

13 May 2019

Cynthia Lucas
EPCOR Water Arizona Inc.
15626 West Del Webb Blvd
Sun City, AZ 85351

RE: LUKEPOC1 - PFC's P511700

Laboratory Work Order No.: 19D2608

Legend Technical Services of Arizona, Inc. is pleased to provide the enclosed analytical results for the aforementioned project. These results relate only to the items tested. This cover letter and the accompanying pages represent the full report for these analyses and should only be reproduced in full. Samples for this project were received by the laboratory on 04/23/19 14:30.

The samples were processed in accordance with the Chain of Custody document and the results presented relate only to the samples tested. The Chain of Custody is considered part of this report.

All samples will be retained by LEGEND for 30 days from the date of this report and then discarded unless other arrangements are made. Due to hold-time and method sample volume requirements, microbiological samples are not retained unless other arrangements are made.

This entire report was reviewed and approved for release by the undersigned. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

LEGEND TECHNICAL SERVICES OF ARIZONA, INC.



Barbara Frank
Client Services Representative
(602) 324-6100

This laboratory report is confidential and is intended for the sole use of LEGEND and its client.

EPCOR Water Arizona Inc.
15626 West Del Webb Blvd
Sun City, AZ 85351

Project: LUKEPOC1 - PFC's P511700
Project Number: 04/23/19
Project Manager: Cynthia Lucas

Reported:
05/13/19 12:20

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Type	Date Sampled	Date Received
LUKEPOC1	19D2608-01	Groundwater	Grab	04/23/19 13:05	04/23/19 14:30

Sample Condition Upon Receipt:

Temperature: 2.80 C

All samples were received in acceptable condition unless noted otherwise in the case narrative.

Case Narrative:

Holding Times: All holding times were met unless otherwise qualified.

QA/QC Criteria: All analyses met method requirements unless otherwise qualified.

Certifications: **AZ(PHX)0004, AZ(TUC)0004, AIHA#102982, CDC ELITE Member.**

Accreditation is applicable only to the test methods specified on each scope of accreditation held by LEGEND.

Comments: There were no problems encountered during the processing of the samples, unless otherwise noted.
All samples were analyzed on a "wet" basis unless designated as "dry weight".

This report contains data that were produced by a subcontracted laboratory certified for the fields of testing performed.

Eurofins Eaton Analytical, Inc. (fka UL) AZ0432

Pat Muff
574-472-5503

LUKEPOC1 (19D2608-01) Groundwater (Grab) Sampled: 04/23/19 13:05 Received: 04/23/19 14:30

Analyte	Result	PQL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
UL#AZ0432									
537									
ADONA	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
F-53B Major	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
F-53B Minor	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
GenX	<0.000005	0.000005	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
N-ethyl Perfluorooctanesulfonate	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
N-methyl Perfluorooctanesulfonate	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Perfluorobutanesulfonic acid (PFBS)	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Perfluorodecanoic acid (PFDA)	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Perfluorododecanoic acid (PFDDA)	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Perfluoroheptanoic acid (PFHpA)	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Perfluorohexanesulfonic acid (PFHxS)	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Perfluorohexanoic acid (PFHxA)	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Perfluorononanoic acid (PFNA)	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Perfluorooctanesulfonic acid (PFOS)	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Perfluorooctanoic acid (PFOA)	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Perfluorotetradecanoic acid (PFTEA)	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Perfluorotridecanoic acid (PFTeA)	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Perfluoroundecanoic acid (PFUeA)	<0.000020	0.000020	mg/L	0.89	258710	05/01/19 07:46	05/02/19 01:01	537	
Surrogate: SS-NEtFOSAA-d5		94 %		70-130	258710	05/01/19	05/02/19	537	
Surrogate: SS-PFDA-13C2		97 %		70-130	258710	05/01/19	05/02/19	537	
Surrogate: SS-PFHxA-13C2		91 %		70-130	258710	05/01/19	05/02/19	537	

537 - Quality Control
UL#AZ0432

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 258710 - SPE

Reference (4278009)

Prepared: 04/29/19 Analyzed: 05/01/19

ADONA	<0.0000020	0.0000020	mg/L	0.000002		91	50-150			
F-53B Major	<0.0000020	0.0000020	mg/L	0.000002		90	50-150			
F-53B Minor	<0.0000020	0.0000020	mg/L	0.000002		92	50-150			
GenX	<0.000005	0.000005	mg/L	0.000005		87	50-150			
N-ethyl	0.0000022	0.0000020	mg/L	0.000002		108	50-150			
Perfluorooctanesulfonamidoacetic acid										
N-methyl	<0.0000020	0.0000020	mg/L	0.000002		94	50-150			
Perfluorooctanesulfonamidoacetic acid										
Perfluorobutanesulfonic acid (PFBS)	<0.0000020	0.0000020	mg/L	0.000002		81	50-150			
Perfluorodecanoic acid (PFDA)	<0.0000020	0.0000020	mg/L	0.000002		88	50-150			
Perfluorododecanoic acid (PFDoA)	<0.0000020	0.0000020	mg/L	0.000002		88	50-150			
Perfluoroheptanoic acid (PFHpA)	<0.0000020	0.0000020	mg/L	0.000002		87	50-150			
Perfluorohexanesulfonic acid (PFHxS)	<0.0000020	0.0000020	mg/L	0.000002		89	50-150			
Perfluorohexanoic acid (PFHxA)	<0.0000020	0.0000020	mg/L	0.000002		91	50-150			
Perfluorononanoic acid (PFNA)	<0.0000020	0.0000020	mg/L	0.000002		89	50-150			
Perfluorooctanesulfonic acid (PFOS)	<0.0000020	0.0000020	mg/L	0.000002		90	50-150			
Perfluorooctanoic acid (PFOA)	<0.0000020	0.0000020	mg/L	0.000002		88	50-150			
Perfluorotetradecanoic acid (PFTeDA)	<0.0000020	0.0000020	mg/L	0.000002		89	50-150			
Perfluorotridecanoic acid (PFTrDA)	<0.0000020	0.0000020	mg/L	0.000002		85	50-150			
Perfluoroundecanoic acid (PFUnA)	<0.0000020	0.0000020	mg/L	0.000002		91	50-150			

Reference (4278014)

Prepared: 04/29/19 Analyzed: 05/01/19

ADONA	0.00011	0.0000020	mg/L	0.0001		107	70-130			
F-53B Major	0.00010	0.0000020	mg/L	0.0001		102	70-130			
F-53B Minor	0.00010	0.0000020	mg/L	0.0001		103	70-130			
GenX	0.00025	0.000005	mg/L	0.00025		99	70-130			
N-ethyl	0.00010	0.0000020	mg/L	0.0001		103	70-130			
Perfluorooctanesulfonamidoacetic acid										
N-methyl	0.00010	0.0000020	mg/L	0.0001		102	70-130			
Perfluorooctanesulfonamidoacetic acid										
Perfluorobutanesulfonic acid (PFBS)	0.000096	0.0000020	mg/L	0.0001		96	70-130			
Perfluorodecanoic acid (PFDA)	0.00010	0.0000020	mg/L	0.0001		101	70-130			
Perfluorododecanoic acid (PFDoA)	0.00011	0.0000020	mg/L	0.0001		108	70-130			
Perfluoroheptanoic acid (PFHpA)	0.000099	0.0000020	mg/L	0.0001		99	70-130			
Perfluorohexanesulfonic acid (PFHxS)	0.00010	0.0000020	mg/L	0.0001		101	70-130			
Perfluorohexanoic acid (PFHxA)	0.000095	0.0000020	mg/L	0.0001		95	70-130			
Perfluorononanoic acid (PFNA)	0.00010	0.0000020	mg/L	0.0001		100	70-130			
Perfluorooctanesulfonic acid (PFOS)	0.000099	0.0000020	mg/L	0.0001		99	70-130			
Perfluorooctanoic acid (PFOA)	0.00010	0.0000020	mg/L	0.0001		100	70-130			
Perfluorotetradecanoic acid (PFTeDA)	0.00012	0.0000020	mg/L	0.0001		118	70-130			
Perfluorotridecanoic acid (PFTrDA)	0.00011	0.0000020	mg/L	0.0001		111	70-130			
Perfluoroundecanoic acid (PFUnA)	0.00010	0.0000020	mg/L	0.0001		105	70-130			

537 - Quality Control

UL#AZ0432

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 258710 - SPE

Reference (4278016)

Prepared: 04/29/19 Analyzed: 05/02/19

ADONA	0.00021	0.0000020	mg/L	0.0002		107	70-130			
F-53B Major	0.00021	0.0000020	mg/L	0.0002		104	70-130			
F-53B Minor	0.00021	0.0000020	mg/L	0.0002		106	70-130			
GenX	0.00051	0.000005	mg/L	0.0005		102	70-130			
N-ethyl	0.00020	0.0000020	mg/L	0.0002		100	70-130			
Perfluorooctanesulfonamidoacetic acid										
N-methyl	0.00021	0.0000020	mg/L	0.0002		103	70-130			
Perfluorooctanesulfonamidoacetic acid										
Perfluorobutanesulfonic acid (PFBS)	0.00020	0.0000020	mg/L	0.0002		102	70-130			
Perfluorodecanoic acid (PFDA)	0.00022	0.0000020	mg/L	0.0002		108	70-130			
Perfluorododecanoic acid (PFDoA)	0.00022	0.0000020	mg/L	0.0002		112	70-130			
Perfluoroheptanoic acid (PFHpA)	0.00020	0.0000020	mg/L	0.0002		101	70-130			
Perfluorohexanesulfonic acid (PFHxS)	0.00020	0.0000020	mg/L	0.0002		102	70-130			
Perfluorohexanoic acid (PFHxA)	0.00019	0.0000020	mg/L	0.0002		97	70-130			
Perfluorononanoic acid (PFNA)	0.00020	0.0000020	mg/L	0.0002		102	70-130			
Perfluorooctanesulfonic acid (PFOS)	0.00021	0.0000020	mg/L	0.0002		105	70-130			
Perfluorooctanoic acid (PFOA)	0.00021	0.0000020	mg/L	0.0002		103	70-130			
Perfluorotetradecanoic acid (PFTeDA)	0.00025	0.0000020	mg/L	0.0002		123	70-130			
Perfluorotridecanoic acid (PFTTrDA)	0.00023	0.0000020	mg/L	0.0002		115	70-130			
Perfluoroundecanoic acid (PFUnA)	0.00022	0.0000020	mg/L	0.0002		108	70-130			

Blank (4278022)

Prepared & Analyzed: 05/01/19

ADONA	<0.0000020	0.0000020	mg/L			-				
F-53B Major	<0.0000020	0.0000020	mg/L			-				
F-53B Minor	<0.0000020	0.0000020	mg/L			-				
GenX	<0.000005	0.000005	mg/L			-				
N-ethyl	<0.0000020	0.0000020	mg/L			-				
Perfluorooctanesulfonamidoacetic acid										
N-methyl	<0.0000020	0.0000020	mg/L			-				
Perfluorooctanesulfonamidoacetic acid										
Perfluorobutanesulfonic acid (PFBS)	<0.0000020	0.0000020	mg/L			-				
Perfluorodecanoic acid (PFDA)	<0.0000020	0.0000020	mg/L			-				
Perfluorododecanoic acid (PFDoA)	<0.0000020	0.0000020	mg/L			-				
Perfluoroheptanoic acid (PFHpA)	<0.0000020	0.0000020	mg/L			-				
Perfluorohexanesulfonic acid (PFHxS)	<0.0000020	0.0000020	mg/L			-				
Perfluorohexanoic acid (PFHxA)	<0.0000020	0.0000020	mg/L			-				
Perfluorononanoic acid (PFNA)	<0.0000020	0.0000020	mg/L			-				
Perfluorooctanesulfonic acid (PFOS)	<0.0000020	0.0000020	mg/L			-				
Perfluorooctanoic acid (PFOA)	<0.0000020	0.0000020	mg/L			-				
Perfluorotetradecanoic acid (PFTeDA)	<0.0000020	0.0000020	mg/L			-				
Perfluorotridecanoic acid (PFTTrDA)	<0.0000020	0.0000020	mg/L			-				
Perfluoroundecanoic acid (PFUnA)	<0.0000020	0.0000020	mg/L			-				

537 - Quality Control

UL#AZ0432

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 258710 - SPE

LCS (4278024)

Prepared & Analyzed: 05/01/19

ADONA	0.00018	0.0000020	mg/L	0.0002		91	70-130			
F-53B Major	0.00018	0.0000020	mg/L	0.0002		91	70-130			
F-53B Minor	0.00017	0.0000020	mg/L	0.0002		87	70-130			
GenX	0.00045	0.000005	mg/L	0.0005		90	70-130			
N-ethyl	0.00017	0.0000020	mg/L	0.0002		87	70-130			
Perfluorooctanesulfonamidoacetic acid										
N-methyl	0.00017	0.0000020	mg/L	0.0002		87	70-130			
Perfluorooctanesulfonamidoacetic acid										
Perfluorobutanesulfonic acid (PFBS)	0.00018	0.0000020	mg/L	0.0002		91	70-130			
Perfluorodecanoic acid (PFDA)	0.00018	0.0000020	mg/L	0.0002		92	70-130			
Perfluorododecanoic acid (PFDoA)	0.00018	0.0000020	mg/L	0.0002		90	70-130			
Perfluoroheptanoic acid (PFHpA)	0.00018	0.0000020	mg/L	0.0002		92	70-130			
Perfluorohexanesulfonic acid (PFHxS)	0.00019	0.0000020	mg/L	0.0002		93	70-130			
Perfluorohexanoic acid (PFHxA)	0.00018	0.0000020	mg/L	0.0002		92	70-130			
Perfluorononanoic acid (PFNA)	0.00018	0.0000020	mg/L	0.0002		92	70-130			
Perfluorooctanesulfonic acid (PFOS)	0.00018	0.0000020	mg/L	0.0002		91	70-130			
Perfluorooctanoic acid (PFOA)	0.00019	0.0000020	mg/L	0.0002		93	70-130			
Perfluorotetradecanoic acid (PFTeDA)	0.00018	0.0000020	mg/L	0.0002		90	70-130			
Perfluorotridecanoic acid (PFTTrDA)	0.00018	0.0000020	mg/L	0.0002		89	70-130			
Perfluoroundecanoic acid (PFUnA)	0.00018	0.0000020	mg/L	0.0002		90	70-130			

Matrix Spike (4278026)

Source: 4272023

Prepared: 05/01/19 Analyzed: 05/02/19

ADONA	0.000095	0.0000020	mg/L	0.0001	< MRL	95	70-130			
F-53B Major	0.000091	0.0000020	mg/L	0.0001	< MRL	91	70-130			
F-53B Minor	0.000089	0.0000020	mg/L	0.0001	< MRL	89	70-130			
GenX	0.00023	0.000005	mg/L	0.00025	< MRL	93	70-130			
N-ethyl	0.000090	0.0000020	mg/L	0.0001	< MRL	90	70-130			
Perfluorooctanesulfonamidoacetic acid										
N-methyl	0.000092	0.0000020	mg/L	0.0001	< MRL	92	70-130			
Perfluorooctanesulfonamidoacetic acid										
Perfluorobutanesulfonic acid (PFBS)	0.000094	0.0000020	mg/L	0.0001	< MRL	94	70-130			
Perfluorodecanoic acid (PFDA)	0.00010	0.0000020	mg/L	0.0001	< MRL	103	70-130			
Perfluorododecanoic acid (PFDoA)	0.00011	0.0000020	mg/L	0.0001	< MRL	106	70-130			
Perfluoroheptanoic acid (PFHpA)	0.000094	0.0000020	mg/L	0.0001	< MRL	94	70-130			
Perfluorohexanesulfonic acid (PFHxS)	0.000097	0.0000020	mg/L	0.0001	< MRL	97	70-130			
Perfluorohexanoic acid (PFHxA)	0.000090	0.0000020	mg/L	0.0001	< MRL	90	70-130			
Perfluorononanoic acid (PFNA)	0.000098	0.0000020	mg/L	0.0001	< MRL	98	70-130			
Perfluorooctanesulfonic acid (PFOS)	0.000097	0.0000020	mg/L	0.0001	< MRL	97	70-130			
Perfluorooctanoic acid (PFOA)	0.000097	0.0000020	mg/L	0.0001	< MRL	97	70-130			
Perfluorotetradecanoic acid (PFTeDA)	0.00011	0.0000020	mg/L	0.0001	< MRL	109	70-130			
Perfluorotridecanoic acid (PFTTrDA)	0.00010	0.0000020	mg/L	0.0001	< MRL	104	70-130			
Perfluoroundecanoic acid (PFUnA)	0.00010	0.0000020	mg/L	0.0001	< MRL	101	70-130			

537 - Quality Control
UL#AZ0432

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch 258710 - SPE

LCS (4278315)

Prepared: 04/29/19 Analyzed: 05/01/19

ADONA	<0.0000020	0.0000020	mg/L	0.000002		89	50-150			
F-53B Major	<0.0000020	0.0000020	mg/L	0.000002		88	50-150			
F-53B Minor	<0.0000020	0.0000020	mg/L	0.000002		81	50-150			
GenX	<0.000005	0.000005	mg/L	0.000005		86	50-150			
N-ethyl	<0.0000020	0.0000020	mg/L	0.000002		90	50-150			
Perfluorooctanesulfonamidoacetic acid										
N-methyl	<0.0000020	0.0000020	mg/L	0.000002		81	50-150			
Perfluorooctanesulfonamidoacetic acid										
Perfluorobutanesulfonic acid (PFBS)	<0.0000020	0.0000020	mg/L	0.000002		78	50-150			
Perfluorodecanoic acid (PFDA)	<0.0000020	0.0000020	mg/L	0.000002		91	50-150			
Perfluorododecanoic acid (PFDoA)	<0.0000020	0.0000020	mg/L	0.000002		89	50-150			
Perfluoroheptanoic acid (PFHpA)	<0.0000020	0.0000020	mg/L	0.000002		86	50-150			
Perfluorohexanesulfonic acid (PFHxS)	<0.0000020	0.0000020	mg/L	0.000002		86	50-150			
Perfluorohexanoic acid (PFHxA)	<0.0000020	0.0000020	mg/L	0.000002		88	50-150			
Perfluorononanoic acid (PFNA)	<0.0000020	0.0000020	mg/L	0.000002		88	50-150			
Perfluorooctanesulfonic acid (PFOS)	<0.0000020	0.0000020	mg/L	0.000002		86	50-150			
Perfluorooctanoic acid (PFOA)	<0.0000020	0.0000020	mg/L	0.000002		91	50-150			
Perfluorotetradecanoic acid (PFTeDA)	<0.0000020	0.0000020	mg/L	0.000002		79	50-150			
Perfluorotridecanoic acid (PFTrDA)	<0.0000020	0.0000020	mg/L	0.000002		87	50-150			
Perfluoroundecanoic acid (PFUnA)	<0.0000020	0.0000020	mg/L	0.000002		86	50-150			

Notes and Definitions

BLK	Method Blank
LCS/Dup	Laboratory Control Sample/Laboratory Fortified Blank/Duplicate
MS/Dup	Matrix Spike/Duplicate
Dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

EPCOR Water Arizona Inc.
15626 West Del Webb Blvd
Sun City, AZ 85351

Project: LUKEPOC1 - PFC's P511700
Project Number: 04/23/19
Project Manager: Cynthia Lucas

Reported:
05/13/19 12:20

Legend Technical Services of Arizona, Inc.
LEGEND
Technical Services, Inc.

PO Number: 19D2608

SUBCONTRACT ORDER
19D2608

SENDING LABORATORY:

Legend Technical Services of Arizona, Inc.
17631 North 25th Avenue
Phoenix, AZ 85023
Phone: 602-324-6100
Fax: 602-324-6101
Project Manager: Barbara Frank

RECEIVING LABORATORY:

Eurofins Eaton Analytical, Inc.
110 S. Hill Street
South Bend, IN 46617
Phone : (800) 332-4345
Fax: (574) 233-8207

Analysis	Due	Expires	Sample Type <small>circle one</small>	Sample Comments
Sample ID: 19D2608-01	Water	Sampled: 04/23/19 13:05	Grab Composite	N/A
537- PFC18-EXT (Subcontra05/02/19 15:00 05/07/19 13:05)				
Containers Supplied: [blank] (A) [blank] (B)				

Released By (Print & Sign) [Signature] x Date 4/23/19 Time 1630 Received By (Print & Sign) [Signature] x Date 4/23/19 Time 1630

Released By (Print & Sign) _____ x Date _____ Time _____ Received By (Print & Sign) _____ Date _____ Time _____

