Analytical Results for PFAS in 2018-2021 Dairy Farm Sampling (Parts Per Trillion)

Note: Beginning in 2018, the FDA has analyzed samples collected by the State of New Mexico at two dairy farms near an Air Force Base with contaminated ground water in Clovis, New Mexico. For all collections, milk from "Farm A" was determined to be a potential human health concern and all milk from the farm was discarded. Sample collection and analysis is on-going and updates to this table will be made periodically.

Samples		Measured Concentrations in parts per trillion (ppt=ng/kg)															
MILK																	
	Date recieved	**PFOA**	**PFOS**	**PFBA**	**PFHpS**	**PFPeA**	**PFHxA**	**PFHxS**	**PFHpA**	**PFBS**	**PFPeS**	**NaDONA**	**HFPO-DA**	**PFDA**	**PFNA**	**11Cl-PF3OUdS**	**9Cl-PF3ONs**
Milk-Farm A- collection 1- sample 1	10/31/2018	<MDL	1200	<MDL	48	<MDL	<MDL	295	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Milk-Farm A- collection 2- sample 1	11/8/2018	<MDL	4040	148	239	<MDL	<MDL	1140	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Milk-Farm A- collection 2- sample 2	11/8/2018	<MDL	2730	<MDL	151	<MDL	<MDL	734	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Milk-Farm A- collection 2- sample 3	11/8/2018	<MDL	4220	70	202	<MDL	<MDL	1170	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Milk-Farm A- collection 2- sample 4	11/8/2018	<MDL	3870	86	210	<MDL	<MDL	1110	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Milk-Farm A- collection 2- sample 5	11/8/2018	<MDL	3960	79	235	<MDL	<MDL	1090	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Milk-Farm A- collection 3- sample 1	12/14/2018	<MDL	2060	<MDL	108	20	25	551	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Milk-Farm A- collection 4- sample 1	1/25/2019	169	3650	220	181	89	108	1270	30	69	76	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Milk-Farm A- collection 5- sample 1	3/6/2019	53	1650	<MDL	88	<MDL	15	704	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Milk-Farm A- collection 6- sample 1	5/7/2019	99	3500	<MDL	195	<MDL	59	1940	<MDL	28	31	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Milk-Farm A- collection 7- sample 1	6/12/2019	102	1960	<MDL	97	42	42	822	< MDL	15	20	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 8- sample 1	8/8/2019	< MDL	1804	< MDL	62	40	44	753	< MDL	16	22	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 9- sample 1	9/17/2019	< MDL	1430	32	59	23	22	457	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 10- sample 1	10/9/2019	< MDL	2190	172	84	< MDL	23	546	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 11- sample 1	11/17/2019	< MDL	1470	< MDL	45	< MDL	14	394	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 12- sample 1	12/13/2019	< MDL	2160	< MDL	111	< MDL	< MDL	368	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 13- sample 1	1/16/2020	< MDL	1210	126	79	< MDL	< MDL	248	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 14- sample 1	2/20/2020	< MDL	1200	< MDL	< MDL	< MDL	< MDL	24	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 15- sample 1	3/25/2020	< MDL	654	< MDL	50	< MDL	23	177	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 16- sample 1	6/11/2020	54	1550	32	106	59	43	726	< MDL	15	45	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 17- sample 1	7/29/2020	47	1430	< MDL	97	< MDL	55	465	< MDL	< MDL	36	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 18- sample 1	9/3/2020	< MDL	1300	< MDL	< MDL	< MDL	< MDL	367	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 19- sample 1	10/15/2020	< MDL	660	29	38	< MDL	< MDL	97	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 20- sample 1	11/12/2020	< MDL	873	< MDL	55	< MDL	35	337	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 21- sample 1	12/10/2020	< MDL	939	< MDL	84	< MDL	< MDL	397	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 22- sample 1	1/21/2021	< MDL	640	107	< MDL	38	28	183	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 23- sample 1	2/25/2021	< MDL	464	102	<MDL	30	40	130	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 24- sample 1	4/1/2021	< MDL	532	<MDL	<MDL	<MDL	50	153	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk-Farm A- collection 25- sample 1	5/13/2021	< MDL	227	<MDL	<MDL	< MDL	<MDL	62	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL	< MDL
Milk Farm B- collection 1- sample 1	10/31/2018	<MDL	75	<MDL	<MDL	<MDL	<MDL	43	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL

	Date recieved	PFOA	PFOS	PFBA	PFHpS	PFPeA	PFHxA	PFHxS	PFHpA	PFBS	PFPeS	NaDONA	HFPO-DA	PFDA	PFNA	11Cl-PF3OUdS	9Cl-PF3ONs
Quality Control Samples																	
Retail milk - collection 2	11/8/2018	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk - collection 2	11/8/2018	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk - collection 5	3/6/2019	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk- collection 5	3/6/2019	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 6	5/7/2019	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 6	5/7/2019	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 7	6/12/2019	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 7	6/12/2019	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 8	8/8/2019	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 8	8/8/2019	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 9	9/17/2019	66	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 9	9/17/2019	64	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 10	10/9/2019	< MDL	< MDL	53	< MDL	< MDL	< MDL	< MDL	< MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 10	10/9/2019	< MDL	< MDL	54	< MDL	< MDL	< MDL	< MDL	< MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 11	11/17/2019	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 11	11/17/2019	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 12	12/13/2019	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 12	12/13/2019	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 13	1/16/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 13	1/16/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 14	2/20/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 14	2/20/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 15	3/25/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 15	3/25/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 16	6/11/2020	<MDL	<MDL	<MDL	<MDL	<MDL	10	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 16	6/11/2020	<MDL	<MDL	<MDL	<MDL	<MDL	27	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 18	9/3/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 18	9/3/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 19	10/15/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 19	10/15/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 20	11/12/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 20	11/12/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 21	12/10/2020	<MDL	<MDL	<MDL	<MDL	<MDL	< MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 21	12/10/2020	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 22	1/21/2021	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 22	1/21/2021	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 24	4/1/2021	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 24	4/1/2021	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Retail milk- collection 25	5/13/2021	<MDL	<MDL	<MDL	<MDL	<MDL	< MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
Control milk-collection 25	5/13/2021	<MDL	<MDL	<MDL	<MDL	<MDL	< MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL
MDL for milk ng/kg		**42**	**24**	**29**	**13**	**15**	**7**	**17**	**27**	**14**	**17**	**22**	**24**	**28**	**39**	**28**	**23**

Retail: Samples purchased at retail outlets and tested for comparison.
Control: Retail milk samples used as a field blank.
NR: Components of the sample interfered with the analytical result. No data are reported.

June 2021

Legend

Acronym	Name	CAS	Formula	Nominal Mass
PFOA	Perfluorooctanoic acid	335-67-1	$C_8HF_{15}O_2$	414
PFOS	Perfluorooctanesulfonic acid	1763-23-1	$C_8HF_{17}O_3S$	500
PFBA	Perfluorobutanoic acid	375-22-4	$C_4F_7O_2$	214
PFHpS	Perfluoroheptanesulfonic acid	375-92-8	$C_7HF_{15}O_3S$	450
PFPeA	Perfluoropentanoic acid	2706-90-3	$C_5HF_9O_2$	264
PFHxA	Perfluorohexanoic acid	307-24-4	$C_6HF_{11}O_2$	314
PFHxS	Perfluorohexanesulfonic acid	355-46-4	$C_6HF_{13}O_3S$	400
PFHpA	Perfluoroheptanoic acid	375-85-9	$C_7HF_{13}O_2$	364
PFBS	Perfluorobutanesulfonic acid	375-73-5	$C_4HF_9O_3S$	300
PFPeS	1,1,2,2,3,3,4,4,5,5,5-Undecafluoro-1-pentanesulfonic acid	2706-91-4	$C_5HF_{11}O_3S$	350
NaDONA	Sodium dodecafluoro-3H-4, 8-dioxanonanoate	958445-44-8	$C_7H_5F_{12}NO_4$	395
HFPO-DA	Hexafluoropropylene oxide dimer acid	13252-13-6	$C_6HF_{11}O_3$	330
PFDA	Perfluorodecanoic acid	335-76-2	$C_{10}HF_{19}O_2$	514
PFNA	Perfluorononanoic acid	375-95-1	$C_9HF_{17}O_2$	464
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9	$C_{10}HClF_{20}O_4S$	632
9Cl-PF3ONS	Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate	73606-19-6	$C_8ClF_{16}KO_4S$	570

CAS = Chemical Abstract Service Number

MDL = Method Detection Limit. Method Detection Limit is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero.

June 2021