ONS	37300	35400	94.8	68-139
ADONA	37800	33500	88.6	59-153
FTS 4:2	37400	37600	101	63-143
FTS 6:2	38000	34500	90.9	64-140
FTS 8:2	38300	37200	97.0	67-138
HFPO-DA	40000	33500	83.8	52-151
N-ETFOSA	40000	34600	86.5	59-147
N-ETFOSAA	40000	40200	101	61-135
N-ETFOSE	40000	33300	83.3	27-163
N-MEFOSA	40000	35400	88.5	35-157
N-MEFOSAA	40000	40500	101	65-136
N-MEFOSE	40000	35100	87.8	56-151
PFBA	40000	37900	94.8	73-129
PFBS	35400	36200	102	68-141
PFDA	40000	40400	101	71-129
PFDOA	40000	39300	98.3	72-134
PFDS	38500	38300	99.4	53-142
PFHPA	40000	39800	99.5	72-130
PFHPS	38100	40300	106	69-134
PFHXA	40000	37900	94.8	72-129
PFHXS	36400	36400	99.9	68-131
PFNA	40000	41300	103	69-130
PFNS	38400	38600	101	69-127
PFOA	40000	41900	105	71-133
PFOS	37100	33900	91.4	65-140
PFOSA	40000	39400	98.5	67-137
PFPEA	40000	39000	97.5	72-129
PFPEB	37500	39500	105	71-127
PFTEDA	40000	40900	102	71-132
PFTRDA	40000	41800	105	65-144

Comments:

<u>Primary</u>	<u>SPK</u>
Quant Method :	B15\2020_12_01
Extraction Date :	12/16/20
Analysis Date :	12/17/20
Instrument :	Saphira
Run :	2020-12-1630
Initials :	HHE

Printed: 12/28/20 11:07:50 AM

APPL Standard LCS

Laboratory Control Spike Recovery

PFAS IN BIO-SOLIDS

APPL ID: 201216S-22359 LCS - 259673

Batch ID: #PFASC-201216A

APPL Inc.

908 North Temperance Avenue
Clovis, CA 93611

Compound Name	Spike Level ng/kg	SPK Result ng/kg	SPK % Recovery	Recovery Limits
PFUDA	40000	41000	103	69-133
SURROGATE: 13C2-4:2FTS (S)	100	84.2	84.2	50-150
SURROGATE: 13C2-6:2FTS (S)	100	88.2	88.2	50-150
SURROGATE: 13C2-8:2FTS (S)	100	78.1	78.1	50-150
SURROGATE: 13C2-PFDOA (S)	100	119	119	50-150
SURROGATE: 13C2-PFTEDA (S)	100	117	117	50-150
SURROGATE: 13C2D4-6:2FTS (S)	100	90.2	90.2	50-150
SURROGATE: 13C3-HFPO-DA (S)	100	113	113	50-150
SURROGATE: 13C3-PFBS (S)	100	104	104	50-150
SURROGATE: 13C3-PFHXS (S)	100	99.3	99.3	50-150
SURROGATE: 13C4-PFBA (S)	100	112	112	50-150
SURROGATE: 13C4-PFHXA (S)	100	102	102	50-150
SURROGATE: 13C5-PFHXA (S)	100	108	108	50-150
SURROGATE: 13C5-PFPEA (S)	100	110	110	50-150
SURROGATE: 13C6-PFDA (S)	100	101	101	50-150
SURROGATE: 13C7-PFUDA (S)	100	108	108	50-150
SURROGATE: 13C8-PFOA (S)	100	102	102	50-150
SURROGATE: 13C8-PFOS (S)	100	101	101	50-150
SURROGATE: 13C8-PFOSA (S)	100	96.5	96.5	50-150
SURROGATE: 13C9-PFNA (S)	100	103	103	50-150
SURROGATE: D3-NMEFOSA (S)	100	101	101	50-150
SURROGATE: D3-NMEFOSAA (S)	100	81.7	81.7	50-150
SURROGATE: D5-NETFOSA (S)	100	106	106	50-150
SURROGATE: D5-NETFOSAA (S)	100	91.8	91.8	50-150
SURROGATE: D7-NMEFOSE (S)	100	107	107	50-150
SURROGATE: D9-NETFOSSE (S)	100	102	102	50-150

Comments:

<u>Primary</u>	<u>SPK</u>
Quant Method :	B15\2020_12_01
Extraction Date :	12/16/20
Analysis Date :	12/17/20
Instrument :	Saphira
Run :	2020-12-1630
Initials :	HHE

Printed: 12/28/20 11:07:50 AM

APPL Standard LCS



WECK LABORATORIES, INC.

IRB 2.4/0.5 94317
Subcontract Order

Subcontracted Laboratory:

APPL, Inc., Clovis, CA
908 N. Temperance Ave.
Clovis, CA 93611
Phone: (559) 275-2175
Fax:

Turn Around Time: Normal unless noted in comments

Project Manager: Regina M. Giancola

Project Name: EPA 537 v1.1 PFAS 18 target list

Project Number: 20L033

Sampler Employed by: _____

Work Order: 0L04040

Analysis	Expires	Comments
Sample ID: 0L04040-06/Belt Press/ 20L0333-06		Sampled: 12/02/2020 09:04
Sample comment: EPA 537M - Polyfluoroalkyl Substances (PFAS)	12/23/2020 09:04	Matrix: Solid Sampled By: Client
<i>Containers Supplied:</i>		

Remarks / Special Comments:

Sample Condition
Temperature: _____
Preserved: Yes / No
Evidence Seal Intact: Yes / No
Container Attacked: Yes / No
Preserved at Lab: Yes / No

Relinquished By Guangtian Date / Time 12/07/20 12:00 Received By Fedex Date / Time _____

Relinquished By _____ Date / Time _____ Received By [Signature] Date / Time 12-8/2020

12/17

SUBCONTRACT ORDER
Clinical Laboratory of San Bernardino
20L0333

0104040

SENDING LABORATORY:

Clinical Laboratory of San Bernardino
 21881 Barton Road
 Grand Terrace, CA 92313
 Phone: 909.825.7693
 Fax: 909.825.7696
 Project Manager: Leticia Bernstein

RECEIVING LABORATORY:

Weck Lab, Analytical & Environmental
 14859 E Clark Ave
 Industry, CA 91745
 Phone : (626) 336-2139
 Fax: (626) 336-2634

Please email results to Project Manager: Leticia Bernstein
 glaubig@clinical-lab.com styles@clinical-lab.com bernstein@clinical-lab.com

California EDT transfer those samples with PS codes provided Yes No
 Water Trax Upload Client: _____ Yes No

Turn Around Time 10 Days 5 Days Other ___ Days

Subcontract Comments:

Analysis	Comments
----------	----------

Sample ID: LV Well 1 / 20L0333-01	Sampled: 12/01/20 11:05 PS Code: Waste Water	WTX ID:
EPA 537M - Polyfluoroalkyl Substances (PFAS)		

Containers Supplied:

250mL Poly (A)	250mL Poly (B)	15mL Poly (C)
15mL Poly (D)		

Sample ID: LV Well 2 / 20L0333-02	Sampled: 12/01/20 11:48 PS Code: Waste Water	WTX ID:
EPA 537M - Polyfluoroalkyl Substances (PFAS)		

Containers Supplied:

250mL Poly (A)	250mL Poly (B)	15mL Poly (C)
15mL Poly (D)		

Sample ID: LV Well 3 / 20L0333-03	Sampled: 12/01/20 12:24 PS Code: Waste Water	WTX ID:
EPA 537M - Polyfluoroalkyl Substances (PFAS)		

Containers Supplied:

250mL Poly (A)	250mL Poly (B)	15mL Poly (C)
15mL Poly (D)		

Released By: <i>LB</i>	Date / Time: 12/04/20 08:00	Received By: <i>Leo</i>	Date / Time: 12/04/20 9:00
Released By: <i>LB</i>	Date / Time: 12/04/20 11:00	Received By: <i>AM</i>	Date / Time: 12/4/20 1109

SUBCONTRACT ORDER
Clinical Laboratory of San Bernardino
20L0333

Analysis	Comments
-----------------	-----------------

Sample ID: Effluent / 20L0333-04

Sampled: 12/02/20 08:41 PS Code:
Waste Water

WTX ID:

EPA 537M - Polyfluoroalkyl Substances (PFAS)

Containers Supplied:

250mL Poly (A)

250mL Poly (B)

15mL Poly (C)

15mL Poly (D)

Sample ID: Influent / 20L0333-05

Sampled: 12/02/20 08:00 PS Code:
Waste Water

WTX ID:

EPA 537M - Polyfluoroalkyl Substances (PFAS)

Containers Supplied:

250mL Poly (A)

250mL Poly (B)

15mL Poly (C)

15mL Poly (D)

Sample ID: Belt Press / 20L0333-06

Sampled: 12/02/20 09:04 PS Code:
Waste Water

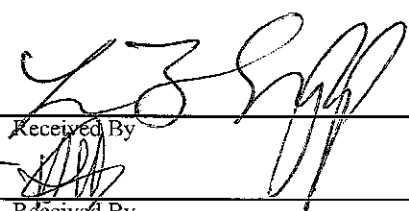
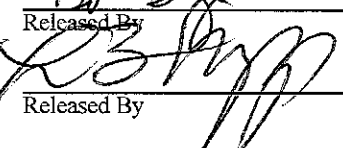
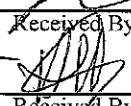
WTX ID:

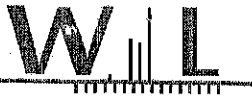
EPA 537M - Polyfluoroalkyl Substances (PFAS)

Containers Supplied:

Plastic - Misc (A)

Plastic - Misc (B)

<i>B. dyx</i> Released By	12/04/20 08:00 Date / Time	 Received By	12/04/20 09:20 Date / Time
 Released By	12/04/20 11:02 Date / Time	 Received By	12/04/20 11:09 Date / Time



WECK LABORATORIES, INC.

Subcontract Order

Subcontracted Laboratory:

APPL, Inc., Clovis, CA
908 N. Temperance Ave.
Clovis, CA 93611
Phone: (559) 275-2175
Fax:

Turn Around Time: Normal unless noted in comments

Project Manager: Regina M. Giancola

Project Name: EPA 537 v1.1 PFAS 18 target list

Project Number: 20L033

Sampler Employed by: _____

Work Order: 0L04040

Analysis	Expires	Comments	
Sample ID: 0L04040-06/Belt Press/ 20L0333-06			Sampled: 12/02/2020 09:04
Sample comment: EPA 537M - Polyfluoroalkyl Substances (PFAS)	12/23/2020 09:04	Matrix: Solid	Sampled By: Client
<i>Containers Supplied:</i>			

Remarks / Special Comments:

Sample Condition

Temperature: _____

Preserved: Yes / No

Evidence Seal Intact: Yes / No

Container Attacked: Yes / No

Preserved at Lab: Yes / No

Shuanglian 12/02/20 12:00 *Fedex*

Relinquished By _____ Date / Time _____ Received By _____ Date / Time _____

Relinquished By _____ Date / Time _____ Received By _____ Date / Time _____

mj 12/17



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From:	Sample Receiving Weck Labs WECK LABORATORIES INC 14859 CLARK AVE HACIENDA HEIGHTS, CA 91745 US 6263362139	Ship date:	12/07/2020
		Weight:	12.00 LBS
		Declared value:	0.00 USD
		Package Contents:	
		Document Description:	
		Shipment Purpose:	
		Invoice number:	
		Freight On Value:	
To:	Cynthia Clark APPL, Inc. - Subcontract 908 North Temperance Avenue Clovis, CA 938118808 US 5892752175	Pricing Option:	FedEx Standard Rate
		Service type:	Standard Overnight
		Package type:	Your Packaging
		Pickup/Drop Off:	Pickup requested, view Pickup History for details
		Dimensions:	19 x 11 x 13 in
		Shipper account number:	Weck SR-452
		Bill transportation to:	Weck SR-452
Tracking no.:	772289305421	Courtesy rate quote:*	37.13 USD
		Published rates:	
		Effective net discount:	
		Discounted variable %:	
		Special services:	
		Shipment type:	Express
		Commercial/Residential Status:	Commercial

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DEPARTMENT OF INDUSTRIAL RELATIONS
OFFICE OF THE DIRECTOR
455 Golden Gate Avenue, Tenth Floor
San Francisco, CA 94102
(415) 703-5050



April 21, 2006

Sherry Gentry
Deputy Labor Commissioner
Division of Labor Standards Enforcement
5555 California Avenue, Suite 200
Bakersfield, CA 93309

Re: Public Works Case No. 2005-009
The Hauling of Biosolids from Orange County;
The Application of Hauled Biosolids on Farmland in Kern and
Kings Counties

Dear Ms. Gentry:

This constitutes the determination of the Director of Industrial Relations regarding coverage of the above-referenced project under California's prevailing wage laws and is made pursuant to Title 8, California Code of Regulations, section 16001(a). Based on my review of the facts of this case and an analysis of the applicable law, it is my determination that the hauling of biosolids from a water treatment facility and the application of the hauled biosolids to farmland as soil amendment is not public work subject to the payment of prevailing wages.

Facts

On January 10, 2000, Orange County Sanitation District ("District") entered into an agreement with Western Express, Inc. ("Western") and Shaen Magan doing business as Tule Ranch/Magan Farms dba Honey Bucket Farms (collectively, "Magan") for (1) the hauling of dewatered digested sewage solids ("biosolids") from District's water treatment facility in Orange County; and (2) the application of 230 tons of hauled biosolids per day to farmland at two locations, Tule Ranch/Magan Farms in Kern County (4,027 acres) and District-owned land in Kings County (1,200 acres).¹

The scope of work involves the following tasks: Western truckers haul the biosolids six days a week in tarped, watertight trucks from District's water treatment facility² to the farmland. The biosolids are then applied to the farmland as soil amendment by Magan's on-site farm crew in the following way. The biosolids are

¹The agreement was extended on the same terms by a first amended agreement dated January 1, 2003.

²The drivers do not load the trucks at the water treatment facility. That work is done by District employees.

transferred to an 8,000 gallon receiving tank for moisturizing and then transferred to an injection rig, which is pulled behind a farm tractor. The hydrated biosolids or sludge is injected into the soil to a depth of 6 inches at a rate of about 10 dry tons per acre. The sludge is then disked (mixed) into the soil using a disk harrow, which is also pulled behind a farm tractor.

District imposes significant conditions on Magan to avoid the direct exposure of the sludge to humans or animals in carrying out this work. Crops grown at both sites may not be used for human consumption, only for animal feed and other agricultural purposes. Magan is also required to undertake extensive recordkeeping, perform testing and inspection and manage the habitat.

Discussion

Labor Code³ section 1720(a)(1) defines public works as: "Construction, alteration, demolition, installation, or repair work done under contract and paid for in whole or in part out of public funds" Section 1720.3 states: "For the limited purposes of Article 2 (commencing with Section 1770), 'public works' also means the hauling of refuse from a public works site to an outside disposal location, with respect to contracts involving any state agency, including the California State University and the University of California, or any political subdivision of the state." Section 1720(a)(2) also defines public works as: "Work done for irrigation, utility, reclamation, and improvement districts, and other districts of this type. 'Public work' does not include the operation of the irrigation or drainage system of any irrigation or reclamation district"

There is no dispute that the subject work is done under contract and paid for out of public funds. The first issue is whether the application of the sludge to the soil meets the type of work element of a public work under section 1720(a)(1). The second issue is whether the hauling of biosolids is covered under section 1720.3. The final issue is whether any of the subject work is "[w]ork done for" a district under section 1720(a)(2).

As to the first issue, application of the sludge as soil amendment is not alteration within the meaning of section 1720(a)(1). "To 'alter' is merely to modify without changing into something else," and that term applies "to a changed condition of the surface or the below-surface." (*Priest v. Housing Authority* (1969) 275 Cal.App.2d 751, 756.) "Alter" as defined by Webster's Third New

³All further statutory references are to the Labor Code unless otherwise indicated.

International Dictionary (2002) at page 63 is "to cause to become different in some particular characteristic (as measure, dimension, course, arrangement or inclination) without changing into something else." Thus, with regard to land, under these definitions to alter under section 1720(a)(1) is to modify a particular characteristic of the land.

The application of sludge as soil amendment is not alteration because it does not modify any particular characteristic of the land. The land was a field used for farming prior to the application of the sludge. After application of the sludge, the land will not be noticeably different from before; it will still be a field used for farming. Once injected and disked, the sludge dissipates, leaving no lasting modification on the land. As such, the application of sludge as soil amendment is not alteration within the meaning of section 1720(a)(1).

As to the second issue concerning the hauling of the biosolids from District's existing water treatment facility, this facility is not a public works site. Because the biosolids is being hauled from a public facility and not a public works site, section 1720.3 does not apply. As noted by the Attorney General in determining whether the operation of a transfer station is public work:

Nor do we find section 1720.3 to be applicable. That statute deals with hauling refuse to a disposal location "from a public works site." The apparent intent of the Legislature in enacting section 1720.3 was to include within the definition of "public works" the hauling of any refuse that was part of the construction project ... Here, the trash transported to the county landfill is not the result of any "[c]onstruction, alteration, demolition, or repair work" (§ 1720, subd. (a)) at the transfer station. Hence, section 1720.3 is inapplicable to our facts.

(83 Ops. Cal. Atty. Gen. 166, 168-169 (2000).)

The remaining issue is whether section 1720(a)(2) requires that "work done for" a district be construction, alteration, demolition, installation or repair as set forth in section 1720(a)(1). Unlike section 1720(a)(1), section 1720(a)(2) does not enumerate any particular type of covered work.

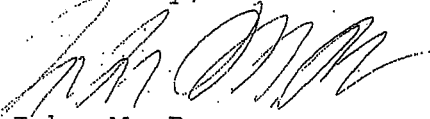
Representatives of affected workers performing trucking in this matter take the position that any type of work performed under contract for a district is without limitation public work subject

to prevailing wages under section 1720(a)(2), relying in part on PW 2002-005, *Hauling and Disposal of Wastewater Materials, EBMUD Wastewater Treatment Plant* (July 1, 2002). Magan and the California Association of Sanitation Agencies take the opposite position that section 1720(a)(2) is limited to the types of work enumerated in section 1720(a)(1). Finding the reach of 1720(a)(2) to be unlimited in scope would be illogical and create prevailing wage obligations for any type of work performed under contract for a district regardless of the nature of that work. Given the general purpose of California Prevailing Wage Law "to benefit the construction worker on public construction," (*O.G. Sansone v. Department of Transportation* (1976) 55 Cal.App.3d 434, 461), the most reasonable way to define the scope of section 1720(a)(2) is to require that the work fall within one of the types of covered work enumerated in section 1720(a)(1). Here, while the hauling and application of the biosolids serves the beneficial purpose of reducing landfill waste, it is not an activity encompassed by section 1720(a)(1) and therefore is not covered work under section 1720(a)(2).⁴

The hauling of biosolids and the application of the hauled biosolids as hydrated sludge to farmland is not public work. It is therefore unnecessary to analyze the applicability of any other statutory provision with regard to testing, inspection and other incidental activities within the scope of work.

I hope this determination satisfactorily answers your inquiry.⁵

Sincerely,



John M. Rea
Acting Director

⁴Also, the hauling of biosolids and the application of the hauled biosolids on farmland is not a contract "let for maintenance work" under section 1771 because the hauling and application work does not involve "[r]outine, recurring and usual work for the preservation, protection and keeping of any publicly owned or publicly operated facility" (Cal. Code Regs, tit. 8, § 16000.)

⁵PW 2002-005, *Hauling and Disposal of Wastewater Materials, EBMUD Wastewater Treatment Plant* (July 1, 2002) is de-designated as precedential. Accordingly, it will no longer be followed by the Director and should no longer be considered guidance by the regulated public after the date of this determination.