

**Memorandum:****To:** File**From:** Tracy Carluccio, Deputy Director, DRN**Re:** Perfluorinated Chemicals in New Jersey's Drinking Water**Date:** July 24, 2013

Delaware Riverkeeper Network has filed several Open Public Records Act (OPRA) requests with New Jersey Department of Environmental Protection (NJDEP) for a 2009 Occurrence Study Report on perflourinated chemicals (including PFOA¹ and PFOS²) in the State's drinking water but our requests have been refused by the agency on the grounds that the report is "deliberative".

An earlier investigation of these chemicals conducted by NJDEP in 2006 resulted in NJDEP setting a PFOA guidance level of 0.04 ug/L (or ppb, parts per billion) for drinking water in the state in February 2007 after finding PFOA contamination in water supplies in 17 of 23 water systems they tested across the state. The highest levels were found in Deepwater, Salem County, near DuPont's Chambers Works Facility.

New Jersey's guidance level of 0.04 ug/L is the nation's strictest level and is the first step towards establishing a mandatory drinking water standard in the state. The level is based on occurrence and human health effects over lifetime exposure.³

The United States Environmental Protection Agency (EPA) has warned that PFOA is a likely carcinogen and has ordered Dupont to phase it out of use; studies by many entities, including the Centers for Disease Control, John Hopkins, and by the West Virginia University Medical School, show a range of dangerous health impacts including to infants and pregnant women. Papers published by the American Medical Association and other journals reveal links to prostate, bladder and liver cancer, higher than normal levels of cholesterol (a risk factor for heart attack and stroke), and a correlation between PFC's in blood and cardiovascular disease. A court-ordered panel in Ohio (C8 Health Project) has found links to pregnancy-induced hypertension, ulcerative colitis, thyroid disease, testicular cancer and kidney cancer. Multi-millions have been paid in damages by

¹ Perfluorooctanoic acid – "PFOA"

²Perfluorooctanesulfonic acid or perfluorooctane sulfonate – "PFOS"

³ "Occurrence and potential significance of perfluorooctanoic acid (PFOA) detected in New Jersey public drinking water systems" by Gloria Post, NJDEP Division of Science, Research and Technology (DSRT); Judy Louis, NJDEP DSRT; Keith Cooper, Rutgers University; Betty Boros-Russo, NJDEP Bureau of Safe Drinking Water; and Lee Lippincott, NJDEP (DSRT)

industry to people who have been exposed to PFOA - examples are a historic settlement with residents in the mid-Ohio Valley and a lawsuit in Salem County that was recently settled.

New Jersey's Drinking Water Quality Institute (DWQI) was in the process of developing a safe drinking water standard (maximum contaminant level) for PFOA in 2010 when they were inexplicably shut down by the current Administration, an unprecedented situation. There have been no public meetings of the DWQI since the fall of 2010.

The DWQI was established by the New Jersey Safe Drinking Water Act (N.J.S.A. 58:12A1 et seq., P.L. 1983, c. 443) in 1983. They are responsible for developing and recommending to NJDEP Maximum Contaminant Levels (MCLs) for substances of potential health concern that are found in drinking water. At the Institute level, subcommittees work for years developing recommendations for the Department and consider data collected by DEP about the persistence of these chemicals in residents' water, the technology needed to remove contaminants, and scientific studies and analyses from a broad body of scientific knowledge. This is the process that was underway regarding PFOA and several other chemical health hazards when the Institute was closed down. The public record shows no progress by the DWQI on setting a mandatory standard for PFOA, PFOS or the other contaminants they were working on since the fall of 2010 when they last met. It is unknown how New Jersey is meeting its responsibilities under the state's Safe Drinking Water Act.

The NJDEP report of the second round of testing - the report that DRN has filed requests for - is apparently also being held back. An OPRA request filed by DRN in May 2011 revealed that the 2009 "...PFOA Occurrence Study of 30 different sampling locations collected from 29 different public community and noncommunity water systems" and a report was expected soon after the completion of sampling in the summer of 2009 according to NJDEP. The study included sampling in 19 of New Jersey's 21 counties and did not repeat sampling of the public water systems that were included in the 2007 study. The report has never been issued and, as stated above, several OPRAAs filed for the completed report since then, as recently as April 2013, were refused by NJDEP due to the "deliberative" nature of the document.

On July 8, 2013 DRN filed an OPRA request with NJDEP for copies of the raw data that NJDEP collected when they conducted this second occurrence study for perfluorinated chemicals in 2009 and the letters that were sent to water suppliers with the results of the sampling. DRN received these documents between July 16 and July 18, 2013. These documents are included in this package.

A DRN report will be issued on the findings of the file review in the near future.

For more information on perfluorinated chemicals and copies of scientific and health reports go to DRN's website: <http://www.delawareriverkeeper.org/river-action/ongoing-issue-detail.aspx?Id=37>

2009 NJDEP Study - Perfluorinated Chemicals in Raw Water Samples from NJ Public Water Supplies (ng/L)

PWSID	System Name	County	Type	PFBA	PPPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFBS	PFHxS	PFOS	TOTAL
0251001	Ridgewood Water Department	Bergen	GW-U	6	11	12	<5	30	6	<5	6	<5	7	78
0408001	Camden City Water Department	Camden	GW-U	<5	10	8.5	<5	14	13	<5	<5	7	12	70
0516001	Woodbine MUA	Cape May	GW-U	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND
0610001	Millville Water Department	Cumberland	GW-U	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND
0814001	Paulsboro Water Department	Gloucester	GW-U	<5	<5	<5	<5	26	96	<5	<5	<5	10	138
1003001	Bloomsbury Water Department	Hunterdon	GW-U	<5	<5	<5	<5	<5	<5	<5	<5	<5	5	5
1103001	Aqua NJ - Hamilton Square	Mercer	GW-U	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND
1216001	Perth Amboy Water Department	Middlesex	GW-U	<5	<5	<5	<5	14	<5	<5	<5	<5	<5	14
1321001	Keansburg Water & Sewer Department	Monmouth	GW-C	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND
0705001	East Orange Water Commission	Morris	GW-U	<5	<5	<5	<5	9	<5	<5	<5	<5	<5	9
1424001	Southeast Morris County MUA	Morris	GW-U	<5	<5	<5	<5	<5	80	<5	<5	<5	<5	80
1429001	Parsippany Troy Hills Water Department	Morris	GW-U	<5	<5	<5	<5	<5	17	<5	<5	<5	<5	17
1507005	United Water Toms River	Ocean	GW-U	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND
1514002	Lakewood MUA	Ocean	GW-U	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND
1615001	West Milford MUA - Birch Hill	Passaic	GW-U	<5	74	<5	<5	<5	<5	<5	<5	<5	<5	74
1706305	Bondie & Sons	Salem	GW-U	<5	21	36	22	57	<5	<5	<5	9	<5	145
1713001	Handy's Mobile Park	Salem	GW-C	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND
1713308	Salem Co. Sportsman Club	Salem	GW-U	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND
1918004	Sparta Township Water Utility - Lake Mohawk	Sussex	GW-U	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND
2004002	NJ American Elizabethtown - Netherwood Wellfield	Somerset	GW-U	<5	9	9	<5	31	<5	<5	<5	10	10	69
2102001	Alpha Municipal Water Works	Warren	GW-U	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND
0102001	Atlantic City - Doughty Pond	Atlantic	SW	<5	10	17	8	32	<5	<5	6	44	25	142
0102001	Atlantic City - Kuehnle Pond	Atlantic	SW	<5	15	16	10	33	5	<5	6	46	43	174
0305001	Burlington City Water Department	Burlington	SW	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	ND
0712001	NJ American Water - Short Hills	Essex	SW	<5	<5	<5	<5	<5	9	<5	<5	<5	<5	9
0714001	Newark Water Department	Essex	SW	<5	<5	<5	<5	<5	6	9	<5	<5	<5	15
1214001	New Brunswick Water Department	Middlesex	SW	<5	<5	<5	<5	<5	11	<5	<5	<5	<5	18
1225001	Middlesex Water Company	Middlesex	SW	<5	<5	<5	<5	<5	10	<5	<5	<5	6	16
1345001	NJ American Water - Coastal, Northern System	Monmouth	SW	<5	<5	<5	<5	<5	10	<5	<5	<5	<5	10
1401001	Boonton Water Department	Morris	SW	<5	<5	<5	<5	<5	12	19	<5	<5	<5	31
1403001	Butler Water Department	Morris	SW	<5	<5	<5	<5	<5	10	14	<5	<5	<5	24
1506001	Brick Township MUA	Ocean	SW	<5	8	12	10	100	<5	<5	<5	<5	<5	130
2004002	NJ American Elizabethtown - Raritan River	Somerset	SW	<5	7	<5	<5	<5	16	<5	<5	<5	<5	23

Data are for raw water source (groundwater well or surface water intake) for listed public water supply.

GW-U = Unconfined groundwater

GW-C = Confined groundwater

SW = Surface Water

Reporting Level for all PFCs was 5 ng/L.

Totals are based on detected PFCs (≥ 5 ng/L), with non-detects assumed to be zero.

ND - All PFCs were <5 ng/L.

Perfluorinated chemicals analyzed in 2009 Study of New Jersey public water supplies

Abbreviation	Name	CAS Number	Structure
PFBA	Perfluorobutanoic acid	3794-64-7	$\text{CF}_3(\text{CF}_2)_2\text{COOH}$
PPPeA	perfluoropentanoic acid	2706-90-3	$\text{CF}_3(\text{CF}_2)_3\text{COOH}$
PFHxA	Perfluorohexanoic acid	307-24-4	$\text{CF}_3(\text{CF}_2)_4\text{COOH}$
PFHpA	Perfluoroheptanoic acid	375-85-9	$\text{CF}_3(\text{CF}_2)_5\text{COOH}$
PFOA	Perfluorooctanoic acid	335-67-1	$\text{CF}_3(\text{CF}_2)_6\text{COOH}$
PFNA	Perfluorononanoic acid	375-95-1	$\text{CF}_3(\text{CF}_2)_7\text{COOH}$
PFDA	Perfluorodecanoic acid	335-76-2	$\text{CF}_3(\text{CF}_2)_8\text{COOH}$
PFBS	Perfluorobutane sulfonic acid	375-73-5	$\text{CF}_3(\text{CF}_2)_3\text{SO}_3\text{H}$
PFHxS	Perfluorohexane sulfonic acid	355-46-4	$\text{CF}_3(\text{CF}_2)_5\text{SO}_3\text{H}$
PFOS	Perfluorooctane sulfonic acid	335-67-1	$\text{CF}_3(\text{CF}_2)_7\text{SO}_3\text{H}$

Petinos, Donna

From: Walsh, Linda
Sent: Thursday, July 18, 2013 9:58 AM
To: Petinos, Donna
Subject: OPRA 139404

The first part of OPRA request # 139404 asks for the data for the 2009 study of perfluorinated chemicals in NJ public water supplies and the names of the water supplies.

- By email I provided the analytical data.
- I am providing a paper copy of the list of names of the water supplies included in the study.

The second part of OPRA request # 139404 asks for copies of letters provided to NJ water supplies that were sent data and/or notifications.

-Five different letter templates were used to communicate the data to the water systems depending upon the chemicals detected in the data. I am providing a paper copy of each of the five letters and attached to each letter is the list of the water systems that were sent that particular letter. As these are maintained electronically in NJEMS, this is the simplest way to provide this information.

Let me know if you need anything further.

-Linda



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code 401-03

Division of Water Supply - Water Supply Operations Element
401 E. State Street - P.O. Box 420
Trenton, New Jersey 08625-0420
Tel #: (609) 292-5550 - Fax #: (609) 292-1654
<http://www.state.nj.us/dep/watersupply/>

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

December 15, 2010

Harry Mansmann
East Orange Water Commission
99 South Grove St
East Orange, NJ 07019

Re: East Orange Water Commission
PWSID # NJ0705001
Perfluorinated Compounds Monitoring Results

Dear Mr. Mansmann:

The New Jersey Department of Environmental Protection (Department) conducted a study to determine the occurrence of perfluorinated compounds (PFCs) in surface water and ground water sources of drinking water in 20 of 21 New Jersey counties between July 2009 and February 2010.

On September 10, 2009, a raw (untreated) water sample was collected from your water system at Well B-2, WL001004 and was sent to MWH Laboratories in Monrovia, California for analysis for 10 PFCs. **Perfluorooctanoic acid (PFOA) was detected at 0.0093 parts per billion (ppb) in the untreated water; no other PFCs were detected.** A copy of the laboratory report that includes results for East Orange Water Commission is enclosed. A report summarizing the sampling conducted for the 2009 study will be available shortly. Once available, it will be posted on the Department's Water Supply website at: <http://www.state.nj.us/dep/watersupply>.

This study (2009 study) is the second conducted by the Department to determine the occurrence of PFCs. The first was conducted in 2006 and samples were analyzed for PFOA and a related chemical, perfluorooctane sulfonate (PFOS). A full summary of the results of the 2006 study is presented on the Department's Water Supply website at:
<http://www.state.nj.us/dep/watersupply>.

PFOA is an industrial chemical used to make fluoropolymers, substances with special properties used in many industrial applications, including the manufacture of consumer products such as non-stick cookware and water- and stain-resistant products. PFOA is persistent in the environment and is detected in the blood of the general population worldwide. PFOA has been detected at low levels in drinking water supplies throughout New Jersey. There are several potential sources contributing to these levels, however, the exact contribution from any individual source is unclear at this time. The Department developed a health-based guidance level for PFOA of 0.04 ppb. The guidance value is intended to protect from chronic or long-term exposure that might occur over an entire lifetime. Although PFOA was detected in your

untreated water, the finished (treated) water delivered to your customers was not tested. Therefore, the Department recommends that you conduct monitoring of the finished water (treated) from the Millburn Pump Station treatment plant, TP001002 (our records indicate that this is the treatment plant associated with Well B-2, WL001004). **No changes in consumption patterns for your water system are recommended at this time.**

The Department recommends that you conduct finished water monitoring, as follows:

- East Orange Water Commission should conduct quarterly monitoring for PFOA for one year (four calendar quarters).
- Monitoring should be conducted at the point-of-entry into the distribution system, after treatment.
- Monitoring should be conducted by a laboratory certified by the state to perform PFOA analysis. Information on NJ certified laboratories can be found at <http://www.nj.gov/dep/oqa/certlabs.htm> or by calling (609) 292-3950.
- If the laboratory can also report other PFC compounds as part of the analytical method, the results for these parameters should be reported.
- Monitoring results should be submitted to the Department at the letterhead address (attention Linda Walsh) within 10 days following the end of each quarter.

Once monitoring has been conducted for one year, the average result from the four quarters of PFOA monitoring data will be evaluated relative to the guidance value. Future monitoring frequencies and/or actions will be determined based on the levels obtained during the year. Based on the detection of PFOA in your raw water, the Department encourages you to consider monitoring additional points-of-entry in your water system.

If you have any questions on this matter, please contact Linda Walsh of my staff at (609) 292-5550.

Sincerely,

Karen M. Fell, Assistant Director
Water Supply Operations

Enclosure

cc: Linda Walsh, BSDWTA
Paul Smith, BSDWI



State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Division of Water Supply - Water Supply Operations Element

401 E. State Street - P.O. Box 420

Trenton, New Jersey 08625-0420

Tel #: (609) 292-5550 - Fax #: (609) 292-1654

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CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

December 15, 2010

Bill Hutchinson
Southeast Morris County MUA
19 Saddle Road
Cedar Knolls, NJ 07927

Re: Southeast Morris County MUA
PWSID # NJ1424001
Perfluorinated Compounds Monitoring Results

Dear Mr. Hutchinson:

The New Jersey Department of Environmental Protection (Department) conducted a study to determine the occurrence of perfluorinated compounds (PFCs) in surface water and ground water sources of drinking water in 20 of 21 New Jersey counties between July 2009 and February 2010.

On July 29, 2009, a raw (untreated) water sample was collected from your water system at Wing Well, WL010025 and was sent to MWH Laboratories in Monrovia, California for analysis for 10 PFCs. **Perfluorooctanoic acid (PFOA), which is typically the most commonly detected PFC, was not detected in the untreated water; however, one or more of the other PFCs analyzed were detected in that sample.** A copy of the laboratory report that includes results for Southeast Morris County MUA is enclosed. A report summarizing the sampling conducted for the 2009 study will be available shortly. Once available, it will be posted on the Department's Water Supply website at: <http://www.state.nj.us/dep/watersupply>.

This study (2009 study) is the second conducted by the Department to determine the occurrence of PFCs. The first was conducted in 2006 and samples were analyzed for PFOA and a related chemical, perfluorooctane sulfonate (PFOS). A full summary of the results of the 2006 study is presented on the Department's Water Supply website at: <http://www.state.nj.us/dep/watersupply>.

The Department set a health-based guidance level for PFOA at 0.04 parts per billion (ppb), which is intended to protect from chronic or long-term exposure that might occur over an entire lifetime. However, Department guidance levels for the other PFCs are not available at this time as additional evaluation of science and toxicology on these compounds is necessary. Although PFCs were detected in your untreated water, the finished (treated) water delivered to your customers was not tested. Therefore, the Department recommends that you conduct monitoring of the finished water (treated) from the Wing Well Plant treatment plant, TP010024 (our records

indicate that this is the treatment plant associated with Wing Well, WL010025). **No changes in consumption patterns for your water system are recommended at this time.**

The Department recommends that you conduct finished water monitoring, as follows:

- Southeast Morris County MUA should conduct quarterly monitoring for PFOA for one year (four calendar quarters).
- Monitoring should be conducted at the point-of-entry into the distribution system, after treatment.
- Monitoring should be conducted by a laboratory certified by the state to perform PFOA analysis. Information on NJ certified laboratories can be found at <http://www.nj.gov/dep/oqa/certlabs.htm> or by calling (609) 292-3950.
- If the laboratory can also report other PFC compounds as part of the analytical method, the results for these parameters should be reported.
- Monitoring results should be submitted to the Department at the letterhead address (attention Linda Walsh) within 10 days following the end of each quarter.

Once monitoring has been conducted for one year, the results will be evaluated. Future monitoring frequencies and/or actions will be determined based on the levels of these contaminants obtained during the year. Based on the detection of PFCs in your raw water, the Department encourages you to consider monitoring additional points-of-entry in your water system.

If you have any questions on this matter, please contact Linda Walsh of my staff at (609) 292-5550.

Sincerely,

Karen M. Fell, Assistant Director
Water Supply Operations

Enclosure

cc: Linda Walsh, BSDWTA
Danielle Mullen, BSDWI

EWIS ID	System Name	SDWIS	REGULATED PFCS	UNREGULATED PFCS	PFOA PPM	PFNA PPM	PFOS PPM	PFBS PPM	PFHxS PPM	PFBS PPM	PFNA PPM	PFOS PPM	PFOA PPM	PFNA PPM	PFOS PPM	PFOA PPM	PFNA PPM	PFOS PPM
1003001	Bloomsbury Water Department	WL001006	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	5
1424001	Southeastern Morris County MU	WL010025	0	0	0	0	0	0	0	0	0	0	0	80	0	0	0	80
1429001	Parsippany Troy Hills Water Dep	WL034082	0	0	0	0	0	0	0	0	0	0	0	17	0	0	0	17
1615001	West Milford MUA - Birch Hill	WL001008	0	0	0	0	0	74	0	0	0	0	0	0	0	0	0	74

Mail Code 401-03
Division of Water Supply - Water Supply Operations Element
Bureau of Safe Drinking Water Implementation
401 E. State Street - P.O. Box 420
Trenton, New Jersey 08625-0420
Tel #: (609) 292-5550 - Fax #: (609) 292-1654
<http://www.state.nj.us/dep/watersupply/>

December 15, 2010

Eamie Gratz
Atlantic City MUA
P.O. Box 117
Atlantic City, NJ 08404

**Re: Atlantic City MUA
PWSID # NJ0102001
Perfluorinated Compounds Monitoring Results**

Dear Mr. Gratz:

The New Jersey Department of Environmental Protection (Department) conducted a study to determine the occurrence of perfluorinated compounds (PFCs) in surface water and ground water sources of drinking water in 20 of 21 New Jersey counties between July 2009 and February 2010.

On September 24, 2009, raw (untreated) water samples were collected from your water system at Doughty Pond (IN001017) and Kuehnle Pond (IN001018) and were sent to MWH Laboratories in Monrovia, California for analysis for 10 PFCs. **Perfluorooctanoic acid (PFOA) was detected at 0.032 and 0.033 parts per billion (ppb) respectively in the untreated water and eight other PFCs were also detected.** A copy of the laboratory report that includes results for Atlantic City MUA is enclosed. A report summarizing the sampling conducted for the 2009 study will be available shortly. Once available, it will be posted on the Department's Water Supply website at: <http://www.state.nj.us/dep/watersupply>.

This study (2009 study) is the second conducted by the Department to determine the occurrence of PFCs. The first was conducted in 2006 and samples were analyzed for PFOA and a related chemical, perfluorooctane sulfonate (PFOS). A full summary of the results of the 2006 study is presented on the Department's Water Supply website at: <http://www.state.nj.us/dep/watersupply>.

PFOA is an industrial chemical used to make fluoropolymers, substances with special properties used in many industrial applications, including the manufacture of consumer products such as non-stick cookware and water- and stain-resistant products. PFOA is persistent in the environment and is detected in the blood of the general population worldwide. PFOA has been detected at low levels in drinking water supplies throughout New Jersey. There are several potential sources contributing to these levels, however, the exact contribution from any

individual source is unclear at this time. The Department developed a health-based guidance level for PFOA of 0.04 ppb. The guidance value is intended to protect from chronic or long-term exposure that might occur over an entire lifetime. Although PFOA was detected in your untreated water, the finished (treated) water delivered to your customers was not tested. Therefore, the Department recommends that you conduct monitoring of the finished water (treated) from the Pleasantville treatment plant, TP001005 (our records show this is the treatment plant associated with the Doughty Pond and Kuehnle Pond intakes). Department guidance levels for the other PFCs are not available at this time as additional evaluation of science and toxicology on these compounds is necessary. **No changes in consumption patterns for your water system are recommended at this time.**

The Department recommends that you conduct finished water monitoring, as follows:

- Atlantic City MUA should conduct quarterly monitoring for PFOA for one year (four calendar quarters).
- Monitoring should be conducted at the point-of-entry into the distribution system, after treatment.
- Monitoring should be conducted by a laboratory certified by the state to perform PFOA analysis. Information on NJ certified laboratories can be found at <http://www.nj.gov/dep/oqa/certlabs.htm> or by calling (609) 292-3950.
- If the laboratory can also report other PFC compounds as part of the analytical method, the results for these parameters should be reported.
- Monitoring results should be submitted to the Department at the letterhead address (attention Linda Walsh) within 10 days following the end of each quarter.

Once monitoring has been conducted for one year, the average result from the four quarters of PFOA monitoring data will be evaluated relative to the guidance value. Future monitoring frequencies and/or actions will be determined based on the levels obtained during the year. Based on the detection of PFOA and other PFCs in your raw water, the Department encourages you to consider monitoring additional points-of-entry in your water system.

If you have any questions on this matter, please contact Linda Walsh of my staff at (609) 292-5550.

Sincerely,

Karen M. Fell, Assistant Director
Water supply Operations

Enclosure

cc: Linda Walsh, BSDWTA
Heather Carson, BSDWI

ID	System Name	Divis.	PFOA	PFOS	PFHxS	PFBA	PFDE	PFBS	PFDA	PFNA	PFDAE	PFNAE	PFDEA	PFBSA	PFDAE	PFNAE	PFDEA	PFBSA	PFDAE	PFNAE	PFDEA	PFBSA
0102001	Atlantic City - Doughty Pond	IN001017	32	25	6.3	0	10	44	17	8.4	0	0	0	142.7								
0102001	Atlantic City - Kuehnie Pond	IN001018	33	43	6.1	0	15	46	16	9.6	5.1	0	0	173.8								
0251001	Ridgewood Water Department	WL010031	30	6.9	5.8	5.8	11	0	12	0	6.4	0	0	77.9								
0408001	Camden City Water Department	TP001002	14	12	0	0	9.6	6.8	8.5	0	0	13	0	63.9								
0714001	Newark Water Department	IN003009	6	0	0	0	0	0	0	0	0	9.4	0	15.4								
0814001	Paulsboro Water Department	WL003015	26	9.6	0	0	0	0	0	0	0	96	0	131.6								
1214001	New Brunswick Water Department	IN001005	11	6.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	17.6	
1225001	Middlesex Water Company	IN001002	10	5.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15.7	
1401001	Boonton Water Department	IN001004	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1403001	Butler Water Department	IN001003	9.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1506001	Brick Township MUA	IN001017	100	0	0	0	7.7	0	12	9.9	0	0	0	0	0	0	0	0	0	0	129.6	
1706305	Bondie & Sons	WL001001	57	0	0	0	21	8.5	36	22	0	0	0	0	0	0	0	0	0	0	144.5	
2004002	NJ American Elizabethtown - Rarit	IN073332	16	0	0	0	6.7	0	0	0	0	0	0	0	0	0	0	0	0	0	22.7	
2004002	NJ American Elizabethtown - Neth	TP017047	31	9.5	0	0	9	10	8.9	0	0	0	0	0	0	0	0	0	0	0	68.4	

Mail Code 401-03
Division of Water Supply – Water Supply Operations Element
401 E. State Street - P.O. Box 420
Trenton, New Jersey 08625-0420
Tel #: (609) 292-5550 - Fax #: (609) 292-1654
<http://www.state.nj.us/dep/watersupply/>

December 15, 2010

Vincent Calisti
Burlington City Water Department
P.O. Box 43
Burlington, NJ 08016

Re: Burlington City Water Department
PWSID # NJ0305001
Perfluorinated Compounds Monitoring Results

Dear Mr. Calisti:

The New Jersey Department of Environmental Protection (Department) conducted a study to determine the occurrence of perfluorinated compounds (PFCs) in surface water and ground water sources of drinking water in 20 of 21 New Jersey counties between July 2009 and February 2010.

On August 19, 2009, a raw (untreated) water sample was collected from your water system at Intake 3 - Delaware River, IN001004 and was sent to MWH Laboratories in Monrovia, California for analysis for 10 PFCs. **Perfluorooctanoic acid (PFOA) and the other nine PFCs analyzed were not detected.** As such, this data is for your information only, and no action is required in response to this information. A copy of the laboratory report that includes results for Burlington City Water Department is enclosed. A report summarizing the sampling conducted for the 2009 study will be available shortly. Once available, it will posted on the Department's Water Supply website at: <http://www.state.nj.us/dep/watersupply>.

This study (2009 study) is the second conducted by the Department to determine the occurrence of PFCs. The first was conducted in 2006 and samples were analyzed for PFOA and a related chemical, perfluorooctane sulfonate (PFOS). A full summary of the results of the 2006 study is presented on the Department's Water Supply website at: <http://www.state.nj.us/dep/watersupply>.

If you have any questions on this matter, please contact Linda Walsh of my staff at (609) 292-5550.

Sincerely,

Karen M. Fell, Assistant Director
Water Supply Operations

Enclosure

cc: Linda Walsh, BSDWTA
Matt Wilson, BSDWI



MWH

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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attention: Linda Walsh
Fax: 609-292-1654



TDF: Thomas.D.French
Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.



Report#: 322015
Project: PFOA-PFOS
Group: 3rd Quarter 2009
PO#: 7073402

750 Royal Oaks Drive Suite 100, Monrovia, Ca 91016
Phone 626-386-1100/Fax: 626-386-1101

Acknowledgement of Samples Received

New Jersey DEP/Water Supply

401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attn: Linda Walsh
Phone: 609-633-2149

Customer Code: NEWJERSEY-DEP

Group #: 322015

Project #: PFOA-PFOS

Sample Group: 3rd Quarter 2009

Project Manager: Thomas.D.French

Phone: (480) 778-1558

PO #: 7073402

The following samples were received from you on **December 22, 2009**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample Id	Sample Date
<u>200912220300</u>	413 Adams Ave. Woodbine Boro Raw Water Well #6 @PFC_EXTRA	21-Dec-2009 1130
<u>200912220301</u>	Field Blank @PFC_EXTRA	21-Dec-2009 1155

Test Description

@PFC_EXTRA -- Perfluorinated compounds

4/12

Thomas D French Your MWH Project Manager

BO #: 12411

Created By: TDF

Order Date: 12/08/2009

Bottle Orders

Sampler: please return

this paper with your samples

Group#	Date Sampled
Date Received	

Ship Sample Kits to

New Jersey DEP/Water Supply	Send Report to
401 East State Street	New Jersey DEP/Water Supply
Third Floor, West Wing	401 East State Street
Trenton, NJ 08625-0426	Third Floor, West Wing
	Trenton, NJ 08625-0426
Attn: Linda Walsh	Attn: Linda Walsh
Phone: 609-633-2149	Phone: 609-633-2149
Fax: 609-292-1654	Fax: 609-292-1654

of Samples Tests

6 @PFC_EXTRA

UN DOT #

Qtelinet# Bottles - Qty for each sample, type & preservative if any	1 125ml poly no preservative
---	------------------------------

Comments

Place in 1 small cooler, COC, blue ice, sampling/packing, return shipment.

Code

Status

of Coolers

Prepared By

Tracking #



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Fax: 626 386 1101
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Laboratory Comments
Report: #322015

New Jersey DEP/Water Supply
Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

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Laboratory
Hits Report: 322015

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
12/22/2009

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
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Laboratory Data
Report: 322015

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
12/22/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
413 Adams Ave. Woodbine Boro Raw Water Well #6 (200912220300)							Sampled on 12/21/2009 1130	

MWH PFC - Perfluorinated compounds

01/09/2010	15:54	537363	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	10	1
01/09/2010	15:54	537363	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
01/09/2010	15:54	537363	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
01/09/2010	15:54	537363	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
01/09/2010	15:54	537363	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
01/09/2010	17:07	537363	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	10	2
01/09/2010	15:54	537363	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
01/09/2010	15:54	537363	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
01/09/2010	15:54	537363	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
01/09/2010	15:54	537363	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
01/09/2010	15:54	537363	(MWH PFC)	PFBA-C13	129	%	1	
01/09/2010	15:54	537363	(MWH PFC)	PFHxA-C13	105	%	1	
01/09/2010	15:54	537363	(MWH PFC)	PFNA-C13	58	%	1	
01/09/2010	15:54	537363	(MWH PFC)	PFOA-C13	79	%	1	
01/09/2010	15:54	537363	(MWH PFC)	PFOS-C13	32	%	1	

Field Blank (200912220301)

Sampled on 12/21/2009 1155

MWH PFC - Perfluorinated compounds

01/09/2010	16:08	537363	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	10	1
01/09/2010	16:08	537363	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
01/09/2010	16:08	537363	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
01/09/2010	16:08	537363	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
01/09/2010	16:08	537363	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
01/09/2010	16:08	537363	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
01/09/2010	16:08	537363	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
01/09/2010	16:08	537363	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
01/09/2010	16:08	537363	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
01/09/2010	16:08	537363	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
01/09/2010	16:08	537363	(MWH PFC)	PFBA-C13	102	%	1	
01/09/2010	16:08	537363	(MWH PFC)	PFDA-C13	51	%	1	
01/09/2010	16:08	537363	(MWH PFC)	PFHxA-C13	95	%	1	
01/09/2010	16:08	537363	(MWH PFC)	PFNA-C13	73	%	1	

Rounding on totals after summation.
(c) - indicates calculated results

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1 800 566 LABS (1 800 566 5227)

**Laboratory Data
Report: 322015****New Jersey DEP/Water Supply**

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
12/22/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
01/09/2010	16:08	537363	(MWH PFC)	PFOA-C13	82	%		1
01/09/2010	16:08	537363	(MWH PFC)	PFOS-C13	71	%		1



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Laboratory
QC Summary: 322015

New Jersey DEP/Water Supply

QC Ref # 537363 - Perfluorinated compounds**Analysis Date: 01/09/2010**

200912220300	413 Adams Ave. Woodbine Boro Raw Water Well #6	Analyzed by: JYW
200912220300	413 Adams Ave. Woodbine Boro Raw Water Well #6	Analyzed by: JYW
200912220301	Field Blank	Analyzed by: JYW



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Laboratory
QC Report: 322015

New Jersey DEP/Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD Limit (%)	RPD%
QC Ref# 537363 - Perfluorinated compounds by MWH PFC									
								Analysis Date: 01/09/2010	
LCS1	Perfluoro butanoic acid- PFBA	25	21.9	ng/L	88	(70-130)			
LCS2	Perfluoro butanoic acid- PFBA	25	23.4	ng/L	94	(70-130)	20	6.6	
MBLK	Perfluoro butanoic acid- PFBA		<10	ng/L					
MRL_CHK	Perfluoro butanoic acid- PFBA	5.0	6.49	ng/L	130	(50-150)			
MS_200912220300	Perfluoro butanoic acid- PFBA	ND	25	28.0	ng/l	93	(70-130)		
MSD_200912220300	Perfluoro butanoic acid- PFBA	ND	25	27.4	ng/l	91	(70-130)	30	2.6
LCS1	Perfluoro octanesulfonate-PFOS	25	22.0	ng/L	88	(70-130)			
LCS2	Perfluoro octanesulfonate-PFOS	25	20.7	ng/L	83	(70-130)	20	6.1	
MBLK	Perfluoro octanesulfonate-PFOS		<5	ng/L					
MRL_CHK	Perfluoro octanesulfonate-PFOS	5.0	6.96	ng/L	139	(50-150)			
MS_200912220300	Perfluoro octanesulfonate-PFOS	ND	25	22.6	ng/l	83	(70-130)		
MSD_200912220300	Perfluoro octanesulfonate-PFOS	ND	25	21.3	ng/l	78	(70-130)	30	6.5
LCS1	Perfluoro octanoic acid - PFOA	25	20.4	ng/L	82	(70-130)			
LCS2	Perfluoro octanoic acid - PFOA	25	22.3	ng/L	89	(70-130)	20	8.9	
MBLK	Perfluoro octanoic acid - PFOA		<5	ng/L					
MRL_CHK	Perfluoro octanoic acid - PFOA	5.0	5.77	ng/L	115	(50-150)			
MS_200912220300	Perfluoro octanoic acid - PFOA	ND	25	27.1	ng/l	100	(70-130)		
MSD_200912220300	Perfluoro octanoic acid - PFOA	ND	25	27.0	ng/l	99	(70-130)	30	0.40
LCS1	Perfluoro-1-butanesulfonate	25	24.6	ng/L	98	(70-130)			
LCS2	Perfluoro-1-butanesulfonate	25	26.9	ng/L	108	(70-130)	20	8.9	
MBLK	Perfluoro-1-butanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-butanesulfonate	5.0	6.18	ng/L	124	(50-150)			
MS_200912220300	Perfluoro-1-butanesulfonate	ND	25	32.8	ng/L	116	(70-130)		
MSD_200912220300	Perfluoro-1-butanesulfonate	ND	25	32.2	ng/l	114	(70-130)	30	1.7
LCS1	Perfluoro-1-hexanesulfonate	25	22.4	ng/L	90	(70-130)			
LCS2	Perfluoro-1-hexanesulfonate	25	23.3	ng/L	93	(70-130)	20	3.9	
MBLK	Perfluoro-1-hexanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-hexanesulfonate	5.0	5.3	ng/L	106	(50-150)			
MS_200912220300	Perfluoro-1-hexanesulfonate	ND	25	25.3	ng/L	90	(70-130)		
MSD_200912220300	Perfluoro-1-hexanesulfonate	ND	25	26.4	ng/l	94	(70-130)	30	4.8
LCS1	Perfluoro-n-decanoic acid	25	20.9	ng/L	84	(70-130)			
LCS2	Perfluoro-n-decanoic acid	25	18.7	ng/L	75	(70-130)	20	11	
MBLK	Perfluoro-n-decanoic acid		<5	ng/L					
MRL_CHK	Perfluoro-n-decanoic acid	5.0	6.24	ng/L	125	(50-150)			
MS_200912220300	Perfluoro-n-decanoic acid	25	18.0	ng/L	72	(70-130)			
MSD_200912220300	Perfluoro-n-decanoic acid	25	18.1	ng/l	72	(70-130)	30	0.55	
LCS1	Perfluoro-n-heptanoic acid	25	22.8	ng/L	91	(70-130)			

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

10/12



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750 Royal Oak Dr., Suite 100
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Laboratory
QC Report: 322015

State of New Jersey DEP/Water Supply
 (continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro-n-heptanoic acid		25	23.3	ng/L	93	(70-130)	20	2.2
MBLK	Perfluoro-n-heptanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-heptanoic acid		5.0	5.81	ng/L	116	(50-150)		
MS_200912220300	Perfluoro-n-heptanoic acid	ND	25	25.7	ng/L	99	(70-130)		
MSD_200912220300	Perfluoro-n-heptanoic acid	ND	25	26.3	ng/l	102	(70-130)	30	2.8
LCS1	Perfluoro-n-hexanoic acid			21.6	ng/L	86	(70-130)		
LCS2	Perfluoro-n-hexanoic acid		25	24.2	ng/L	97	(70-130)	20	11
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	6.08	ng/L	122	(50-150)		
MS_200912220300	Perfluoro-n-hexanoic acid	ND	25	27.7	ng/L	101	(70-130)		
MSD_200912220300	Perfluoro-n-hexanoic acid	ND	25	26.7	ng/l	97	(70-130)	30	4.5
LCS1	Perfluoro-n-nonanoic acid			21.6	ng/L	86	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	21.8	ng/L	87	(70-130)	20	0.92
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	6.39	ng/L	128	(50-150)		
MS_200912220300	Perfluoro-n-nonanoic acid	ND	25	23.0	ng/L	91	(70-130)		
MSD_200912220300	Perfluoro-n-nonanoic acid	ND	25	22.7	ng/L	90	(70-130)	30	1.3
LCS1	Perfluoropentanoic acid			23.0	ng/L	92	(70-130)		
LCS2	Perfluoropentanoic acid		25	24.2	ng/L	97	(70-130)	20	5.1
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	6.00	ng/L	120	(50-150)		
MS_200912220300	Perfluoropentanoic acid	ND	25	29.3	ng/L	106	(70-130)		
MSD_200912220300	Perfluoropentanoic acid	ND	25	29.2	ng/l	106	(70-130)	30	0.0
LCS1	PFBA-C13 (I)			123	%	123	(50-150)		
LCS2	PFBA-C13 (I)			113	%	113	(50-150)		
MBLK	PFBA-C13 (I)			127	%	127	(50-150)		
MRL_CHK	PFBA-C13 (I)			123	%	123	(50-150)		
MS_200912220300	PFBA-C13 (I)			119	%	119	(25-180)		
MSD_200912220300	PFBA-C13 (I)			120	%	120	(25-180)		
LCS1	PFDA-C13 (I)			114	%	114	(50-150)		
LCS2	PFDA-C13 (I)			113	%	113	(50-150)		
MBLK	PFDA-C13 (I)			150	%	150	(50-150)		
MRL_CHK	PFDA-C13 (I)			121	%	121	(50-150)		
MS_200912220300	PFDA-C13 (I)			25.6	%	26	(25-180)		
MSD_200912220300	PFDA-C13 (I)			27.9	%	28	(25-180)		
LCS1	PFHxA-C13 (I)			111	%	111	(50-150)		
LCS2	PFHxA-C13 (I)			106	%	106	(50-150)		
MBLK	PFHxA-C13 (I)			115	%	115	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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Laboratory
QC Report: 322015

State of New Jersey DEP/Water Supply
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	PFHxA-C13 (I)			113	%	113	(50-150)		
MS_200912220300	PFHxA-C13 (I)			98.5	%	99	(25-180)		
MSD_200912220300	PFHxA-C13 (I)			100	%	100	(25-180)		
LCS1	PFNA-C13 (I)			114	%	114	(50-150)		
LCS2	PFNA-C13 (I)			111	%	111	(50-150)		
MBLK	PFNA-C13 (I)			129	%	129	(50-150)		
MRL_CHK	PFNA-C13 (I)			110	%	110	(50-150)		
MS_200912220300	PFNA-C13 (I)			52.3	%	52	(25-180)		
MSD_200912220300	PFNA-C13 (I)			55.6	%	56	(25-180)		
LCS1	PFOA-C13 (I)			113	%	113	(50-150)		
LCS2	PFOA-C13 (I)			103	%	103	(50-150)		
MBLK	PFOA-C13 (I)			121	%	121	(50-150)		
MRL_CHK	PFOA-C13 (I)			106	%	106	(50-150)		
MS_200912220300	PFOA-C13 (I)			80.2	%	80	(25-180)		
MSD_200912220300	PFOA-C13 (I)			81.5	%	82	(25-180)		
LCS1	PFOS-C13 (I)			122	%	122	(50-150)		
LCS2	PFOS-C13 (I)			121	%	121	(50-150)		
MBLK	PFOS-C13 (I)			147	%	147	(50-150)		
MRL_CHK	PFOS-C13 (I)			122	%	122	(50-150)		
MS_200912220300	PFOS-C13 (I)			33.5	%	34	(25-180)		
MSD_200912220300	PFOS-C13 (I)			36.3	%	36	(25-180)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



MWH

LABORATORIES

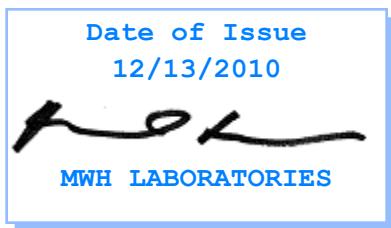
A Division of MWH Americas, Inc.

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Laboratory Report

for

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attention: Linda Walsh
Fax: 609-292-1654



TDF: Thomas.D.French
Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.



Report#: 349957
Project: PFOA-PFOS
Group: 3rd Quarter 2009
PO#: 7073402

Acknowledgement of Samples Received

New Jersey DEP/Water Supply

401 East State Street
 Third Floor, West Wing
 Trenton, NJ 08625-0426
 Attn: Linda Walsh
 Phone: 609-633-2149

Customer Code: NEWJERSEY-DEP
 Folder #: 349957
 Project: PFOA-PFOS
 Sample Group: 3rd Quarter 2009
 Project Manager: Thomas.D.French
 Phone: (480) 778-1558
 PO #: 7073402

The following samples were received from you on **November 11, 2010**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample ID	Sample Date
<u>201011110331</u>	1506001 - Raw Intake Structure @PFC_EXTRA	Nov 10, 2010 12:35
<u>201011110342</u>	1506001 - Wells Composite Sample tap @PFC_EXTRA	Nov 10, 2010 12:45
<u>201011110343</u>	1506001 - POE Plant effl Sample tap @PFC_EXTRA	Nov 10, 2010 13:20
<u>201011110344</u>	1506001 FB field blank @PFC_EXTRA	Nov 10, 2010 13:45

Test Description

@PFC_EXTRA -- Perfluorinated compounds



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750 Royal Oak Dr., Suite 100
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Tel: 626 386 1100
Fax: 626 386 1101
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New Jersey DEP/Water Supply
Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

**Laboratory Comments
Report: #349957**



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Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
Hits Report: 349957

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
11/11/2010

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
201011110331 <u>1506001 - Raw Intake Structure</u>						
11/14/2010	01:18	Perfluoro octanoic acid - PFOA	54		ng/L	5
11/14/2010	01:18	Perfluoro-n-hexanoic acid	5.5		ng/L	5
201011110342 <u>1506001 - Wells Composite Sample tap</u>						
11/14/2010	01:32	Perfluoro octanoic acid - PFOA	10		ng/L	5
201011110343 <u>1506001 - POE Plant effl Sample tap</u>						
11/14/2010	01:03	Perfluoro butanoic acid- PFBA	26		ng/L	10
11/14/2010	01:03	Perfluoro octanoic acid - PFOA	40		ng/L	5



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Tel: 626 386 1100
Fax: 626 386 1101
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**Laboratory Data
Report: 349957**

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
11/11/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
1506001 - Raw Intake Structure (201011110331)								Sampled on 11/10/2010 1235
MWH PFC - Perfluorinated compounds								
11/14/2010	01:18	579264	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	10	1
11/14/2010	01:18	579264	(MWH PFC)	Perfluoro octanesulfonic acid - PFOS	ND	ng/L	5	1
11/14/2010	01:18	579264	(MWH PFC)	Perfluoro octanoic acid - PFOA	54	ng/L	5	1
11/14/2010	01:18	579264	(MWH PFC)	Perfluoro-1-butanesulfonic acid	ND	ng/L	5	1
11/14/2010	01:18	579264	(MWH PFC)	Perfluoro-1-hexanesulfonic acid	ND	ng/L	5	1
11/14/2010	01:18	579264	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
11/14/2010	01:18	579264	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
11/14/2010	01:18	579264	(MWH PFC)	Perfluoro-n-hexanoic acid	5.5	ng/L	5	1
11/14/2010	01:18	579264	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
11/14/2010	01:18	579264	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
11/14/2010	01:18	579264	(MWH PFC)	PFDA-C13	82	%	1	
11/14/2010	01:18	579264	(MWH PFC)	PFHxA-C13	119	%	1	
11/14/2010	01:18	579264	(MWH PFC)	PFNA-C13	105	%	1	
11/14/2010	01:18	579264	(MWH PFC)	PFOA-C13	103	%	1	
11/14/2010	01:18	579264	(MWH PFC)	PFOS-C13	85	%	1	
1506001 - Wells Composite Sample tap (201011110342)								Sampled on 11/10/2010 1245
MWH PFC - Perfluorinated compounds								
11/14/2010	01:32	579264	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	10	1
11/14/2010	01:32	579264	(MWH PFC)	Perfluoro octanesulfonic acid - PFOS	ND	ng/L	5	1
11/14/2010	01:32	579264	(MWH PFC)	Perfluoro octanoic acid - PFOA	10	ng/L	5	1
11/14/2010	01:32	579264	(MWH PFC)	Perfluoro-1-butanesulfonic acid	ND	ng/L	5	1
11/14/2010	01:32	579264	(MWH PFC)	Perfluoro-1-hexanesulfonic acid	ND	ng/L	5	1
11/14/2010	01:32	579264	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
11/14/2010	01:32	579264	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
11/14/2010	01:32	579264	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
11/14/2010	01:32	579264	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
11/14/2010	01:32	579264	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
11/14/2010	01:32	579264	(MWH PFC)	PFDA-C13	98	%	1	
11/14/2010	01:32	579264	(MWH PFC)	PFHxA-C13	112	%	1	
11/14/2010	01:32	579264	(MWH PFC)	PFNA-C13	112	%	1	
11/14/2010	01:32	579264	(MWH PFC)	PFOA-C13	106	%	1	



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 349957

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
11/11/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
11/14/2010	01:32	579264	(MWH PFC)	PFOS-C13	91	%		1

1506001 - POE Plant effl Sample tap (201011110343)

Sampled on 11/10/2010 1320

MWH PFC - Perfluorinated compounds

11/14/2010	01:03	579264	(MWH PFC)	Perfluoro butanoic acid- PFBA	26	ng/L	10	1
11/14/2010	01:03	579264	(MWH PFC)	Perfluoro octanesulfonic acid - PFOS	ND	ng/L	5	1
11/14/2010	01:03	579264	(MWH PFC)	Perfluoro octanoic acid - PFOA	40	ng/L	5	1
11/14/2010	01:03	579264	(MWH PFC)	Perfluoro-1-butanesulfonic acid	ND	ng/L	5	1
11/14/2010	01:03	579264	(MWH PFC)	Perfluoro-1-hexanesulfonic acid	ND	ng/L	5	1
11/14/2010	01:03	579264	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
11/14/2010	01:03	579264	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
11/14/2010	01:03	579264	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
11/14/2010	01:03	579264	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
11/14/2010	01:03	579264	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
11/14/2010	01:03	579264	(MWH PFC)	PFDA-C13	141	%		1
11/14/2010	01:03	579264	(MWH PFC)	PFHxA-C13	110	%		1
11/14/2010	01:03	579264	(MWH PFC)	PFNA-C13	121	%		1
11/14/2010	01:03	579264	(MWH PFC)	PFOA-C13	107	%		1
11/14/2010	01:03	579264	(MWH PFC)	PFOS-C13	118	%		1

1506001 FB field blank (201011110344)

Sampled on 11/10/2010 1345

MWH PFC - Perfluorinated compounds

11/14/2010	01:46	579264	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	10	1
11/14/2010	01:46	579264	(MWH PFC)	Perfluoro octanesulfonic acid - PFOS	ND	ng/L	5	1
11/14/2010	01:46	579264	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
11/14/2010	01:46	579264	(MWH PFC)	Perfluoro-1-butanesulfonic acid	ND	ng/L	5	1
11/14/2010	01:46	579264	(MWH PFC)	Perfluoro-1-hexanesulfonic acid	ND	ng/L	5	1
11/14/2010	01:46	579264	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
11/14/2010	01:46	579264	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
11/14/2010	01:46	579264	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
11/14/2010	01:46	579264	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
11/14/2010	01:46	579264	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
11/14/2010	01:46	579264	(MWH PFC)	PFDA-C13	83	%		1
11/14/2010	01:46	579264	(MWH PFC)	PFHxA-C13	103	%		1
11/14/2010	01:46	579264	(MWH PFC)	PFNA-C13	85	%		1



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 349957

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
11/11/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
11/14/2010	01:46	579264	(MWH PFC)	PFOA-C13	96	%		1
11/14/2010	01:46	579264	(MWH PFC)	PFOS-C13	96	%		1



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Summary: 349957

New Jersey DEP/Water Supply

QC Ref # 579264 - Perfluorinated compounds**Analysis Date: 11/14/2010**

201011110331	1506001 - Raw Intake Structure	Analyzed by: ALI
201011110342	1506001 - Wells Composite Sample tap	Analyzed by: ALI
201011110343	1506001 - POE Plant effl Sample tap	Analyzed by: ALI
201011110344	1506001 FB field blank	Analyzed by: ALI



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Tel: 626 386 1100
Fax: 626 386 1101
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Laboratory
QC Report: 349957

New Jersey DEP/Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD Limit (%)	RPD%
QC Ref# 579264 - Perfluorinated compounds by MWH PFC									
						Analysis Date: 11/13/2010			
LCS1	Perfluoro butanoic acid- PFBA	25	29.6	ng/L	118	(70-130)			
LCS2	Perfluoro butanoic acid- PFBA	25	21.6	ng/L	86	(70-130)	20	<u>31</u>	
MBLK	Perfluoro butanoic acid- PFBA		<10	ng/L					
MRL_CHK	Perfluoro butanoic acid- PFBA	5.0	3.86	ng/L	77	(50-150)			
MS_201011110343	Perfluoro butanoic acid- PFBA	26	25	ng/l	122	(70-130)			
MSD_201011110343	Perfluoro butanoic acid- PFBA	26	25	ng/l	120	(70-130)	30	1.6	
LCS1	Perfluoro octanesulfonic acid - PFOS	24	24.2	ng/L	101	(70-130)			
LCS2	Perfluoro octanesulfonic acid - PFOS	24	24.2	ng/L	101	(70-130)	20	0.0	
MBLK	Perfluoro octanesulfonic acid - PFOS		<5	ng/L					
MRL_CHK	Perfluoro octanesulfonic acid - PFOS	4.8	4.44	ng/L	93	(50-150)			
MS_201011110343	Perfluoro octanesulfonic acid - PFOS	ND	24	ng/L	97	(70-130)			
MSD_201011110343	Perfluoro octanesulfonic acid - PFOS	ND	24	ng/L	96	(70-130)	30	1.2	
LCS1	Perfluoro octanoic acid - PFOA	25	27.1	ng/L	108	(70-130)			
LCS2	Perfluoro octanoic acid - PFOA	25	21.4	ng/L	85	(70-130)	20	<u>24</u>	
MBLK	Perfluoro octanoic acid - PFOA		<5	ng/L					
MRL_CHK	Perfluoro octanoic acid - PFOA	5.0	4.21	ng/L	84	(50-150)			
MS_201011110343	Perfluoro octanoic acid - PFOA	40	25	ng/l	93	(70-130)			
MSD_201011110343	Perfluoro octanoic acid - PFOA	40	25	ng/l	77	(70-130)	30	20	
LCS1	Perfluoro-1-butanesulfonic acid	22	25.9	ng/L	117	(70-130)			
LCS2	Perfluoro-1-butanesulfonic acid	22	19.5	ng/L	88	(70-130)	20	<u>28</u>	
MBLK	Perfluoro-1-butanesulfonic acid		<5	ng/L					
MRL_CHK	Perfluoro-1-butanesulfonic acid	4.4	5.24	ng/L	118	(50-150)			
MS_201011110343	Perfluoro-1-butanesulfonic acid	ND	22	ng/L	113	(70-130)			
MSD_201011110343	Perfluoro-1-butanesulfonic acid	ND	24	ng/L	107	(70-130)	30	5.5	
LCS1	Perfluoro-1-hexanesulfonic acid	24	22.5	ng/L	95	(70-130)			
LCS2	Perfluoro-1-hexanesulfonic acid	24	18.4	ng/L	78	(70-130)	20	20	
MBLK	Perfluoro-1-hexanesulfonic acid		<5	ng/L					
MRL_CHK	Perfluoro-1-hexanesulfonic acid	4.7	4.61	ng/L	97	(50-150)			
MS_201011110343	Perfluoro-1-hexanesulfonic acid	ND	24	ng/L	92	(70-130)			
MSD_201011110343	Perfluoro-1-hexanesulfonic acid	ND	24	ng/L	99	(70-130)	30	7.7	
LCS1	Perfluoro-n-decanoic acid	25	27.4	ng/L	110	(70-130)			
LCS2	Perfluoro-n-decanoic acid	25	27.8	ng/L	111	(70-130)	20	1.5	
MBLK	Perfluoro-n-decanoic acid		<5	ng/L					
MRL_CHK	Perfluoro-n-decanoic acid	5.0	5.55	ng/L	111	(50-150)			
MS_201011110343	Perfluoro-n-decanoic acid	ND	25	ng/L	112	(70-130)			
MSD_201011110343	Perfluoro-n-decanoic acid	ND	25	ng/l	93	(70-130)	30	19	
LCS1	Perfluoro-n-heptanoic acid	25	24.2	ng/L	97	(70-130)			

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS or CCC. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

10/12



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750 Royal Oak Dr., Suite 100
 Monrovia, California, 91016-3629
 Tel: 626 386 1100
 Fax: 626 386 1101
 1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 349957

State of New Jersey DEP/Water Supply
 (continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro-n-heptanoic acid		25	19.1	ng/L	76	(70-130)	20	<u>24</u>
MBLK	Perfluoro-n-heptanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-heptanoic acid		5.0	5.21	ng/L	104	(50-150)		
MS_201011110343	Perfluoro-n-heptanoic acid	ND	25	30.2	ng/L	104	(70-130)		
MSD_201011110343	Perfluoro-n-heptanoic acid	ND	25	32.1	ng/l	112	(70-130)	30	7.4
LCS1	Perfluoro-n-hexanoic acid		25	23.8	ng/L	95	(70-130)		
LCS2	Perfluoro-n-hexanoic acid		25	20.0	ng/L	80	(70-130)	20	17
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	5.07	ng/L	101	(50-150)		
MS_201011110343	Perfluoro-n-hexanoic acid	ND	25	27.9	ng/L	94	(70-130)		
MSD_201011110343	Perfluoro-n-hexanoic acid	ND	25	29.4	ng/l	100	(70-130)	30	6.3
LCS1	Perfluoro-n-nonanoic acid		25	30.6	ng/L	122	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	28.0	ng/L	112	(70-130)	20	8.9
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	6.58	ng/L	132	(50-150)		
MS_201011110343	Perfluoro-n-nonanoic acid	ND	25	27.2	ng/L	103	(70-130)		
MSD_201011110343	Perfluoro-n-nonanoic acid	ND	25	25.4	ng/L	97	(70-130)	30	6.5
LCS1	Perfluoropentanoic acid		25	24.5	ng/L	98	(70-130)		
LCS2	Perfluoropentanoic acid		25	19.1	ng/L	77	(70-130)	20	<u>25</u>
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	4.46	ng/L	89	(50-150)		
MS_201011110343	Perfluoropentanoic acid	ND	25	28.0	ng/L	98	(70-130)		
MSD_201011110343	Perfluoropentanoic acid	ND	25	30.0	ng/l	106	(70-130)	30	8.3
LCS1	PFDA-C13 (I)			98.1	%	98	(50-150)		
LCS2	PFDA-C13 (I)			80.8	%	81	(50-150)		
MBLK	PFDA-C13 (I)			72.8	%	73	(50-150)		
MRL_CHK	PFDA-C13 (I)			93.1	%	93	(50-150)		
MS_201011110343	PFDA-C13 (I)			143	%	143	(25-180)		
MSD_201011110343	PFDA-C13 (I)			107	%	107	(25-180)		
LCS1	PFHxA-C13 (I)			100	%	101	(50-150)		
LCS2	PFHxA-C13 (I)			99.3	%	99	(50-150)		
MBLK	PFHxA-C13 (I)			106	%	106	(50-150)		
MRL_CHK	PFHxA-C13 (I)			102	%	102	(50-150)		
MS_201011110343	PFHxA-C13 (I)			121	%	121	(25-180)		
MSD_201011110343	PFHxA-C13 (I)			108	%	108	(25-180)		
LCS1	PFNA-C13 (I)			83.2	%	83	(50-150)		
LCS2	PFNA-C13 (I)			85.9	%	86	(50-150)		
MBLK	PFNA-C13 (I)			94.7	%	95	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS or CCC. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 349957

**State of New Jersey DEP/Water Supply
(continued)**

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	PFNA-C13 (I)			98.8	%	99	(50-150)		
MS_201011110343	PFNA-C13 (I)			121	%	121	(25-180)		
MSD_201011110343	PFNA-C13 (I)			130	%	130	(25-180)		
LCS1	PFOA-C13 (I)			98.1	%	98	(50-150)		
LCS2	PFOA-C13 (I)			92.9	%	93	(50-150)		
MBLK	PFOA-C13 (I)			96.3	%	96	(50-150)		
MRL_CHK	PFOA-C13 (I)			105	%	105	(50-150)		
MS_201011110343	PFOA-C13 (I)			108	%	108	(25-180)		
MSD_201011110343	PFOA-C13 (I)			109	%	109	(25-180)		
LCS1	PFOS-C13 (I)			92.1	%	92	(50-150)		
LCS2	PFOS-C13 (I)			82.8	%	83	(50-150)		
MBLK	PFOS-C13 (I)			79.2	%	79	(50-150)		
MRL_CHK	PFOS-C13 (I)			105	%	105	(50-150)		
MS_201011110343	PFOS-C13 (I)			112	%	112	(25-180)		
MSD_201011110343	PFOS-C13 (I)			115	%	115	(25-180)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
Criteria for MS and Dup are advisory only, batch control is based on LCS or CCC. Criteria for duplicates
are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attention: Linda Walsh
Fax: 609-292-1654

Date of Issue

08/26/2010

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TDF: Thomas.D.French
Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.



Report#: 315427
Project: PFOA-PFOS
Group: 3rd Quarter 2009
PO#: 7073402

750 Royal Oaks Drive Suite 100, Monrovia, Ca 91016
Phone 626-386-1100/Fax: 626-386-1101

Acknowledgement of Samples Received

New Jersey DEP/Water Supply

401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attn: Linda Walsh
Phone: 609-633-2149

Customer Code: NEWJERSEY-DEP

Group #: 315427

Project #: PFOA-PFOS

Sample Group: 3rd Quarter 2009

Project Manager: Thomas.D.French

Phone: (480) 778-1558

PO# 7073402

The following samples were received from you on **September 25, 2009**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample Id	Sample Date
<u>200909250073</u>	Perth Amboy Wd Rainney Well @PFC_EXTRA	24-Sep-2009 1035
<u>200909250074</u>	Atlantic City Doughty @PFC_EXTRA	24-Sep-2009 1315
<u>200909250075</u>	Atlantic City Kuehnle @PFC_EXTRA	24-Sep-2009 1340
<u>200909250076</u>	092409NJDEPFB Field Blank HOLD @PFC_EXTRA	24-Sep-2009 14:15

Test Description

@PFC_EXTRA -- Perfluorinated compounds

315427

CHAIN OF CUSTODY RECORD

3/12 USE ONLY

LOG IN COMMENTS

JKS, Suite 100
California 91016
(626) 386-1100
(800) 566-5227
(626) 386-1101
Fax:

TO BE COMPLETED BY SAMPLER:

COMPANY, UTILITY OR PROJECT:

JEGEN

WILH LABS CLIENT CODE

SAMPLER PRINTED NAME AND SIGNATURE:
John Bercholsky

SITE NAME OR SAMPLE

I.D.
SAM
DA
TIN

992461 1035 Dec 19 Am 2024 WD

1216001

92409 1315 Atlantic City Mult

1991/311001 Design

1340 HIGHWAY 11
01831 Kitchener

DEP E5
DRAFTED BY DIAZ HORN

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100

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* MATRIX TYPES:

RGW = Raw

SIGNATURE

RELIQUARY
BY
JOHN D. BREMNER

RECEIVED BY:

RELINQUISHED BY:

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RECOGNIZED BY:

Bottle Order for State of New Jersey DEP/Water Supply

Page 1

Thomas.D.French.Your MWHL Project Manager

4/12

BO #: 9033
Created By: TDF
Order Date: 09/10/2009

Bottle Orders

**Sampler: please return
this paper with your samples**

Ship Sample Kits to

New Jersey DEP/Water Supply	New Jersey DEP/Water Supply
401 East State Street	401 East State Street
Third Floor, West Wing	Third Floor, West Wing
Trenton, NJ 08625-0426	Trenton, NJ 08625-0426

Inc 9-17

Attr: Linda Walsh	Attr: Linda Walsh
Phone: 609-633-2149	Phone: 609-633-2149
Fax: 609-292-1654	Fax: 609-292-1654

of Samples Tests

1

Qtelnet# Bottles - Qty for each sample, type & preservative if any
3 1L PLASTIC H2O

UN DOT #

Comments
3 coolers, 3 COC, place 3 1 liter plastic (no preservative) filled with DI water in one of the coolers (to be used for field blanks).

Group#	Date Sampled
	Date Received

Client Code	NEWJERSEY-DEP	Billing Address	New Jersey DEP/Water Supply
Project Code	PFOA-PFOS	Bottle Orders	401 East State Street
Group Name	No Schedule		Third Floor, West Wing
PO# / Job#			Trenton, NJ 08625-0426
			Attr: Linda Walsh
			Phone: 609-633-2149
			Fax: 609-292-1654

Code Status Date Shipped Via Tracking # # of Coolers

Prepared By



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
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New Jersey DEP/Water Supply
Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Laboratory Comments
Report: #315427

Group Comments

Revised report - PFOS result for sample 200909250074 is changed from 26 to 25ppt, and PFBS from 7.1 to 6.3ppt and PFHxS 46 to 44 ppt. Caused by a systematic error. Sample 200909250075 results for PFOS, PFBS, and PFHXS wer changed from 44, 6.9, and 48 to 43, 6.1 and 46ppt.

Flags Legend:

R7 - LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.



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Laboratory
Hits Report: 315427

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
09/25/2009

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
200909250073 <u>Perth Amboy Wd Rainney Well</u>						
10/10/2009	01:28	Perfluoro octanoic acid - PFOA	14		ng/L	5
200909250074 <u>Atlantic City Doughty</u>						
10/10/2009	01:44	Perfluoro octanesulfonate-PFOS	25		ng/L	5
10/10/2009	01:44	Perfluoro octanoic acid - PFOA	32		ng/L	5
10/10/2009	01:44	Perfluoro-1-butanesulfonate	6.3		ng/L	5
10/10/2009	01:44	Perfluoro-1-hexanesulfonate	44		ng/L	5
10/10/2009	01:44	Perfluoro-n-heptanoic acid	8.4		ng/L	5
10/10/2009	01:44	Perfluoro-n-hexanoic acid	17		ng/L	5
10/10/2009	01:44	Perfluoropentanoic acid	10		ng/L	5
200909250075 <u>Atlantic City Kuehne</u>						
10/10/2009	02:00	Perfluoro octanesulfonate-PFOS	43		ng/L	5
10/10/2009	02:00	Perfluoro octanoic acid - PFOA	33		ng/L	5
10/10/2009	02:00	Perfluoro-1-butanesulfonate	6.1		ng/L	5
10/10/2009	02:00	Perfluoro-1-hexanesulfonate	46		ng/L	5
10/10/2009	02:00	Perfluoro-n-heptanoic acid	9.6		ng/L	5
10/10/2009	02:00	Perfluoro-n-hexanoic acid	16		ng/L	5
10/10/2009	02:00	Perfluoro-n-nonanoic acid	5.1		ng/L	5
10/10/2009	02:00	Perfluoropentanoic acid	15		ng/L	5



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Laboratory Data
Report: 315427

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
09/25/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
Perth Amboy Wd Rainney Well (200909250073)								Sampled on 09/24/2009 1035
MWH PFC - Perfluorinated compounds								
10/10/2009	01:28	525780	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
10/10/2009	01:28	525780	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
10/10/2009	01:28	525780	(MWH PFC)	Perfluoro octanoic acid - PFOA	14	ng/L	5	1
10/10/2009	01:28	525780	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
10/10/2009	01:28	525780	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
10/10/2009	01:28	525780	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
10/10/2009	01:28	525780	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
10/10/2009	01:28	525780	(MWH PFC)	Perfluoro-n-hexanoic acid	ND (R7)	ng/L	5	1
10/10/2009	01:28	525780	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
10/10/2009	01:28	525780	(MWH PFC)	Perfluoropentanoic acid	ND (R7)	ng/L	5	1
10/10/2009	01:28	525780	(MWH PFC)	PFBA-C13	133	%		1
10/10/2009	01:28	525780	(MWH PFC)	PFOA-C13	76	%		1
10/10/2009	01:28	525780	(MWH PFC)	PFOS-C13	63	%		1
Atlantic City Doughty (200909250074)								Sampled on 09/24/2009 1315
MWH PFC - Perfluorinated compounds								
10/10/2009	01:44	525780	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
10/10/2009	01:44	525780	(MWH PFC)	Perfluoro octanesulfonate-PFOS	25	ng/L	5	1
10/10/2009	01:44	525780	(MWH PFC)	Perfluoro octanoic acid - PFOA	32	ng/L	5	1
10/10/2009	01:44	525780	(MWH PFC)	Perfluoro-1-butanesulfonate	6.3	ng/L	5	1
10/10/2009	01:44	525780	(MWH PFC)	Perfluoro-1-hexanesulfonate	44	ng/L	5	1
10/10/2009	01:44	525780	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
10/10/2009	01:44	525780	(MWH PFC)	Perfluoro-n-heptanoic acid	8.4	ng/L	5	1
10/10/2009	01:44	525780	(MWH PFC)	Perfluoro-n-hexanoic acid	17 (R7)	ng/L	5	1
10/10/2009	01:44	525780	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
10/10/2009	01:44	525780	(MWH PFC)	Perfluoropentanoic acid	10 (R7)	ng/L	5	1
10/10/2009	01:44	525780	(MWH PFC)	PFBA-C13	78	%		1
10/10/2009	01:44	525780	(MWH PFC)	PFOA-C13	120	%		1
10/10/2009	01:44	525780	(MWH PFC)	PFOS-C13	113	%		1
Atlantic City Kuehnle (200909250075)								Sampled on 09/24/2009 1340
MWH PFC - Perfluorinated compounds								

Rounding on totals after summation.
(c) - indicates calculated results



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Laboratory Data
 Report: 315427

New Jersey DEP/Water Supply

Linda Walsh
 401 East State Street
 Third Floor, West Wing
 Trenton, NJ 08625-0426

Samples Received on:
 09/25/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
10/10/2009	02:00	525780	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
10/10/2009	02:00	525780	(MWH PFC)	Perfluoro octanesulfonate-PFOS	43	ng/L	5	1
10/10/2009	02:00	525780	(MWH PFC)	Perfluoro octanoic acid - PFOA	33	ng/L	5	1
10/10/2009	02:00	525780	(MWH PFC)	Perfluoro-1-butanesulfonate	6.1	ng/L	5	1
10/10/2009	02:00	525780	(MWH PFC)	Perfluoro-1-hexanesulfonate	46	ng/L	5	1
10/10/2009	02:00	525780	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
10/10/2009	02:00	525780	(MWH PFC)	Perfluoro-n-heptanoic acid	9.6	ng/L	5	1
10/10/2009	02:00	525780	(MWH PFC)	Perfluoro-n-hexanoic acid	16 (R7)	ng/L	5	1
10/10/2009	02:00	525780	(MWH PFC)	Perfluoro-n-nonanoic acid	5.1	ng/L	5	1
10/10/2009	02:00	525780	(MWH PFC)	Perfluoropentanoic acid	15 (R7)	ng/L	5	1
10/10/2009	02:00	525780	(MWH PFC)	PFBA-C13	52	%	1	
10/10/2009	02:00	525780	(MWH PFC)	PFOA-C13	76	%	1	
10/10/2009	02:00	525780	(MWH PFC)	PFOS-C13	73	%	1	

092409NJDEPFB Field Blank HOLD (200909250076)

Sampled on 09/24/2009 14:15

MWH PFC - Perfluorinated compounds

10/10/2009	01:12	525780	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
10/10/2009	01:12	525780	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
10/10/2009	01:12	525780	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
10/10/2009	01:12	525780	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
10/10/2009	01:12	525780	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
10/10/2009	01:12	525780	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
10/10/2009	01:12	525780	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
10/10/2009	01:12	525780	(MWH PFC)	Perfluoro-n-hexanoic acid	ND (R7)	ng/L	5	1
10/10/2009	01:12	525780	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
10/10/2009	01:12	525780	(MWH PFC)	Perfluoropentanoic acid	ND (R7)	ng/L	5	1
10/10/2009	01:12	525780	(MWH PFC)	PFBA-C13	140	%	1	
10/10/2009	01:12	525780	(MWH PFC)	PFOA-C13	91	%	1	
10/10/2009	01:12	525780	(MWH PFC)	PFOS-C13	90	%	1	



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Laboratory
QC Summary: 315427

New Jersey DEP/Water Supply

QC Ref # 525780 - Perfluorinated compounds

200909250073	Perth Amboy Wd Rainney Well
200909250074	Atlantic City Doughty
200909250075	Atlantic City Kuehnle
200909250076	092409NJDEPFB Field Blank HOLD

Analysis Date: 10/10/2009

Analyzed by: JYW



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Laboratory
QC Report: 315427

New Jersey DEP/Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD Limit (%)	RPD%
QC Ref# 525780 - Perfluorinated compounds by MWH PFC									
								Analysis Date: 10/09/2009	
LCS1	Perfluoro butanoic acid- PFBA	25	18.1	ng/L	73	(70-130)			
LCS2	Perfluoro butanoic acid- PFBA	25	24.7	ng/L	99	(70-130)	20	<u>31</u>	
MBLK	Perfluoro butanoic acid- PFBA		<10	ng/L					
MRL_CHK	Perfluoro butanoic acid- PFBA	5.0	4.88	ng/L	98	(50-150)			
MS_200909250073	Perfluoro butanoic acid- PFBA	ND	25	28.1	ng/l	113	(70-130)		
MSD_200909250073	Perfluoro butanoic acid- PFBA	ND	25	25.9	ng/l	104	(70-130)	30	8.3
LCS1	Perfluoro octanesulfonate-PFOS	25	23.9	ng/L	96	(70-130)			
LCS2	Perfluoro octanesulfonate-PFOS	25	24.4	ng/L	98	(70-130)	20	2.1	
MBLK	Perfluoro octanesulfonate-PFOS		<5	ng/L					
MRL_CHK	Perfluoro octanesulfonate-PFOS	5.0	5.96	ng/L	119	(50-150)			
MS_200909250073	Perfluoro octanesulfonate-PFOS	ND	25	25.4	ng/l	95	(70-130)		
MSD_200909250073	Perfluoro octanesulfonate-PFOS	ND	25	26.9	ng/l	101	(70-130)	30	6.1
LCS1	Perfluoro octanoic acid - PFOA	25	21.7	ng/L	87	(70-130)			
LCS2	Perfluoro octanoic acid - PFOA	25	23.1	ng/L	92	(70-130)	20	6.3	
MBLK	Perfluoro octanoic acid - PFOA		<5	ng/L					
MRL_CHK	Perfluoro octanoic acid - PFOA	5.0	4.23	ng/L	85	(50-150)			
MS_200909250073	Perfluoro octanoic acid - PFOA	14	25	34.1	ng/l	81	(70-130)		
MSD_200909250073	Perfluoro octanoic acid - PFOA	14	25	35.2	ng/l	86	(70-130)	30	5.2
LCS1	Perfluoro-1-butanesulfonate	25	21.2	ng/L	85	(70-130)			
LCS2	Perfluoro-1-butanesulfonate	25	24.8	ng/L	99	(70-130)	20	16	
MBLK	Perfluoro-1-butanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-butanesulfonate	5.0	4.84	ng/L	97	(50-150)			
MS_200909250073	Perfluoro-1-butanesulfonate	ND	25	26.8	ng/L	106	(70-130)		
MSD_200909250073	Perfluoro-1-butanesulfonate	ND	25	26.8	ng/l	106	(70-130)	30	9.9
LCS1	Perfluoro-1-hexanesulfonate	25	25.3	ng/L	101	(70-130)			
LCS2	Perfluoro-1-hexanesulfonate	25	25.0	ng/L	100	(70-130)	20	1.2	
MBLK	Perfluoro-1-hexanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-hexanesulfonate	5.0	4.52	ng/L	90	(50-150)			
MS_200909250073	Perfluoro-1-hexanesulfonate	ND	25	29.7	ng/L	117	(70-130)		
MSD_200909250073	Perfluoro-1-hexanesulfonate	ND	25	30.3	ng/l	120	(70-130)	30	2.5
LCS1	Perfluoro-n-decanoic acid	25	26.0	ng/L	104	(70-130)			
LCS2	Perfluoro-n-decanoic acid	25	26.0	ng/L	104	(70-130)	20	0.0	
MBLK	Perfluoro-n-decanoic acid		<5	ng/L					
MRL_CHK	Perfluoro-n-decanoic acid	5.0	6.93	ng/L	139	(50-150)			
MS_200909250073	Perfluoro-n-decanoic acid	ND	25	19.1	ng/L	77	(70-130)		
MSD_200909250073	Perfluoro-n-decanoic acid	ND	25	19.3	ng/l	77	(70-130)	30	1.0
LCS1	Perfluoro-n-heptanoic acid	25	24.0	ng/L	96	(70-130)			

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS or CCC. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

10/12



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Laboratory
QC Report: 315427

State of New Jersey DEP/Water Supply
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro-n-heptanoic acid		25	27.7	ng/L	111	(70-130)	20	14
MBLK	Perfluoro-n-heptanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-heptanoic acid		5.0	4.63	ng/L	93	(50-150)		
MS_200909250073	Perfluoro-n-heptanoic acid	ND	25	29.2	ng/L	107	(70-130)		
MSD_200909250073	Perfluoro-n-heptanoic acid	ND	25	31.5	ng/l	116	(70-130)	30	8.1
LCS1	Perfluoro-n-hexanoic acid			25	21.8	ng/L	87	(70-130)	
LCS2	Perfluoro-n-hexanoic acid			25	27.1	ng/L	108	(70-130)	20
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	5.72	ng/L	114	(50-150)		
MS_200909250073	Perfluoro-n-hexanoic acid	ND	25	27.9	ng/L	100	(70-130)		
MSD_200909250073	Perfluoro-n-hexanoic acid	ND	25	31.1	ng/l	113	(70-130)	30	12
LCS1	Perfluoro-n-nonanoic acid			25	22.6	ng/L	90	(70-130)	
LCS2	Perfluoro-n-nonanoic acid			25	21.6	ng/L	86	(70-130)	20
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	4.95	ng/L	99	(50-150)		
MS_200909250073	Perfluoro-n-nonanoic acid	ND	25	29.3	ng/L	110	(70-130)		
MSD_200909250073	Perfluoro-n-nonanoic acid	ND	25	29.4	ng/L	110	(70-130)	30	0.0
LCS1	Perfluoropentanoic acid			25	19.4	ng/L	77	(70-130)	
LCS2	Perfluoropentanoic acid			25	25.0	ng/L	100	(70-130)	20
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	4.33	ng/L	87	(50-150)		
MS_200909250073	Perfluoropentanoic acid	ND	25	27.2	ng/L	94	(70-130)		
MSD_200909250073	Perfluoropentanoic acid	ND	25	28.6	ng/l	100	(70-130)	30	6.0
LCS1	PFBA-C13 (I)				%	114	(50-150)		
LCS2	PFBA-C13 (I)				%	102	(50-150)		
MBLK	PFBA-C13 (I)				%	84.0	(50-150)		
MRL_CHK	PFBA-C13 (I)				%	87.0	(50-150)		
MS_200909250073	PFBA-C13 (I)				%	161	(50-150)		
MSD_200909250073	PFBA-C13 (I)				%	171	(50-150)		
LCS1	PFOA-C13 (I)				%	96.0	(50-150)		
LCS2	PFOA-C13 (I)				%	94.0	(50-150)		
MBLK	PFOA-C13 (I)				%	77.0	(50-150)		
MRL_CHK	PFOA-C13 (I)				%	83.0	(50-150)		
MS_200909250073	PFOA-C13 (I)				%	102	(50-150)		
MSD_200909250073	PFOA-C13 (I)				%	97.0	(50-150)		
LCS1	PFOS-C13 (I)				%	93.0	(50-150)		
LCS2	PFOS-C13 (I)				%	96.0	(50-150)		
MBLK	PFOS-C13 (I)				%	90.0	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS or CCC. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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Laboratory
QC Report: 315427

State of New Jersey DEP/Water Supply
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	PFOS-C13 (I)			84.0	%	84	(50-150)		
MS_200909250073	PFOS-C13 (I)			80.0	%	80	(50-150)		
MSD_200909250073	PFOS-C13 (I)			79.0	%	79	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.
Criteria for MS and Dup are advisory only, batch control is based on LCS or CCC. Criteria for duplicates
are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

12/12

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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Laboratory Report

for

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attention: Linda Walsh
Fax: 609-292-1654

Date of Issue

04/19/2010

MWH LABORATORIES

TDF: Thomas.D.French

Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.



Report#: 314683

Project: PFOA-PFOS

Group: 3rd Quarter 2009

PO#: 7073402

750 Royal Oaks Drive Suite 100, Monrovia, Ca 91016
 Phone 626-386-1100/Fax: 626-386-1101

Acknowledgement of Samples Received

New Jersey DEP/Water Supply

401 East State Street
 Third Floor, West Wing
 Trenton, NJ 08625-0426
 Attn: Linda Walsh
 Phone: 609-633-2149

Customer Code: NEWJERSEY-DEP

Group #: 314683

Project #: PFOA-PFOS

Sample Group: 3rd Quarter 2009

Project Manager: Thomas.D.French

Phone: (480) 778-1558

PO #: 7073402

The following samples were received from you on **September 16, 2009**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample Id	Sample Date
<u>200909160710</u>	1003001 WELL #2 WILLOW AVE BLOOMSBURYT WATER @PFC_EXTRA	15-Sep-2009 1030
<u>200909160723</u>	2102001 WELL #3 FRACE ALPHA WATER DEPT @PFC_EXTRA	15-Sep-2009 1125
<u>200909160725</u>	1918004 WELLS C&D SPARTA TAP WATER @PFC_EXTRA	15-Sep-2009 0000
<u>200909160726</u>	1615001 WELL #32 BIRCH HILL WEST MILFORD MILL @PFC_EXTRA	15-Sep-2009 1455
<u>200909160727</u>	091509NJDEPFB FIELD BLANK - HOLD @PFC_EXTRA	15-Sep-2009 1520

Test Description

@PFC_EXTRA -- Perfluorinated compounds



CHAIN OF CUSTODY RECORD

LABORATORIES

MWH LABS USE ONLY:

LOGIN COMMENTS:

SAMPLE TEMP RECEIVED AT: 9°C (Compliance: 4 +/- 2°C)

750 Royal Oaks, Suite 100
Monrovia, California 91016
Phone: (626) 386-1100
(800) 566-5227
Fax: (626) 386-1101

SAMPLE TEMP RECEIVED AT: <u>9°C</u> (Compliance: 4 +/- 2°C)		SAMPLES LOGGED IN BY: <u>CJ</u>
<input checked="" type="checkbox"/> RECEIVED FROM CLIENT: REFRIGERATED <u>ON ICE</u> <input type="checkbox"/>		SAMPLES REC'D DAY OF COLLECTION <input type="checkbox"/> (check for yes)
<input checked="" type="checkbox"/> Monrovia <u>6°C</u> (Compliance: 4 +/- 2°C)		SAMPLES REC'D DAY OF COLLECTION <input type="checkbox"/> (check for yes)
CONDITION OF ICE: FROZEN <input checked="" type="checkbox"/> PARTIALLY FROZEN <input type="checkbox"/> THAWED <input type="checkbox"/>		(check for yes)

TO BE COMPLETED BY SAMPLER:

COMPANY, UTILITY OR PROJECT: NJ DEP
P.O.# / JOB # / PROJECT :
MWH LABS CLIENT CODE:

SAMPLER PRINTED NAME AND SIGNATURE: John Breschall

SAMPLE DATE	TIME	SAMPLE I.D.	SITE NAME OR SAMPLE I.D.	STATION # or LOCATION	COMPLIANCE SAMPLES		NON-COMPLIANCE SAMPLES		REGULATION INVOLVED: (e.g. SDWA, Phase V, NPDDES, FDA,...)	ROUTINE SPECIAL CONFIRMATION (check for yes)	SAMPLER COMMENTS
					STD	1 week	3 day	2 day			
9/15/91	10:30	1003001	Well #2	Bloomsbury Water R&W	X						Analyze
9/15/91	11:25	2102001	Well #3	Alpha Water Dept R&W	X						Analyze
			France St								
9/15/91	13:40	1918004	Wells A&B	Sparta Town Water R&W	X						HOLD
			1918005	Wells C&D	X						Analyze
9/15/91	14:55	1615001	Well #32	West Milford Munic R&W	X						Analyze
			Birch Hill								
9/15/91	15:22	0915001	NTDEPFS	Few Blanks							HOLD

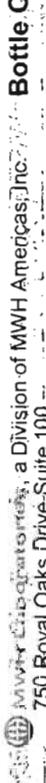
* MATRIX TYPES: RSW = Raw Surface Water CFW = Chlorinated Finished Water
RGW = Raw Ground Water FW = Other Finished Water

CWW = Chlorinated Waste Water
WW = Other Waste Water

BW = Bottled Water
SW = Storm Water

SO = Soil
SL = Sludge

PRINT NAME	COMPANY/TITLE	DATE	TIME
<u>Jerry Berchtold</u>	<u>NJ DEP</u>	<u>9/15/91</u>	<u>1630</u>
REINQUISITION BY: <u>Jerry Berchtold</u>	RECEIVED BY: <u>John Breschall</u>	REINQUISITION BY: <u>John Breschall</u>	RECEIVED BY: <u>John Breschall</u>
REINQUISITION BY: <u>John Breschall</u>	RECEIVED BY: <u>John Breschall</u>	REINQUISITION BY: <u>John Breschall</u>	RECEIVED BY: <u>John Breschall</u>
REINQUISITION BY: <u>John Breschall</u>	RECEIVED BY: <u>John Breschall</u>	REINQUISITION BY: <u>John Breschall</u>	RECEIVED BY: <u>John Breschall</u>



750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016 (626) 386-1100 FAX (626) 386-1124

State of New Jersey DEP/Water Supply

Bottle Order for State of New Jersey DEP/Water Supply

Page 1

Group#	Date Sampled
	Date Received

Thomas D. French Your MWHL Project Manager

E1/4

**Sampler: please return
this paper with your samples**

Date Received

Project Code PFOA-PFOS Bottle Orders

Group Name 3rd Quarter 2009

Client Code NEWJERSEY-DEP

PO# / Job#

BO #: 7378

Created By: TDF

Order Date: 07/16/2009

Bottle Orders

Ship Sample Kits to

New Jersey DEP/Water Supply

401 East State Street

Third Floor, West Wing

Trenton, NJ 08625-0426

Ship BY: 07/2009

Billing Address

State of New Jersey DEP/Water Supply

401 East State Street

Third Floor, West Wing

Trenton, NJ 08625-0426

Send Report to

State of New Jersey DEP/Water Supply

401 East State Street

Third Floor, West Wing

Trenton, NJ 08625-0426

Attn: Linda Walsh

Phone: 609-633-2149

Fax: 609-292-1654

Attn: Linda Walsh

Phone: 609-633-2149

Fax: 609-292-1654

UN DOT

of Samples Tests

Qtelinet# Bottles - Qty for each sample, type & preservative if any

50 @PFC_EXTRA

1 125ml poly no preservative

Comments

Place in 7 small coolers, each with COC, blue ice, sampling/packing, return shipment. In each cooler, supply one liter plastic(unpreserved), filled with DI water for Field Blanks.

Code Status Date Shipped Via # of Coolers Tracking # Prepared By



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New Jersey DEP/Water Supply
Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Laboratory Comments
Report: #314683

Group Comments

Revised report - PFOS result for sample 200909160710 is changed from 5.2 to 5.0ppt due to a systematic error.



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Laboratory
Hits Report: 314683

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
09/16/2009

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
09/22/2009 18:06	Perfluoro octanesulfonate-PFOS	200909160710 1003001 WELL #2 WILLOW AVE BLOOMSBURY T WATER	5.0		ng/L	5
09/22/2009 18:38	Perfluoropentanoic acid	200909160726 1615001 WELL #32 BIRCH HILL WEST MILFORD MILL	74		ng/L	5



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Laboratory Data
Report: 314683

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
09/16/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution		
1003001 WELL #2 WILLOW AVE BLOOMSBURYT WATER (200909160710)							Sampled on 09/15/2009 1030			
MWH PFC - Perfluorinated compounds										
09/22/2009	18:06	525066	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1		
09/22/2009	18:06	525066	(MWH PFC)	Perfluoro octanesulfonate-PFOS	5.0	ng/L	5	1		
09/22/2009	18:06	525066	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1		
09/22/2009	18:06	525066	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1		
09/22/2009	18:06	525066	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1		
09/22/2009	18:06	525066	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1		
09/22/2009	18:06	525066	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1		
09/22/2009	18:06	525066	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1		
09/22/2009	18:06	525066	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1		
09/22/2009	18:06	525066	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1		
09/22/2009	18:06	525066	(MWH PFC)	PFBA-C13	62	%		1		
09/22/2009	18:06	525066	(MWH PFC)	PFOA-C13	71	%		1		
09/22/2009	18:06	525066	(MWH PFC)	PFOS-C13	53	%		1		
2102001 WELL #3 FRACE ALPHA WATER DEPT (200909160723)							Sampled on 09/15/2009 1125			
MWH PFC - Perfluorinated compounds										
09/22/2009	19:10	525066	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1		
09/22/2009	19:10	525066	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1		
09/22/2009	19:10	525066	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1		
09/22/2009	19:10	525066	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1		
09/22/2009	19:10	525066	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1		
09/22/2009	19:10	525066	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1		
09/22/2009	19:10	525066	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1		
09/22/2009	19:10	525066	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1		
09/22/2009	19:10	525066	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1		
09/22/2009	19:10	525066	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1		
09/22/2009	19:10	525066	(MWH PFC)	PFBA-C13	65	%		1		
09/22/2009	19:10	525066	(MWH PFC)	PFOA-C13	73	%		1		
09/22/2009	19:10	525066	(MWH PFC)	PFOS-C13	59	%		1		
1918004 WELLS C&D SPARTA TAP WATER (200909160725)							Sampled on 09/15/2009 0000			
MWH PFC - Perfluorinated compounds										

Rounding on totals after summation.
(c) - indicates calculated results



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Laboratory Data
 Report: 314683

New Jersey DEP/Water Supply

Linda Walsh
 401 East State Street
 Third Floor, West Wing
 Trenton, NJ 08625-0426

Samples Received on:
 09/16/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
09/22/2009	18:22	525066	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
09/22/2009	18:22	525066	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/22/2009	18:22	525066	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
09/22/2009	18:22	525066	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
09/22/2009	18:22	525066	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/22/2009	18:22	525066	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/22/2009	18:22	525066	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/22/2009	18:22	525066	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
09/22/2009	18:22	525066	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/22/2009	18:22	525066	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
09/22/2009	18:22	525066	(MWH PFC)	PFBA-C13	54	%	1	
09/22/2009	18:22	525066	(MWH PFC)	PFOA-C13	73	%	1	
09/22/2009	18:22	525066	(MWH PFC)	PFOS-C13	64	%	1	

1615001 WELL #32 BIRCH HILL WEST MILFORD MILL (200909160726)

Sampled on 09/15/2009 1455

MWH PFC - Perfluorinated compounds

09/22/2009	18:38	525066	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
09/22/2009	18:38	525066	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/22/2009	18:38	525066	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
09/22/2009	18:38	525066	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
09/22/2009	18:38	525066	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/22/2009	18:38	525066	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/22/2009	18:38	525066	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/22/2009	18:38	525066	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
09/22/2009	18:38	525066	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/22/2009	18:38	525066	(MWH PFC)	Perfluoropentanoic acid	74	ng/L	5	1
09/22/2009	18:38	525066	(MWH PFC)	PFBA-C13	63	%	1	
09/22/2009	18:38	525066	(MWH PFC)	PFOA-C13	67	%	1	
09/22/2009	18:38	525066	(MWH PFC)	PFOS-C13	59	%	1	

091509NJDEPFB FIELD BLANK - HOLD (200909160727)

Sampled on 09/15/2009 1520

MWH PFC - Perfluorinated compounds

09/22/2009	19:26	525066	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
09/22/2009	19:26	525066	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/22/2009	19:26	525066	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1

Rounding on totals after summation.
 (c) - indicates calculated results

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**Laboratory Data
Report: 314683****New Jersey DEP/Water Supply**

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
09/16/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
09/22/2009	19:26	525066	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
09/22/2009	19:26	525066	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/22/2009	19:26	525066	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/22/2009	19:26	525066	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/22/2009	19:26	525066	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
09/22/2009	19:26	525066	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/22/2009	19:26	525066	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
09/22/2009	19:26	525066	(MWH PFC)	PFBA-C13	120	%		1
09/22/2009	19:26	525066	(MWH PFC)	PFOA-C13	87	%		1
09/22/2009	19:26	525066	(MWH PFC)	PFOS-C13	91	%		1



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Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Summary: 314683

New Jersey DEP/Water Supply

QC Ref # 525066 - Perfluorinated compounds**Analysis Date: 09/22/2009**

200909160710	1003001 WELL #2 WILLOW AVE BLOOMSBURYT WATER	Analyzed by: JYW
200909160723	2102001 WELL #3 FRACE ALPHA WATER DEPT	Analyzed by: JYW
200909160725	1918004 WELLS C&D SPARTA TAP WATER	Analyzed by: JYW
200909160726	1615001 WELL #32 BIRCH HILL WEST MILFORD MILL	Analyzed by: JYW
200909160727	091509NJDEPFB FIELD BLANK - HOLD	Analyzed by: JYW



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Laboratory
QC Report: 314683

New Jersey DEP/Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD Limit (%)	RPD%
QC Ref# 525066 - Perfluorinated compounds by MWH PFC									
								Analysis Date: 09/22/2009	
LCS1	Perfluoro butanoic acid- PFBA		25	28.0	ng/L	112	(70-130)		
LCS2	Perfluoro butanoic acid- PFBA		25	27.7	ng/L	111	(70-130)	20	1.1
MBLK	Perfluoro butanoic acid- PFBA			<10	ng/L				
MRL_CHK	Perfluoro butanoic acid- PFBA		5.0	3.84	ng/L	77	(50-150)		
MS_200909230219	Perfluoro butanoic acid- PFBA	ND	25	25.9	ng/l	104	(70-130)		
MSD_200909230219	Perfluoro butanoic acid- PFBA	ND	25	31.3	ng/l	125	(70-130)	30	18
LCS1	Perfluoro octanesulfonate-PFOS		25	27.1	ng/L	108	(70-130)		
LCS2	Perfluoro octanesulfonate-PFOS		25	28.7	ng/L	115	(70-130)	20	5.7
MBLK	Perfluoro octanesulfonate-PFOS			<5	ng/L				
MRL_CHK	Perfluoro octanesulfonate-PFOS		5.0	4.6	ng/L	92	(50-150)		
MS_200909230219	Perfluoro octanesulfonate-PFOS	ND	25	28.0	ng/l	105	(70-130)		
MSD_200909230219	Perfluoro octanesulfonate-PFOS	ND	25	28.8	ng/l	108	(70-130)	30	2.8
LCS1	Perfluoro octanoic acid - PFOA		25	27.3	ng/L	109	(70-130)		
LCS2	Perfluoro octanoic acid - PFOA		25	30.0	ng/L	120	(70-130)	20	9.4
MBLK	Perfluoro octanoic acid - PFOA			<5	ng/L				
MRL_CHK	Perfluoro octanoic acid - PFOA		5.0	6.54	ng/L	131	(50-150)		
MS_200909230219	Perfluoro octanoic acid - PFOA	ND	25	25.7	ng/l	103	(70-130)		
MSD_200909230219	Perfluoro octanoic acid - PFOA	ND	25	30.5	ng/l	122	(70-130)	30	17
LCS1	Perfluoro-1-butanesulfonate		25	25.0	ng/L	100	(70-130)		
LCS2	Perfluoro-1-butanesulfonate		25	24.4	ng/L	97	(70-130)	20	2.4
MBLK	Perfluoro-1-butanesulfonate			<5	ng/L				
MRL_CHK	Perfluoro-1-butanesulfonate		5.0	3.85	ng/L	77	(50-150)		
MS_200909230219	Perfluoro-1-butanesulfonate	ND	25	26.5	ng/L	106	(70-130)		
MSD_200909230219	Perfluoro-1-butanesulfonate	ND	25	31.2	ng/l	125	(70-130)	30	17
LCS1	Perfluoro-1-hexanesulfonate			25	27.6	ng/L	110	(70-130)	
LCS2	Perfluoro-1-hexanesulfonate			25	31.7	ng/L	127	(70-130)	20
MBLK	Perfluoro-1-hexanesulfonate				<5	ng/L			
MRL_CHK	Perfluoro-1-hexanesulfonate		5.0	5.68	ng/L	114	(50-150)		
MS_200909230219	Perfluoro-1-hexanesulfonate	ND	25	24.1	ng/L	93	(70-130)		
MSD_200909230219	Perfluoro-1-hexanesulfonate	ND	25	26.7	ng/l	103	(70-130)	30	11
LCS1	Perfluoro-n-decanoic acid			25	29.0	ng/L	116	(70-130)	
LCS2	Perfluoro-n-decanoic acid			25	27.7	ng/L	111	(70-130)	20
MBLK	Perfluoro-n-decanoic acid				<5	ng/L			
MRL_CHK	Perfluoro-n-decanoic acid		5.0	6.41	ng/L	128	(50-150)		
MS_200909230219	Perfluoro-n-decanoic acid	ND	25	33.6	ng/L	129	(70-130)		
MSD_200909230219	Perfluoro-n-decanoic acid	ND	25	33.7	ng/l	127	(70-130)	30	1.6
LCS1	Perfluoro-n-heptanoic acid			25	22.3	ng/L	89	(70-130)	

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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750 Royal Oak Dr., Suite 100
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Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 314683

State of New Jersey DEP/Water Supply
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro-n-heptanoic acid		25	20.6	ng/L	82	(70-130)	20	7.9
MBLK	Perfluoro-n-heptanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-heptanoic acid		5.0	5.62	ng/L	112	(50-150)		
MS_200909230219	Perfluoro-n-heptanoic acid	ND	25	17.6	ng/L	70	(70-130)		
MSD_200909230219	Perfluoro-n-heptanoic acid	ND	25	21.1	ng/l	85	(70-130)	30	19
LCS1	Perfluoro-n-hexanoic acid		25	28.7	ng/L	115	(70-130)		
LCS2	Perfluoro-n-hexanoic acid		25	24.9	ng/L	100	(70-130)	20	14
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	5.53	ng/L	111	(50-150)		
MS_200909230219	Perfluoro-n-hexanoic acid	ND	25	29.8	ng/L	117	(70-130)		
MSD_200909230219	Perfluoro-n-hexanoic acid	ND	25	31.3	ng/l	123	(70-130)	30	5.0
LCS1	Perfluoro-n-nonanoic acid		25	27.3	ng/L	109	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	31.9	ng/L	128	(70-130)	20	16
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	5.82	ng/L	116	(50-150)		
MS_200909230219	Perfluoro-n-nonanoic acid	ND	25	28.8	ng/L	112	(70-130)		
MSD_200909230219	Perfluoro-n-nonanoic acid	ND	25	29.5	ng/L	115	(70-130)	30	2.6
LCS1	Perfluoropentanoic acid		25	30.6	ng/L	122	(70-130)		
LCS2	Perfluoropentanoic acid		25	31.6	ng/L	127	(70-130)	20	3.5
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	6.84	ng/L	137	(50-150)		
MS_200909230219	Perfluoropentanoic acid	ND	25	26.6	ng/L	106	(70-130)		
MSD_200909230219	Perfluoropentanoic acid	ND	25	32.0	ng/l	128	(70-130)	30	19
LCS1	PFBA-C13 (I)			115	%	115	(50-150)		
LCS2	PFBA-C13 (I)			106	%	106	(50-150)		
MBLK	PFBA-C13 (I)			115	%	115	(50-150)		
MRL_CHK	PFBA-C13 (I)			86.0	%	86	(50-150)		
MS_200909230219	PFBA-C13 (I)			88.0	%	88	(50-150)		
MSD_200909230219	PFBA-C13 (I)			81.0	%	81	(50-150)		
LCS1	PFOA-C13 (I)			99.0	%	99	(50-150)		
LCS2	PFOA-C13 (I)			96.0	%	96	(50-150)		
MBLK	PFOA-C13 (I)			139	%	139	(50-150)		
MRL_CHK	PFOA-C13 (I)			73.0	%	73	(50-150)		
MS_200909230219	PFOA-C13 (I)			119	%	119	(50-150)		
MSD_200909230219	PFOA-C13 (I)			119	%	119	(50-150)		
LCS1	PFOS-C13 (I)			88.0	%	88	(50-150)		
LCS2	PFOS-C13 (I)			87.0	%	87	(50-150)		
MBLK	PFOS-C13 (I)			102	%	102	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

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RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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Fax: 626 386 1101
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Laboratory
QC Report: 314683

State of New Jersey DEP/Water Supply (continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	PFOS-C13 (I)			84.0	%	84	(50-150)		
MS_200909230219	PFOS-C13 (I)			124	%	124	(50-150)		
MSD_200909230219	PFOS-C13 (I)			149	%	149	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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Fax: 626 386 1101
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Laboratory Report

for

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attention: Linda Walsh
Fax: 609-292-1654

Date of Issue

04/19/2010

MWH LABORATORIES

TDF: Thomas.D.French

Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.



Report#: 314305
Project: PFOA-PFOS
Group: 3rd Quarter 2009
PO#: 7073402

750 Royal Oaks Drive Suite 100, Monrovia, Ca 91016
Phone 626-386-1100/Fax: 626-386-1101

Acknowledgement of Samples Received

New Jersey DEP/Water Supply

401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attn: Linda Walsh
Phone: 609-633-2149

Customer Code: NEWJERSEY-DEP

Group #: 314305

Project #: PFOA-PFOS

Sample Group: 3rd Quarter 2009

Project Manager: Thomas.D.French

Phone: (480) 778-1558

PO #: 7073402

The following samples were received from you on **September 11, 2009**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample Id	Sample Date
<u>200909110242</u>	2004002 NJ Amer Composite raw @PFC_EXTRA	10-Sep-2009 1115
<u>200909110243</u>	0705031 East Orange Water Well B2 @PFC_EXTRA	10-Sep-2009 1215
<u>200909110244</u>	0251001 Ridgewood WD Amer Well #3 @PFC_EXTRA	10-Sep-2009 1410
<u>200909110245</u>	091009 NJDEP FB field blank @PFC_EXTRA	10-Sep-2009 1435

Test Description

@PFC_EXTRA -- Perfluorinated compounds



CHAIN OF CUSTODY RECORD

LABORATORIES

MWH LABS USE ONLY:

LOGIN COMMENTS:

Z/E

750 Royal Oaks, Suite 100
Monrovia, California 91016

Phone: (626) 386-1100
(800) 566-5227
Fax: (626) 386-1101

SAMPLE TEMP RECEIVED AT:

 Scottsdale^{°C} (Compliance: 4 +/- 2°C) RECEIVED FROM CLIENT: REFRIGERATED

ON ICE

 Monrovia⁴⁰ °C (Compliance: 4 +/- 2°C) CONDITION OF ICE: FROZEN

PARTIALLY FROZEN THAWED

TO BE COMPLETED BY SAMPLER:

COMPANY, UTILITY or PROJECT:
NJ DEP

MWH LABS CLIENT CODE:

P.O.# / JOB # / PROJECT:

SAMPLE CHECKED AGAINST COC BY:

JS

SAMPLES LOGGED IN BY:

JT

SAMPLES REC'D DAY OF COLLECTION
(check for yes)

SAMPLES LOGGED IN BY:
(check for yes)

SAMPLES REC'D DAY OF COLLECTION
(check for yes)

SEE ATTACHED BOTTLE ORDER FOR ANALYSES

LIST ANALYSES REQUIRED BELOW (enter number of bottles sent for each test for each sample)

SAMPLE DATE	SAMPLE TIME	SITE NAME OR SAMPLE I.D.	STATION # or LOCATION	MATRIX	CRAB	COMP	SAMPLER COMMENTS				
							STD	1 week	3 day	2 day	1 day
9/09/11	2:00	2004002 NJ Amer Comp. Ht. Row 1 Nethwood Wellfield Well#1 1-12	Row	✓	✓	✓					
		City of Plainfield	North Ave.								
9/09/11	2:00	078591 Est. Dring Water Well #152	Raw	✓	✓	✓					
		sit A well Morris Co. Florham Park									
9/09/11	2:00	behind #190 — Brooklake Rd									
9/09/11	2:00	025121 Bulk sewage/WD And Well #3	Raw	✓	✓	✓					
		Sicklwell Wyckoff Hartung Dr North #474									
9/09/11	2:00	091009 NDEP FB field tank									

* MATRIX TYPES:

RSW = Raw Surface Water CFW = Chlorinated Finished Water
RGW = Raw Ground Water FW = Other Finished Water
WW = Other Waste Water

CWW = Chlorinated Waste Water
WW = Other Waste Water
BW = Bottled Water
SW = Storm Water

SO = Soil
SL = Sludge

PRINT NAME

John Berschbach
TJ

SIGNATURE

Mult

DATE

9/10/09

TIME

16:05

DATE

9/10/09

TIME

16:05

COMPANY/TITLE

NJ DEP

RELINQUISHED BY:

John Berschbach

RECEIVED BY:

Mult

RELINQUISHED BY:

John Berschbach

RECEIVED BY:

State of New Jersey DEP/Water Supply

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016; (626) 386-1100 FAX (626) 386-1124
MWH Americas, Inc., a Division of MWH Americas, Inc.

Page 1

Thomas.D.French Your MWHL Project Manager

BO #: 7378

Created By: TDF

Order Date: 07/16/2009

Bottle Orders**Ship Sample Kits to**

7/16/2009
New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Send Report to

State of New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Attn: Linda Walsh
Phone: 609-633-2149
Fax: 609-292-1654

of Samples Tests
50 @PFC_EXTRAQtelinet# Bottles - Qty for each sample, type & preservative if any
1 1125ml poly no preservative**Comments**

Place in 7 small coolers, each with COC, blue ice, sampling/packing, return shipment. In each cooler, supply one liter plastic(unpreserved), filled with DI water for Field Blanks.

Group#	Date Sampled

4/12

NEWJERSEY-DEP

Project Code PFOA-PFOS

Group Name 3rd Quarter 2009

PO# / Job#

Date Received

Prepared By

of Coolers

Code Status Date Shipped Via # Tracking #



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Tel: 626 386 1100
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New Jersey DEP/Water Supply
Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Laboratory Comments
Report: #314305

Group Comments

Revised report - PFOS result for samples 200909110242 and 200909110244 are changed from 9.9 and 7.2ppt to 9.5 and 6.9ppt. PFHxS result for sample 200909110242 is changed from 11 to 10ppt, and PFBS result for sample 200909110244 is changed from 6.5 to 5.8ppt. Caused by a systematic error.



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Laboratory
Hits Report: 314305

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
09/11/2009

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
200909110242 <u>2004002 NJ Amer Composite raw</u>						
09/22/2009	17:01	Perfluoro octanesulfonate-PFOS	9.5		ng/L	5
09/22/2009	17:01	Perfluoro octanoic acid - PFOA	31		ng/L	5
09/22/2009	17:01	Perfluoro-1-hexanesulfonate	10		ng/L	5
09/22/2009	17:01	Perfluoro-n-hexanoic acid	8.9		ng/L	5
09/22/2009	17:01	Perfluoropentanoic acid	9.0		ng/L	5
200909110243 <u>0705031 East Orange Water Well B2</u>						
09/22/2009	17:18	Perfluoro octanoic acid - PFOA	9.3		ng/L	5
200909110244 <u>0251001 Ridgewood WD Amer Well #3</u>						
09/22/2009	17:34	Perfluoro butanoic acid- PFBA	5.8		ng/L	5
09/22/2009	17:34	Perfluoro octanesulfonate-PFOS	6.9		ng/L	5
09/22/2009	17:34	Perfluoro octanoic acid - PFOA	30		ng/L	5
09/22/2009	17:34	Perfluoro-1-butanesulfonate	5.8		ng/L	5
09/22/2009	17:34	Perfluoro-n-hexanoic acid	12		ng/L	5
09/22/2009	17:34	Perfluoro-n-nonanoic acid	6.4		ng/L	5
09/22/2009	17:34	Perfluoropentanoic acid	11		ng/L	5



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**Laboratory Data
Report: 314305**

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
09/11/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
<u>2004002 NJ Amer Composite raw (200909110242)</u>								Sampled on 09/10/2009 1115
MWH PFC - Perfluorinated compounds								
09/22/2009	17:01	525066	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
09/22/2009	17:01	525066	(MWH PFC)	Perfluoro octanesulfonate-PFOS	9.5	ng/L	5	1
09/22/2009	17:01	525066	(MWH PFC)	Perfluoro octanoic acid - PFOA	31	ng/L	5	1
09/22/2009	17:01	525066	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
09/22/2009	17:01	525066	(MWH PFC)	Perfluoro-1-hexanesulfonate	10	ng/L	5	1
09/22/2009	17:01	525066	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/22/2009	17:01	525066	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/22/2009	17:01	525066	(MWH PFC)	Perfluoro-n-hexanoic acid	8.9	ng/L	5	1
09/22/2009	17:01	525066	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/22/2009	17:01	525066	(MWH PFC)	Perfluoropentanoic acid	9.0	ng/L	5	1
09/22/2009	17:01	525066	(MWH PFC)	PFBA-C13	102	%		1
09/22/2009	17:01	525066	(MWH PFC)	PFOA-C13	109	%		1
09/22/2009	17:01	525066	(MWH PFC)	PFOS-C13	67	%		1
<u>0705031 East Orange Water Well B2 (200909110243)</u>								Sampled on 09/10/2009 1215
MWH PFC - Perfluorinated compounds								
09/22/2009	17:18	525066	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
09/22/2009	17:18	525066	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/22/2009	17:18	525066	(MWH PFC)	Perfluoro octanoic acid - PFOA	9.3	ng/L	5	1
09/22/2009	17:18	525066	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
09/22/2009	17:18	525066	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/22/2009	17:18	525066	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/22/2009	17:18	525066	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/22/2009	17:18	525066	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
09/22/2009	17:18	525066	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/22/2009	17:18	525066	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
09/22/2009	17:18	525066	(MWH PFC)	PFBA-C13	70	%		1
09/22/2009	17:18	525066	(MWH PFC)	PFOA-C13	57	%		1
09/22/2009	17:18	525066	(MWH PFC)	PFOS-C13	52	%		1
<u>0251001 Ridgewood WD Amer Well #3 (200909110244)</u>								Sampled on 09/10/2009 1410
MWH PFC - Perfluorinated compounds								

Rounding on totals after summation.
(c) - indicates calculated results



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**Laboratory Data
Report: 314305**

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
09/11/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
09/22/2009	17:34	525066	(MWH PFC)	Perfluoro butanoic acid- PFBA	5.8	ng/L	5	1
09/22/2009	17:34	525066	(MWH PFC)	Perfluoro octanesulfonate-PFOS	6.9	ng/L	5	1
09/22/2009	17:34	525066	(MWH PFC)	Perfluoro octanoic acid - PFOA	30	ng/L	5	1
09/22/2009	17:34	525066	(MWH PFC)	Perfluoro-1-butanesulfonate	5.8	ng/L	5	1
09/22/2009	17:34	525066	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/22/2009	17:34	525066	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/22/2009	17:34	525066	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/22/2009	17:34	525066	(MWH PFC)	Perfluoro-n-hexanoic acid	12	ng/L	5	1
09/22/2009	17:34	525066	(MWH PFC)	Perfluoro-n-nonanoic acid	6.4	ng/L	5	1
09/22/2009	17:34	525066	(MWH PFC)	Perfluoropentanoic acid	11	ng/L	5	1
09/22/2009	17:34	525066	(MWH PFC)	PFBA-C13	62	%	1	
09/22/2009	17:34	525066	(MWH PFC)	PFOA-C13	79	%	1	
09/22/2009	17:34	525066	(MWH PFC)	PFOS-C13	56	%	1	

091009 NJDEP FB field blank (200909110245)

Sampled on 09/10/2009 1435

MWH PFC - Perfluorinated compounds

09/22/2009	17:50	525066	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
09/22/2009	17:50	525066	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/22/2009	17:50	525066	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
09/22/2009	17:50	525066	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
09/22/2009	17:50	525066	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/22/2009	17:50	525066	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/22/2009	17:50	525066	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/22/2009	17:50	525066	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
09/22/2009	17:50	525066	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/22/2009	17:50	525066	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
09/22/2009	17:50	525066	(MWH PFC)	PFBA-C13	148	%	1	
09/22/2009	17:50	525066	(MWH PFC)	PFOA-C13	93	%	1	
09/22/2009	17:50	525066	(MWH PFC)	PFOS-C13	104	%	1	



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Fax: 626 386 1101
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Laboratory
QC Summary: 314305

New Jersey DEP/Water Supply

QC Ref # 525066 - Perfluorinated compounds

200909110242	2004002 NJ Amer Composite raw
200909110243	0705031 East Orange Water Well B2
200909110244	0251001 Ridgewood WD Amer Well #3
200909110245	091009 NJDEP FB field blank

Analysis Date: 09/22/2009

Analyzed by: JYW



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 314305

New Jersey DEP/Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
QC Ref# 525066 - Perfluorinated compounds by MWH PFC									
						Analysis Date: 09/22/2009			
LCS1	Perfluoro butanoic acid- PFBA		25	28.0	ng/L	112	(70-130)		
LCS2	Perfluoro butanoic acid- PFBA		25	27.7	ng/L	111	(70-130)	20	1.1
MBLK	Perfluoro butanoic acid- PFBA			<10	ng/L				
MRL_CHK	Perfluoro butanoic acid- PFBA		5.0	3.84	ng/L	77	(50-150)		
MS_200909230219	Perfluoro butanoic acid- PFBA	ND	25	25.9	ng/l	104	(70-130)		
MSD_200909230219	Perfluoro butanoic acid- PFBA	ND	25	31.3	ng/l	125	(70-130)	30	18
LCS1	Perfluoro octanesulfonate-PFOS		25	27.1	ng/L	108	(70-130)		
LCS2	Perfluoro octanesulfonate-PFOS		25	28.7	ng/L	115	(70-130)	20	5.7
MBLK	Perfluoro octanesulfonate-PFOS			<5	ng/L				
MRL_CHK	Perfluoro octanesulfonate-PFOS		5.0	4.6	ng/L	92	(50-150)		
MS_200909230219	Perfluoro octanesulfonate-PFOS	ND	25	28.0	ng/l	105	(70-130)		
MSD_200909230219	Perfluoro octanesulfonate-PFOS	ND	25	28.8	ng/l	108	(70-130)	30	2.8
LCS1	Perfluoro octanoic acid - PFOA		25	27.3	ng/L	109	(70-130)		
LCS2	Perfluoro octanoic acid - PFOA		25	30.0	ng/L	120	(70-130)	20	9.4
MBLK	Perfluoro octanoic acid - PFOA			<5	ng/L				
MRL_CHK	Perfluoro octanoic acid - PFOA		5.0	6.54	ng/L	131	(50-150)		
MS_200909230219	Perfluoro octanoic acid - PFOA	ND	25	25.7	ng/l	103	(70-130)		
MSD_200909230219	Perfluoro octanoic acid - PFOA	ND	25	30.5	ng/l	122	(70-130)	30	17
LCS1	Perfluoro-1-butanesulfonate		25	25.0	ng/L	100	(70-130)		
LCS2	Perfluoro-1-butanesulfonate		25	24.4	ng/L	97	(70-130)	20	2.4
MBLK	Perfluoro-1-butanesulfonate			<5	ng/L				
MRL_CHK	Perfluoro-1-butanesulfonate		5.0	3.85	ng/L	77	(50-150)		
MS_200909230219	Perfluoro-1-butanesulfonate	ND	25	26.5	ng/L	106	(70-130)		
MSD_200909230219	Perfluoro-1-butanesulfonate	ND	25	31.2	ng/l	125	(70-130)	30	17
LCS1	Perfluoro-1-hexanesulfonate			25	27.6	ng/L	110	(70-130)	
LCS2	Perfluoro-1-hexanesulfonate			25	31.7	ng/L	127	(70-130)	20
MBLK	Perfluoro-1-hexanesulfonate				<5	ng/L			
MRL_CHK	Perfluoro-1-hexanesulfonate		5.0	5.68	ng/L	114	(50-150)		
MS_200909230219	Perfluoro-1-hexanesulfonate	ND	25	24.1	ng/L	93	(70-130)		
MSD_200909230219	Perfluoro-1-hexanesulfonate	ND	25	26.7	ng/l	103	(70-130)	30	11
LCS1	Perfluoro-n-decanoic acid			25	29.0	ng/L	116	(70-130)	
LCS2	Perfluoro-n-decanoic acid			25	27.7	ng/L	111	(70-130)	20
MBLK	Perfluoro-n-decanoic acid				<5	ng/L			
MRL_CHK	Perfluoro-n-decanoic acid		5.0	6.41	ng/L	128	(50-150)		
MS_200909230219	Perfluoro-n-decanoic acid	ND	25	33.6	ng/L	129	(70-130)		
MSD_200909230219	Perfluoro-n-decanoic acid	ND	25	33.7	ng/l	127	(70-130)	30	1.6
LCS1	Perfluoro-n-heptanoic acid			25	22.3	ng/L	89	(70-130)	

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

10/12



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A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
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1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 314305

State of New Jersey DEP/Water Supply
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro-n-heptanoic acid		25	20.6	ng/L	82	(70-130)	20	7.9
MBLK	Perfluoro-n-heptanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-heptanoic acid		5.0	5.62	ng/L	112	(50-150)		
MS_200909230219	Perfluoro-n-heptanoic acid	ND	25	17.6	ng/L	70	(70-130)		
MSD_200909230219	Perfluoro-n-heptanoic acid	ND	25	21.1	ng/l	85	(70-130)	30	19
LCS1	Perfluoro-n-hexanoic acid		25	28.7	ng/L	115	(70-130)		
LCS2	Perfluoro-n-hexanoic acid		25	24.9	ng/L	100	(70-130)	20	14
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	5.53	ng/L	111	(50-150)		
MS_200909230219	Perfluoro-n-hexanoic acid	ND	25	29.8	ng/L	117	(70-130)		
MSD_200909230219	Perfluoro-n-hexanoic acid	ND	25	31.3	ng/l	123	(70-130)	30	5.0
LCS1	Perfluoro-n-nonanoic acid		25	27.3	ng/L	109	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	31.9	ng/L	128	(70-130)	20	16
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	5.82	ng/L	116	(50-150)		
MS_200909230219	Perfluoro-n-nonanoic acid	ND	25	28.8	ng/L	112	(70-130)		
MSD_200909230219	Perfluoro-n-nonanoic acid	ND	25	29.5	ng/L	115	(70-130)	30	2.6
LCS1	Perfluoropentanoic acid		25	30.6	ng/L	122	(70-130)		
LCS2	Perfluoropentanoic acid		25	31.6	ng/L	127	(70-130)	20	3.5
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	6.84	ng/L	137	(50-150)		
MS_200909230219	Perfluoropentanoic acid	ND	25	26.6	ng/L	106	(70-130)		
MSD_200909230219	Perfluoropentanoic acid	ND	25	32.0	ng/l	128	(70-130)	30	19
LCS1	PFBA-C13 (I)			115	%	115	(50-150)		
LCS2	PFBA-C13 (I)			106	%	106	(50-150)		
MBLK	PFBA-C13 (I)			115	%	115	(50-150)		
MRL_CHK	PFBA-C13 (I)			86.0	%	86	(50-150)		
MS_200909230219	PFBA-C13 (I)			88.0	%	88	(50-150)		
MSD_200909230219	PFBA-C13 (I)			81.0	%	81	(50-150)		
LCS1	PFOA-C13 (I)			99.0	%	99	(50-150)		
LCS2	PFOA-C13 (I)			96.0	%	96	(50-150)		
MBLK	PFOA-C13 (I)			139	%	139	(50-150)		
MRL_CHK	PFOA-C13 (I)			73.0	%	73	(50-150)		
MS_200909230219	PFOA-C13 (I)			119	%	119	(50-150)		
MSD_200909230219	PFOA-C13 (I)			119	%	119	(50-150)		
LCS1	PFOS-C13 (I)			88.0	%	88	(50-150)		
LCS2	PFOS-C13 (I)			87.0	%	87	(50-150)		
MBLK	PFOS-C13 (I)			102	%	102	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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Monrovia, California, 91016-3629
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Laboratory
QC Report: 314305

State of New Jersey DEP/Water Supply (continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	PFOS-C13 (I)			84.0	%	84	(50-150)		
MS_200909230219	PFOS-C13 (I)			124	%	124	(50-150)		
MSD_200909230219	PFOS-C13 (I)			149	%	149	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

12/12



MWH

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A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attention: Linda Walsh
Fax: 609-292-1654

Date of Issue

01/13/2010

MWH LABORATORIES

TDF: Thomas.D.French

Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.



Report#: 313153

Project: PFOA-PFOS

Group: 3rd Quarter 2009

PO#: 7073402

Acknowledgement of Samples Received**New Jersey DEP/Water Supply**

401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attn: Linda Walsh
Phone: 609-633-2149

Customer Code: NEWJERSEY-DEP
Group #: 313153
Project #: PFOA-PFOS
Sample Group: 3rd Quarter 2009
Project Manager: Thomas.D.French
Phone: (480) 778-1558

The following samples were received from you on **August 27, 2009**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample Id	Sample Date
<u>200908270156</u>	1321001 KEANSBURY WATER @PFC_EXTRA	26-Aug-2009 1115
<u>200908270157</u>	1345001 NJ AMERICAN WATER @PFC_EXTRA	26-Aug-2009 1230
<u>200908270158</u>	1506001 BRICK TWP MUA @PFC_EXTRA	26-Aug-2009 1330
<u>200908270159</u>	UNITED WATER 1507005 @PFC_EXTRA	26-Aug-2009 1420
<u>200908270160</u>	NJDEPFB082609 @PFC_EXTRA	26-Aug-2009 1445

Test Description

@PFC_EXTRA -- Perfluorinated compounds



CHAIN OF CUSTODY RECORD

LABORATORIES

750 Royal Oaks, Suite 100
Monrovia, California 91016

Phone: (626) 386-1100
(800) 566-5227
Fax: (626) 386-1101

MWH LABS USE ONLY:

LOGIN COMMENTS: E&G: FED EX 9338 8/175 4284

SAMPLE TEMP RECEIVED AT:	<input type="checkbox"/> Scottsdale <u>5</u> °C (Compliance: 4 +/- 2°C)	SAMPLES LOGGED IN BY: <u>KW</u>	SAMPLES CHECKED AGAINST COC BY: <u>KW</u>
RECEIVED FROM CLIENT:	<input type="checkbox"/> REFRIGERATED _____	SAMPLES REC'D DAY OF COLLECTION	<input type="checkbox"/> (check for yes)
MONROVIA	<input checked="" type="checkbox"/> 5 °C (Compliance: 4 +/- 2°C)		
CONDITION OF ICE:	<input checked="" type="checkbox"/> FROZEN <input checked="" type="checkbox"/> PARTIALLY FROZEN <input type="checkbox"/> THAWED		

TO BE COMPLETED BY SAMPLER:

COMPANY/UTILITY or PROJECT: NJ DEP
SAMPLE TIME:

MWH LABS CLIENT CODE:

SAMPLER PRINTED NAME AND SIGNATURE:

John Jezchak NJDEP

DATE SAMPLE SITE NAME OR SAMPLE I.D.

DATE SAMPLE	SITE NAME OR SAMPLE I.D.	STATION # or LOCATION	MATRIX	CRAVE	CFMP	CFW	RSW	RGW	TBW	TSW	TRW	TRB
8/26/14 11:55	1321001	Well #5	Raw	✓	X							
8/26/14 13:30	Keenbuck Water	40 Freeze Ave										
8/26/14 13:30	1345001	Sierra Madre River Res RSW		✓	X							
8/26/14 14:23	NJ American Water	Middleton Tap										
8/26/14 14:23	1506001	Metecocur River RSW	X									
8/26/14 14:23	Brightwell MWA	R48g										
8/26/14 14:23	United Water	Well #29		✓	X							
8/26/14 15:07:20:5	150720:5	Toro River Tap										
8/26/14 15:07:20:5	NJDEP/B0826:9	Fielbank										

* MATRIX TYPES:

RSW = Raw Surface Water CFW = Chlorinated Finished Water
RGW = Raw Ground Water FW = Other Finished Water

CWW = Chlorinated Waste Water BW = Bottled Water
WW = Other Waste Water SW = Storm Water

RELINQUISHED BY: <u>Laura DeSoto</u>	RECEIVED BY: <u>John Jezchak</u>	RELINQUISHED BY: <u>John Jezchak</u>	RECEIVED BY: <u>John Jezchak</u>
SIGNATURE: <u>Laura DeSoto</u>	PRINT NAME: <u>John Jezchak</u>	SIGNATURE: <u>John Jezchak</u>	PRINT NAME: <u>John Jezchak</u>
TIME: <u>15:45</u>	DATE: <u>8/27/14</u>	TIME: <u>15:45</u>	DATE: <u>8/27/14</u>

RELINQUISHED BY: <u></u>	RECEIVED BY: <u></u>	RELINQUISHED BY: <u></u>	RECEIVED BY: <u></u>
SIGNATURE: <u></u>	PRINT NAME: <u></u>	SIGNATURE: <u></u>	PRINT NAME: <u></u>
TIME: <u></u>	DATE: <u></u>	TIME: <u></u>	DATE: <u></u>

Group#	Date Sampled
	Date Received

Thomas.D.French Your MWHL Project Manager

E1/4

**Sampler: please return
this paper with your samples**

BO #: 7378

Created By: TDF

Order Date: 07/16/2009

Bottle Orders

Ship Sample Kits to

New Jersey DEP/Water Supply	Send Report to	Billing Address
401 East State Street	State of New Jersey DEP/Water Supply	State of New Jersey DEP/Water Supply
Third Floor, West Wing	401 East State Street	401 East State Street
Trenton, NJ 08625-0426	Third Floor, West Wing	Third Floor, West Wing
	Trenton, NJ 08625-0426	Trenton, NJ 08625-0426

Attn: Linda Walsh	Attn: Linda Walsh	
Phone: 609-633-2149	Phone: 609-633-2149	
Fax: 609-292-1654	Fax: 609-292-1654	
# of Samples	Tests	UN DOT #
50	@PFC EXTRA	1125ml poly no preservative

Comments

Place in 7 small coolers, each with COC, blue ice, sampling/packing, return shipment. In each cooler, supply one liter plastic(unpreserved), filled with DI water for Field Blanks.



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A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

New Jersey DEP/Water Supply
Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Laboratory Comments
Report: #313153

Flags Legend:

R7 - LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.

This is a revised final report. Surrogate compound recovery data is included.



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Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
Hits Report: 313153

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/27/2009

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
200908270157 <u>1345001 NJ AMERICAN WATER</u>						
09/01/2009	04:33	Perfluoro octanoic acid - PFOA	9.8		ng/L	5
200908270158 <u>1506001 BRICK TWP MUA</u>						
09/01/2009	11:41	Perfluoro octanoic acid - PFOA	100		ng/L	10
09/01/2009	04:50	Perfluoro-n-heptanoic acid	9.9		ng/L	5
09/01/2009	04:50	Perfluoro-n-hexanoic acid	12		ng/L	5
09/01/2009	04:50	Perfluoropentanoic acid	7.7		ng/L	5



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Laboratory Data
Report: 313153

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/27/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
1321001 KEANSBURY WATER (200908270156)								Sampled on 08/26/2009 1115
MWH PFC - Perfluorinated compounds								
09/01/2009	04:18	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
09/01/2009	04:18	522272	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/01/2009	04:18	522272	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
09/01/2009	04:18	522272	(MWH PFC)	Perfluoro-1-butanesulfonate	ND (R7)	ng/L	5	1
09/01/2009	04:18	522272	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/01/2009	04:18	522272	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/01/2009	04:18	522272	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/01/2009	04:18	522272	(MWH PFC)	Perfluoro-n-hexanoic acid	ND (R7)	ng/L	5	1
09/01/2009	04:18	522272	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/01/2009	04:18	522272	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
09/01/2009	04:18	522272	(MWH PFC)	PFBA-C13	255	%		1
09/01/2009	04:18	522272	(MWH PFC)	PFOA-C13	118	%		1
09/01/2009	04:18	522272	(MWH PFC)	PFOS-C13	68	%		1
1345001 NJ AMERICAN WATER (200908270157)								Sampled on 08/26/2009 1230
MWH PFC - Perfluorinated compounds								
09/01/2009	04:33	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
09/01/2009	04:33	522272	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/01/2009	04:33	522272	(MWH PFC)	Perfluoro octanoic acid - PFOA	9.8	ng/L	5	1
09/01/2009	04:33	522272	(MWH PFC)	Perfluoro-1-butanesulfonate	ND (R7)	ng/L	5	1
09/01/2009	04:33	522272	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/01/2009	04:33	522272	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/01/2009	04:33	522272	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/01/2009	04:33	522272	(MWH PFC)	Perfluoro-n-hexanoic acid	ND (R7)	ng/L	5	1
09/01/2009	04:33	522272	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/01/2009	04:33	522272	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
09/01/2009	04:33	522272	(MWH PFC)	PFBA-C13	175	%		1
09/01/2009	04:33	522272	(MWH PFC)	PFOA-C13	129	%		1
09/01/2009	04:33	522272	(MWH PFC)	PFOS-C13	104	%		1
1506001 BRICK TWP MUA (200908270158)								Sampled on 08/26/2009 1330
MWH PFC - Perfluorinated compounds								
09/01/2009	04:50	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1



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Laboratory Data
Report: 313153

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/27/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
09/01/2009	04:50	522272	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/01/2009	11:41	522272	(MWH PFC)	Perfluoro octanoic acid - PFOA	100	ng/L	10	2
09/01/2009	04:50	522272	(MWH PFC)	Perfluoro-1-butanesulfonate	ND (R7)	ng/L	5	1
09/01/2009	04:50	522272	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/01/2009	04:50	522272	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/01/2009	04:50	522272	(MWH PFC)	Perfluoro-n-heptanoic acid	9.9	ng/L	5	1
09/01/2009	04:50	522272	(MWH PFC)	Perfluoro-n-hexanoic acid	12 (R7)	ng/L	5	1
09/01/2009	04:50	522272	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/01/2009	04:50	522272	(MWH PFC)	Perfluoropentanoic acid	7.7	ng/L	5	1
09/01/2009	04:50	522272	(MWH PFC)	PFBA-C13	172	%		1
09/01/2009	04:50	522272	(MWH PFC)	PFOA-C13	123	%		1
09/01/2009	04:50	522272	(MWH PFC)	PFOS-C13	112	%		1

UNITED WATER 1507005 (200908270159)

Sampled on 08/26/2009 1420

MWH PFC - Perfluorinated compounds

09/01/2009	05:06	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
09/01/2009	05:06	522272	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/01/2009	05:06	522272	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
09/01/2009	05:06	522272	(MWH PFC)	Perfluoro-1-butanesulfonate	ND (R7)	ng/L	5	1
09/01/2009	05:06	522272	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/01/2009	05:06	522272	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/01/2009	05:06	522272	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/01/2009	05:06	522272	(MWH PFC)	Perfluoro-n-hexanoic acid	ND (R7)	ng/L	5	1
09/01/2009	05:06	522272	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/01/2009	05:06	522272	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
09/01/2009	05:06	522272	(MWH PFC)	PFBA-C13	263	%		1
09/01/2009	05:06	522272	(MWH PFC)	PFOA-C13	114	%		1
09/01/2009	05:06	522272	(MWH PFC)	PFOS-C13	60	%		1

NJDEPFB082609 (200908270160)

Sampled on 08/26/2009 1445

MWH PFC - Perfluorinated compounds

09/01/2009	05:22	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
09/01/2009	05:22	522272	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/01/2009	05:22	522272	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
09/01/2009	05:22	522272	(MWH PFC)	Perfluoro-1-butanesulfonate	ND (R7)	ng/L	5	1
09/01/2009	05:22	522272	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 313153

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/27/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
09/01/2009	05:22	522272	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/01/2009	05:22	522272	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/01/2009	05:22	522272	(MWH PFC)	Perfluoro-n-hexanoic acid	ND (R7)	ng/L	5	1
09/01/2009	05:22	522272	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/01/2009	05:22	522272	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
09/01/2009	05:22	522272	(MWH PFC)	PFBA-C13	203	%		1
09/01/2009	05:22	522272	(MWH PFC)	PFOA-C13	100	%		1
09/01/2009	05:22	522272	(MWH PFC)	PFOS-C13	105	%		1



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Summary: 313153

New Jersey DEP/Water Supply

QC Ref # 522272 - Perfluorinated compounds**Analysis Date: 09/01/2009**

200908270156	1321001 KEANSBURY WATER	Analyzed by: JYW
200908270156	1321001 KEANSBURY WATER	Analyzed by: JYW
200908270157	1345001 NJ AMERICAN WATER	Analyzed by: JYW
200908270158	1506001 BRICK TWP MUA	Analyzed by: JYW
200908270158	1506001 BRICK TWP MUA	Analyzed by: JYW
200908270159	UNITED WATER 1507005	Analyzed by: JYW
200908270159	UNITED WATER 1507005	Analyzed by: JYW
200908270160	NJDEPFB082609	Analyzed by: JYW
200908270160	NJDEPFB082609	Analyzed by: JYW



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Laboratory
QC Report: 313153

New Jersey DEP/Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD Limit (%)	RPD%
QC Ref# 522272 - Perfluorinated compounds by MWH PFC									
								Analysis Date: 08/31/2009	
LCS1	Perfluoro butanoic acid- PFBA	25	18.4	ng/L	74	(70-130)			
LCS2	Perfluoro butanoic acid- PFBA	25	23.9	ng/L	95	(70-130)	20	<u>26</u>	
MBLK	Perfluoro butanoic acid- PFBA		<10	ng/L					
MRL_CHK	Perfluoro butanoic acid- PFBA	5.0	7.44	ng/L	149	(50-150)			
MS_200908270159	Perfluoro butanoic acid- PFBA	ND	25	27.5	ng/l	110	(70-130)		
MSD_200908270159	Perfluoro butanoic acid- PFBA	ND	25	24.6	ng/l	98	(70-130)	30	11
LCS1	Perfluoro octanesulfonate-PFOS	25	25.4	ng/L	102	(70-130)			
LCS2	Perfluoro octanesulfonate-PFOS	25	27.8	ng/L	111	(70-130)	20	9.0	
MBLK	Perfluoro octanesulfonate-PFOS		<5	ng/L					
MRL_CHK	Perfluoro octanesulfonate-PFOS	5.0	6.46	ng/L	129	(50-150)			
MS_200908270159	Perfluoro octanesulfonate-PFOS	ND	25	31.7	ng/l	127	(70-130)		
MSD_200908270159	Perfluoro octanesulfonate-PFOS	ND	25	32.2	ng/l	129	(70-130)	30	9.8
LCS1	Perfluoro octanoic acid - PFOA	25	21.1	ng/L	84	(70-130)			
LCS2	Perfluoro octanoic acid - PFOA	25	25.4	ng/L	102	(70-130)	20	19	
MBLK	Perfluoro octanoic acid - PFOA		<5	ng/L					
MRL_CHK	Perfluoro octanoic acid - PFOA	5.0	5.99	ng/L	120	(50-150)			
MS_200908270159	Perfluoro octanoic acid - PFOA	ND	25	29.2	ng/l	117	(70-130)		
MSD_200908270159	Perfluoro octanoic acid - PFOA	ND	25	31.3	ng/l	125	(70-130)	30	1.6
LCS1	Perfluoro-1-butanesulfonate	25	22.6	ng/L	90	(70-130)			
LCS2	Perfluoro-1-butanesulfonate	25	28.8	ng/L	115	(70-130)	20	<u>24</u>	
MBLK	Perfluoro-1-butanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-butanesulfonate	5.0	5.16	ng/L	103	(50-150)			
MS_200908270159	Perfluoro-1-butanesulfonate	ND	25	30.9	ng/L	123	(70-130)		
MSD_200908270159	Perfluoro-1-butanesulfonate	ND	25	32.4	ng/l	129	(70-130)	30	2.4
LCS1	Perfluoro-1-hexanesulfonate	25	22.3	ng/L	89	(70-130)			
LCS2	Perfluoro-1-hexanesulfonate	25	25.1	ng/L	100	(70-130)	20	12	
MBLK	Perfluoro-1-hexanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-hexanesulfonate	5.0	4.87	ng/L	97	(50-150)			
MS_200908270159	Perfluoro-1-hexanesulfonate	ND	25	31.9	ng/L	125	(70-130)		
MSD_200908270159	Perfluoro-1-hexanesulfonate	ND	25	32.8	ng/l	129	(70-130)	30	0.77
LCS1	Perfluoro-n-decanoic acid	25	23.8	ng/L	95	(70-130)			
LCS2	Perfluoro-n-decanoic acid	25	26.6	ng/L	106	(70-130)	20	11	
MBLK	Perfluoro-n-decanoic acid		<5	ng/L					
MRL_CHK	Perfluoro-n-decanoic acid	5.0	7.37	ng/L	147	(50-150)			
MS_200908270159	Perfluoro-n-decanoic acid	ND	25	32.6	ng/L	130	(70-130)		
MSD_200908270159	Perfluoro-n-decanoic acid	ND	25	32.2	ng/l	129	(70-130)	30	0.77
LCS1	Perfluoro-n-heptanoic acid	25	18.6	ng/L	74	(70-130)			

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 313153

State of New Jersey DEP/Water Supply
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro-n-heptanoic acid		25	21.8	ng/L	87	(70-130)	20	16
MBLK	Perfluoro-n-heptanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-heptanoic acid		5.0	4.28	ng/L	86	(50-150)		
MS_200908270159	Perfluoro-n-heptanoic acid	ND	25	32.6	ng/L	127	(70-130)		
MSD_200908270159	Perfluoro-n-heptanoic acid	ND	25	30.3	ng/l	121	(70-130)	30	8.6
LCS1	Perfluoro-n-hexanoic acid			23.3	ng/L	93	(70-130)		
LCS2	Perfluoro-n-hexanoic acid		25	30.4	ng/L	122	(70-130)	20	<u>26</u>
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	6.27	ng/L	125	(50-150)		
MS_200908270159	Perfluoro-n-hexanoic acid	ND	25	32.6	ng/L	130	(70-130)		
MSD_200908270159	Perfluoro-n-hexanoic acid	ND	25	31.6	ng/l	127	(70-130)	30	2.3
LCS1	Perfluoro-n-nonanoic acid			23.7	ng/L	95	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	27.5	ng/L	110	(70-130)	20	15
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	6.55	ng/L	131	(50-150)		
MS_200908270159	Perfluoro-n-nonanoic acid	ND	25	28.6	ng/L	114	(70-130)		
MSD_200908270159	Perfluoro-n-nonanoic acid	ND	25	32.1	ng/L	128	(70-130)	30	12
LCS1	Perfluoropentanoic acid			21.7	ng/L	87	(70-130)		
LCS2	Perfluoropentanoic acid		25	23.8	ng/L	95	(70-130)	20	9.2
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	5.8	ng/L	116	(50-150)		
MS_200908270159	Perfluoropentanoic acid	ND	25	31.3	ng/L	125	(70-130)		
MSD_200908270159	Perfluoropentanoic acid	ND	25	31.9	ng/l	128	(70-130)	30	0.0
LCS1	PFBA-C13 (I)			107	%	107	(50-150)		
LCS2	PFBA-C13 (I)			96.0	%	96	(50-150)		
MBLK	PFBA-C13 (I)			71.0	%	71	(50-150)		
MRL_CHK	PFBA-C13 (I)			204	%	<u>204</u>	(50-150)		
MS_200908270159	PFBA-C13 (I)			272	%	<u>272</u>	(25-180)		
MSD_200908270159	PFBA-C13 (I)			273	%	<u>273</u>	(25-180)		
LCS1	PFOA-C13 (I)			109	%	109	(50-150)		
LCS2	PFOA-C13 (I)			102	%	102	(50-150)		
MBLK	PFOA-C13 (I)			80.0	%	80	(50-150)		
MRL_CHK	PFOA-C13 (I)			142	%	142	(50-150)		
MS_200908270159	PFOA-C13 (I)			115	%	115	(25-180)		
MSD_200908270159	PFOA-C13 (I)			104	%	104	(25-180)		
LCS1	PFOS-C13 (I)			102	%	102	(50-150)		
LCS2	PFOS-C13 (I)			98.0	%	98	(50-150)		
MBLK	PFOS-C13 (I)			69.0	%	69	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 313153

State of New Jersey DEP/Water Supply (continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	PFOS-C13 (I)			112	%	112	(50-150)		
MS_200908270159	PFOS-C13 (I)			83.0	%	83	(25-180)		
MSD_200908270159	PFOS-C13 (I)			93.0	%	93	(25-180)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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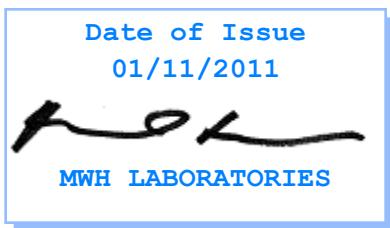
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Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attention: Linda Walsh
Fax: 609-292-1654



TDF: Thomas.D.French
Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.



Report#: 312646
Project: PFOA-PFOS
Group: 3rd Quarter 2009
PO#: 7073402



MWH

LABORATORIES

Acknowledgement of Samples Received

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attn: Linda Walsh
Phone: 609-633-2149

Customer Code: NEWJERSEY-DEP
Folder #: 312646
Project: PFOA-PFOS
Sample Group: 3rd Quarter 2009
Project Manager: Thomas.D.French
Phone: (480) 778-1558

The following samples were received from you on **August 20, 2009**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample ID	Sample Date
<u>200908200422</u>	0305001 TP BURLINGTON CITY WD @PFC_EXTRA	Aug 19, 2009 10:35
<u>200908200424</u>	0403001 CAMDEN CITY WD @PFC_EXTRA	Aug 19, 2009 11:20
<u>200908200425</u>	0814001 PAULSBORO WD WELL 7 @PFC_EXTRA	Aug 19, 2009 12:30
<u>200908200426</u>	1103001 AQUA WATER WELL 11 HAMILTON @PFC_EXTRA	Aug 19, 2009 14:00
<u>200908200427</u>	NJDEPFB081909 FIELD BLANK @PFC_EXTRA	Aug 19, 2009 14:05

Test Description

@PFC_EXTRA -- Perfluorinated compounds



CHAIN OF CUSTODY RECORD

LABORATORIES

MWH LABS USE ONLY:

LOGIN COMMENTS:

750 Royal Oaks, Suite 100
Monrovia, California 91016
Phone: (626) 386-1100
(800) 566-5227
Fax: (626) 386-1101

TO BE COMPLETED BY SAMPLER:

COMPANY, UTILITY or PROJECT:
NJ DEP

MWH LABS CLIENT CODE:

P.O.# / JOB # / PROJECT:

SAMPLE DATE	SAMPLE TIME	SITE NAME OR SAMPLE I.D.	STATION # or LOCATION	COMPLIANCE SAMPLES			NON-COMPLIANCE SAMPLES			(check for yes)	(check for yes)
				STD	1 week	3 day	2 day	1 day	REGULATION INVOLVED:		
8/19/91	1035	0305201	11 Burlington City RSW	X							
8/19/91	1123	0408201	Camden City WJ RGW		X						
8/19/91	1230	0814201	The North Deli / Paul Shores WJ RGW		X						
8/19/91	1402	1103201	Well #7 AQUA Water RGW			X					
8/19/91	1405	1135201	Well #11 Hamilton Field Blawh				X				

* MATRIX TYPES: RSW = Raw Surface Water CFW = Chlorinated Finished Water
RGW = Raw Ground Water FW = Other Finished Water

CWW = Chlorinated Waste Water
WW = Other Waste Water
BW = Bottled Water
SW = Storm Water

SO = Soil
SL = Sludge

PRINT NAME: **John DeSoto**
SIGNATURE:
COMPANY/TITLE: **NJ DEP**
DATE: **8/19/91**
TIME: **14:25**

| RELINQUISHED BY: | RECEIVED BY: |
|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| <i>J. DeSoto</i> |

Please E-mail Link w/
to confirm when sent to run FP



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
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1 800 566 LABS (1 800 566 5227)

New Jersey DEP/Water Supply
Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Laboratory Comments
Report: #312646

Group Comments

Revised Final Report -For sample 200908200424 the PFOS result is changed from 13 to 12 ppt. The calculated PFOS result for sample 200908200424 was written in the PFOA field on the first revised report. Correction is also made to PFOA on this sample, to 14 ppt.

Flags Legend:

R7 - LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
Hits Report: 312646

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/20/2009

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
200908200424 0403001 CAMDEN CITY WD						
09/01/2009	01:37	Perfluoro octanesulfonate-PFOS	12		ng/L	5
09/01/2009	01:37	Perfluoro octanoic acid - PFOA	14		ng/L	5
09/01/2009	01:37	Perfluoro-1-hexanesulfonate	6.8		ng/L	5
09/01/2009	01:37	Perfluoro-n-heptanoic acid	5.0		ng/L	5
09/01/2009	01:37	Perfluoro-n-hexanoic acid	8.5		ng/L	5
09/01/2009	01:37	Perfluoro-n-nonanoic acid	13		ng/L	5
09/01/2009	01:37	Perfluoropentanoic acid	9.6		ng/L	5
200908200425 0814001 PAULSBORO WD WELL 7						
09/01/2009	01:53	Perfluoro octanesulfonate-PFOS	9.6		ng/L	5
09/01/2009	01:53	Perfluoro octanoic acid - PFOA	26		ng/L	5
09/01/2009	01:53	Perfluoro-n-hexanoic acid	5.5		ng/L	5
09/01/2009	01:53	Perfluoro-n-nonanoic acid	96		ng/L	5



MWH

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Laboratory Data
 Report: 312646

New Jersey DEP/Water Supply

Linda Walsh
 401 East State Street
 Third Floor, West Wing
 Trenton, NJ 08625-0426

Samples Received on:
 08/20/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution			
0305001 TP BURLINGTON CITY WD (200908200422)				Sampled on 08/19/2009 1035							

MWH PFC - Perfluorinated compounds

09/01/2009	01:21	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
09/01/2009	01:21	522272	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/01/2009	01:21	522272	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
09/01/2009	01:21	522272	(MWH PFC)	Perfluoro-1-butanesulfonate	ND (R7)	ng/L	5	1
09/01/2009	01:21	522272	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/01/2009	01:21	522272	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/01/2009	01:21	522272	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/01/2009	01:21	522272	(MWH PFC)	Perfluoro-n-hexanoic acid	ND (R7)	ng/L	5	1
09/01/2009	01:21	522272	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/01/2009	01:21	522272	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
09/01/2009	01:21	522272	(MWH PFC)	PFBA-C13	205	%		1
09/01/2009	01:21	522272	(MWH PFC)	PFOA-C13	128	%		1
09/01/2009	01:21	522272	(MWH PFC)	PFOS-C13	122	%		1

0403001 CAMDEN CITY WD (200908200424)**Sampled on 08/19/2009 1120**

MWH PFC - Perfluorinated compounds

09/01/2009	01:37	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
09/01/2009	01:37	522272	(MWH PFC)	Perfluoro octanesulfonate-PFOS	12	ng/L	5	1
09/01/2009	01:37	522272	(MWH PFC)	Perfluoro octanoic acid - PFOA	14	ng/L	5	1
09/01/2009	01:37	522272	(MWH PFC)	Perfluoro-1-butanesulfonate	ND (R7)	ng/L	5	1
09/01/2009	01:37	522272	(MWH PFC)	Perfluoro-1-hexanesulfonate	6.8	ng/L	5	1
09/01/2009	01:37	522272	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/01/2009	01:37	522272	(MWH PFC)	Perfluoro-n-heptanoic acid	5.0	ng/L	5	1
09/01/2009	01:37	522272	(MWH PFC)	Perfluoro-n-hexanoic acid	8.5 (R7)	ng/L	5	1
09/01/2009	01:37	522272	(MWH PFC)	Perfluoro-n-nonanoic acid	13	ng/L	5	1
09/01/2009	01:37	522272	(MWH PFC)	Perfluoropentanoic acid	9.6	ng/L	5	1
09/01/2009	01:37	522272	(MWH PFC)	PFBA-C13	205	%		1
09/01/2009	01:37	522272	(MWH PFC)	PFOA-C13	117	%		1
09/01/2009	01:37	522272	(MWH PFC)	PFOS-C13	105	%		1

0814001 PAULSBORO WD WELL 7 (200908200425)**Sampled on 08/19/2009 1230**

MWH PFC - Perfluorinated compounds

Rounding on totals after summation.
 (c) - indicates calculated results



MWH

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750 Royal Oak Dr., Suite 100
 Monrovia, California, 91016-3629
 Tel: 626 386 1100
 Fax: 626 386 1101
 1 800 566 LABS (1 800 566 5227)

Laboratory Data
 Report: 312646

New Jersey DEP/Water Supply

Linda Walsh
 401 East State Street
 Third Floor, West Wing
 Trenton, NJ 08625-0426

Samples Received on:
 08/20/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
09/01/2009	01:53	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
09/01/2009	01:53	522272	(MWH PFC)	Perfluoro octanesulfonate-PFOS	9.6	ng/L	5	1
09/01/2009	01:53	522272	(MWH PFC)	Perfluoro octanoic acid - PFOA	26	ng/L	5	1
09/01/2009	01:53	522272	(MWH PFC)	Perfluoro-1-butanesulfonate	ND (R7)	ng/L	5	1
09/01/2009	01:53	522272	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/01/2009	01:53	522272	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/01/2009	01:53	522272	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/01/2009	01:53	522272	(MWH PFC)	Perfluoro-n-hexanoic acid	5.5 (R7)	ng/L	5	1
09/01/2009	01:53	522272	(MWH PFC)	Perfluoro-n-nonanoic acid	96	ng/L	5	1
09/01/2009	01:53	522272	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
09/01/2009	01:53	522272	(MWH PFC)	PFBA-C13	265	%	1	
09/01/2009	01:53	522272	(MWH PFC)	PFOA-C13	112	%	1	
09/01/2009	01:53	522272	(MWH PFC)	PFOS-C13	88	%	1	

1103001 AQUA WATER WELL 11 HAMILTON (200908200426)

Sampled on 08/19/2009 1400

MWH PFC - Perfluorinated compounds

09/01/2009	03:13	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
09/01/2009	03:13	522272	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/01/2009	03:13	522272	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
09/01/2009	03:13	522272	(MWH PFC)	Perfluoro-1-butanesulfonate	ND (R7)	ng/L	5	1
09/01/2009	03:13	522272	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/01/2009	03:13	522272	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/01/2009	03:13	522272	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/01/2009	03:13	522272	(MWH PFC)	Perfluoro-n-hexanoic acid	ND (R7)	ng/L	5	1
09/01/2009	03:13	522272	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/01/2009	03:13	522272	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
09/01/2009	03:13	522272	(MWH PFC)	PFBA-C13	214	%	1	
09/01/2009	03:13	522272	(MWH PFC)	PFOA-C13	83	%	1	
09/01/2009	03:13	522272	(MWH PFC)	PFOS-C13	88	%	1	

NJDEPFB081909 FIELD BLANK (200908200427)

Sampled on 08/19/2009 1405

MWH PFC - Perfluorinated compounds

09/01/2009	03:29	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
09/01/2009	03:29	522272	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
09/01/2009	03:29	522272	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1

Rounding on totals after summation.
 (c) - indicates calculated results

8/13

**MWH****LABORATORIES**

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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

**Laboratory Data
Report: 312646****New Jersey DEP/Water Supply**

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/20/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
09/01/2009	03:29	522272	(MWH PFC)	Perfluoro-1-butanesulfonate	ND (R7)	ng/L	5	1
09/01/2009	03:29	522272	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
09/01/2009	03:29	522272	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
09/01/2009	03:29	522272	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
09/01/2009	03:29	522272	(MWH PFC)	Perfluoro-n-hexanoic acid	ND (R7)	ng/L	5	1
09/01/2009	03:29	522272	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
09/01/2009	03:29	522272	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
09/01/2009	03:29	522272	(MWH PFC)	PFBA-C13	225	%		1
09/01/2009	03:29	522272	(MWH PFC)	PFOA-C13	115	%		1
09/01/2009	03:29	522272	(MWH PFC)	PFOS-C13	104	%		1



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Summary: 312646

New Jersey DEP/Water Supply

QC Ref # 522272 - Perfluorinated compounds

Analysis Date: 09/01/2009

200908200422	0305001 TP BURLINGTON CITY WD	Analyzed by: JYW
200908200422	0305001 TP BURLINGTON CITY WD	Analyzed by: JYW
200908200424	0403001 CAMDEN CITY WD	Analyzed by: JYW
200908200424	0403001 CAMDEN CITY WD	Analyzed by: JYW
200908200425	0814001 PAULSBORO WD WELL 7	Analyzed by: JYW
200908200425	0814001 PAULSBORO WD WELL 7	Analyzed by: JYW
200908200426	1103001 AQUA WATER WELL 11 HAMILTON	Analyzed by: JYW
200908200426	1103001 AQUA WATER WELL 11 HAMILTON	Analyzed by: JYW
200908200427	NJDEPFB081909 FIELD BLANK	Analyzed by: JYW
200908200427	NJDEPFB081909 FIELD BLANK	Analyzed by: JYW



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Laboratory
QC Report: 312646

New Jersey DEP/Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD Limit (%)	RPD%
QC Ref# 522272 - Perfluorinated compounds by MWH PFC									
								Analysis Date: 08/31/2009	
LCS1	Perfluoro butanoic acid- PFBA	25	18.4	ng/L	74	(70-130)			
LCS2	Perfluoro butanoic acid- PFBA	25	23.9	ng/L	95	(70-130)	20	<u>26</u>	
MBLK	Perfluoro butanoic acid- PFBA		<10	ng/L					
MRL_CHK	Perfluoro butanoic acid- PFBA	5.0	7.44	ng/L	149	(50-150)			
MS_200908270159	Perfluoro butanoic acid- PFBA	ND	25	27.5	ng/l	110	(70-130)		
MSD_200908270159	Perfluoro butanoic acid- PFBA	ND	25	24.6	ng/l	98	(70-130)	30	11
LCS1	Perfluoro octanesulfonate-PFOS	25	25.4	ng/L	102	(70-130)			
LCS2	Perfluoro octanesulfonate-PFOS	25	27.8	ng/L	111	(70-130)	20	9.0	
MBLK	Perfluoro octanesulfonate-PFOS		<5	ng/L					
MRL_CHK	Perfluoro octanesulfonate-PFOS	5.0	6.46	ng/L	129	(50-150)			
MS_200908270159	Perfluoro octanesulfonate-PFOS	ND	25	31.7	ng/l	127	(70-130)		
MSD_200908270159	Perfluoro octanesulfonate-PFOS	ND	25	32.2	ng/l	129	(70-130)	30	9.8
LCS1	Perfluoro octanoic acid - PFOA	25	21.1	ng/L	84	(70-130)			
LCS2	Perfluoro octanoic acid - PFOA	25	25.4	ng/L	102	(70-130)	20	19	
MBLK	Perfluoro octanoic acid - PFOA		<5	ng/L					
MRL_CHK	Perfluoro octanoic acid - PFOA	5.0	5.99	ng/L	120	(50-150)			
MS_200908270159	Perfluoro octanoic acid - PFOA	ND	25	29.2	ng/l	117	(70-130)		
MSD_200908270159	Perfluoro octanoic acid - PFOA	ND	25	31.3	ng/l	125	(70-130)	30	1.6
LCS1	Perfluoro-1-butanesulfonate	25	22.6	ng/L	90	(70-130)			
LCS2	Perfluoro-1-butanesulfonate	25	28.8	ng/L	115	(70-130)	20	<u>24</u>	
MBLK	Perfluoro-1-butanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-butanesulfonate	5.0	5.16	ng/L	103	(50-150)			
MS_200908270159	Perfluoro-1-butanesulfonate	ND	25	30.9	ng/L	123	(70-130)		
MSD_200908270159	Perfluoro-1-butanesulfonate	ND	25	32.4	ng/l	129	(70-130)	30	2.4
LCS1	Perfluoro-1-hexanesulfonate	25	22.3	ng/L	89	(70-130)			
LCS2	Perfluoro-1-hexanesulfonate	25	25.1	ng/L	100	(70-130)	20	12	
MBLK	Perfluoro-1-hexanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-hexanesulfonate	5.0	4.87	ng/L	97	(50-150)			
MS_200908270159	Perfluoro-1-hexanesulfonate	ND	25	31.9	ng/L	125	(70-130)		
MSD_200908270159	Perfluoro-1-hexanesulfonate	ND	25	32.8	ng/l	129	(70-130)	30	0.77
LCS1	Perfluoro-n-decanoic acid	25	23.8	ng/L	95	(70-130)			
LCS2	Perfluoro-n-decanoic acid	25	26.6	ng/L	106	(70-130)	20	11	
MBLK	Perfluoro-n-decanoic acid		<5	ng/L					
MRL_CHK	Perfluoro-n-decanoic acid	5.0	7.37	ng/L	147	(50-150)			
MS_200908270159	Perfluoro-n-decanoic acid	ND	25	32.6	ng/L	130	(70-130)		
MSD_200908270159	Perfluoro-n-decanoic acid	ND	25	32.2	ng/l	129	(70-130)	30	0.77
LCS1	Perfluoro-n-heptanoic acid	25	18.6	ng/L	74	(70-130)			

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 312646

State of New Jersey DEP/Water Supply
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro-n-heptanoic acid		25	21.8	ng/L	87	(70-130)	20	16
MBLK	Perfluoro-n-heptanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-heptanoic acid		5.0	4.28	ng/L	86	(50-150)		
MS_200908270159	Perfluoro-n-heptanoic acid	ND	25	32.6	ng/L	127	(70-130)		
MSD_200908270159	Perfluoro-n-heptanoic acid	ND	25	30.3	ng/l	121	(70-130)	30	8.6
LCS1	Perfluoro-n-hexanoic acid		25	23.3	ng/L	93	(70-130)		
LCS2	Perfluoro-n-hexanoic acid		25	30.4	ng/L	122	(70-130)	20	<u>26</u>
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	6.27	ng/L	125	(50-150)		
MS_200908270159	Perfluoro-n-hexanoic acid	ND	25	32.6	ng/L	130	(70-130)		
MSD_200908270159	Perfluoro-n-hexanoic acid	ND	25	31.6	ng/l	127	(70-130)	30	2.3
LCS1	Perfluoro-n-nonanoic acid		25	23.7	ng/L	95	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	27.5	ng/L	110	(70-130)	20	15
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	6.55	ng/L	131	(50-150)		
MS_200908270159	Perfluoro-n-nonanoic acid	ND	25	28.6	ng/L	114	(70-130)		
MSD_200908270159	Perfluoro-n-nonanoic acid	ND	25	32.1	ng/L	128	(70-130)	30	12
LCS1	Perfluoropentanoic acid		25	21.7	ng/L	87	(70-130)		
LCS2	Perfluoropentanoic acid		25	23.8	ng/L	95	(70-130)	20	9.2
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	5.8	ng/L	116	(50-150)		
MS_200908270159	Perfluoropentanoic acid	ND	25	31.3	ng/L	125	(70-130)		
MSD_200908270159	Perfluoropentanoic acid	ND	25	31.9	ng/l	128	(70-130)	30	0.0
LCS1	PFBA-C13 (I)			107	%	107	(50-150)		
LCS2	PFBA-C13 (I)			96.0	%	96	(50-150)		
MBLK	PFBA-C13 (I)			71.0	%	71	(50-150)		
MRL_CHK	PFBA-C13 (I)			204	%	<u>204</u>	(50-150)		
MS_200908270159	PFBA-C13 (I)			272	%	<u>272</u>	(25-180)		
MSD_200908270159	PFBA-C13 (I)			273	%	<u>273</u>	(25-180)		
LCS1	PFOA-C13 (I)			109	%	109	(50-150)		
LCS2	PFOA-C13 (I)			102	%	102	(50-150)		
MBLK	PFOA-C13 (I)			80.0	%	80	(50-150)		
MRL_CHK	PFOA-C13 (I)			142	%	142	(50-150)		
MS_200908270159	PFOA-C13 (I)			115	%	115	(25-180)		
MSD_200908270159	PFOA-C13 (I)			104	%	104	(25-180)		
LCS1	PFOS-C13 (I)			102	%	102	(50-150)		
LCS2	PFOS-C13 (I)			98.0	%	98	(50-150)		
MBLK	PFOS-C13 (I)			69.0	%	69	(50-150)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

12/13



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
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Laboratory
QC Report: 312646

State of New Jersey DEP/Water Supply (continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	PFOS-C13 (I)			112	%	112	(50-150)		
MS_200908270159	PFOS-C13 (I)			83.0	%	83	(25-180)		
MSD_200908270159	PFOS-C13 (I)			93.0	%	93	(25-180)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attention: Linda Walsh
Fax: 609-292-1654

Date of Issue 04/19/2010

MWH LABORATORIES

TDF: Thomas.D.French
Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.



Report#: 312139
Project: PFOA-PFOS
Group: 3rd Quarter 2009
PO#: 7073402

750 Royal Oaks Drive Suite 100, Monrovia, Ca 91016
Phone 626-386-1100/Fax: 626-386-1101

Acknowledgement of Samples Received

New Jersey DEP/Water Supply

401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attn: Linda Walsh
Phone: 609-633-2149

Customer Code: NEWJERSEY-DEP

Group #: 312139

Project #: PFOA-PFOS

Sample Group: 3rd Quarter 2009

Project Manager: Thomas.D.French

Phone: (480) 778-1558

The following samples were received from you on **August 13, 2009**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample Id	Sample Date
<u>200908130823</u>	1706305 Well #1 @PFC_EXTRA	12-Aug-2009 1115
<u>200908130824</u>	1713308 Well #1 @PFC_EXTRA	12-Aug-2009 1225
<u>200908130825</u>	1713001 Well #3 @PFC_EXTRA	12-Aug-2009 1315
<u>200908130826</u>	0610001 Well #1 @PFC_EXTRA	12-Aug-2009 1450
<u>200908130827</u>	Field Blank NJDEPFB @PFC_EXTRA	12-Aug-2009 1515

Test Description

@PFC_EXTRA -- Perfluorinated compounds



CHAIN OF CUSTODY RECORD

LABORATORIES

MWH LABS USE ONLY:

LOGIN COMMENTS:

750 Royal Oaks, Suite 100
Monrovia, California 91016Phone: (626) 386-1100
(800) 566-5227
Fax: (626) 386-1101

TO BE COMPLETED BY SAMPLER:

N5 DEP

MWH LABS CLIENT CODE:

SAMPLER PRINTED NAME AND SIGNATURE:
John Reichert

SAMPLE TEMP RECEIVED AT:

 Scottsdale ^oC (Compliance: 4 +/- 2°C)RECEIVED FROM CLIENT: REFRIGERATED ON ICE Montrovia ^oC (Compliance: 4 +/- 2°C)

CONDITION OF ICE: FROZEN PARTIALLY FROZEN THAWED

SAMPLES CHECKED AGAINST COC BY: *JT*SAMPLES LOGGED IN BY: *JT*

SAMPLES REC'D DAY OF COLLECTION

 (check for yes)

COMPANY, UTILITY or PROJECT:

SYSTEM #: **1706335**
171338 171301 06001

P.O.# / JOB # / PROJECT:

TAT requested: Rush by adv notice only

STD 1 week 3 day 2 day 1 day

COMPLIANCE SAMPLES

- Requires state forms

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

REGULATION INVOLVED:

(e.g. SDWA, Phase V, NPDES, FDA,...)

NON-COMPLIANCE SAMPLES

- Requires state forms

REGULATION INVOLVED:

(e.g. SDWA, Phase V, NPDES, FDA,...)

NON-COMPLIANCE SAMPLES

- Requires state forms

REGULATION INVOLVED:

(e.g. SDWA, Phase V, NPDES, FDA,...)

NON-COMPLIANCE SAMPLES

- Requires state forms

REGULATION INVOLVED:

(e.g. SDWA, Phase V, NPDES, FDA,...)

NON-COMPLIANCE SAMPLES

- Requires state forms

REGULATION INVOLVED:

(e.g. SDWA, Phase V, NPDES, FDA,...)

NON-COMPLIANCE SAMPLES

- Requires state forms

REGULATION INVOLVED:

(e.g. SDWA, Phase V, NPDES, FDA,...)

SEE ATTACHED BOTTLE ORDER FOR ANALYSES

LIST ANALYSES REQUIRED BELOW (enter number of bottles sent for each test for each sample)

SAMPLE DATE	SAMPLE TIME	SITE NAME OR SAMPLE I.D.	STATION # or LOCATION	MATRIX	CRAB	COMP	SAMPLER COMMENTS
09/03/11 11:15	1706335	Well # 1	R&W	X	X	X	<i>PR42</i>
	Bonnie 15in	24 Windham Rd					<i>PR42</i>
09/03/12 23	1713336	Well # 1					
	Salem Spoutmen	273 Wile Rd	R&W	X	X	X	
09/03/13 15	171300	Well # 3					
	Hendry MHP	E. Quilliam Rd.	R&W	X	X	X	
09/14/11 14:30	0610001	Well # 1 Airport					
	M. Hillview	Big Bear Blvd	R&W	X	X	X	
09/03/15 15:15	0610001	Field Blank	N/DEP				
			08/12/09				

* MATRIX TYPES:
 RSW = Raw Surface Water CPW = Chlorinated Finished Water
 RGW = Raw Ground Water FW = Other Finished Water
 SW = Storm Water

CWW = Chlorinated Waste Water
 WW = Other Waste Water
 BW = Bottled Water
 SW = Sludge

PRINT NAME: *MWH*

COMPANY/TITLE: *MWH*

SIGNATURE: *John Reichert*

SIGNATURE: *JTA*

SIGNATURE: *JTA*

SIGNATURE: *JTA*

SIGNATURE: *JTA*

SIGNATURE: *JTA*

DATE: *8-15*

TIME: *11:55*

RELINQUISHED BY:	RECEIVED BY:						



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

New Jersey DEP/Water Supply
Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Laboratory Comments
Report: #312139

Group Comments

Revised report - PFHxS result fro sample 200908130823 is changed from 9 to 8.5 ppt caused by a systematic error.

Flags Legend:

R7 - LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
Hits Report: 312139

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/13/2009

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
200908130823	1706305 Well #1					
08/24/2009	09:31	Perfluoro octanoic acid - PFOA	57		ng/L	5
08/24/2009	09:31	Perfluoro-1-hexanesulfonate	8.5		ng/L	5
08/24/2009	09:31	Perfluoro-n-heptanoic acid	22		ng/L	5
08/24/2009	09:31	Perfluoro-n-hexanoic acid	36		ng/L	5
08/24/2009	09:31	Perfluoropentanoic acid	21		ng/L	5



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Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 312139

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/13/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
1706305 Well #1 (200908130823)								Sampled on 08/12/2009 1115
MWH PFC - Perfluorinated compounds								
09/01/2009	00:01	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
08/24/2009	09:31	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	09:31	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	57	ng/L	5	1
08/24/2009	09:31	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	09:31	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	8.5	ng/L	5	1
08/24/2009	09:31	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	09:31	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	22	ng/L	5	1
08/24/2009	09:31	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	36	ng/L	5	1
08/24/2009	09:31	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
08/24/2009	09:31	519730	(MWH PFC)	Perfluoropentanoic acid	21	ng/L	5	1
08/24/2009	09:31	519730	(MWH PFC)	PFBA-C13	116	%	1	
08/24/2009	09:31	519730	(MWH PFC)	PFOA-C13	87	%	1	
08/24/2009	09:31	519730	(MWH PFC)	PFOS-C13	64	%	1	
1713308 Well #1 (200908130824)								Sampled on 08/12/2009 1225
MWH PFC - Perfluorinated compounds								
09/01/2009	00:16	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
08/24/2009	09:48	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	09:48	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
08/24/2009	09:48	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	09:48	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	09:48	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	09:48	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	09:48	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	09:48	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
08/24/2009	09:48	519730	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
08/24/2009	09:48	519730	(MWH PFC)	PFBA-C13	98	%	1	
08/24/2009	09:48	519730	(MWH PFC)	PFOA-C13	91	%	1	
08/24/2009	09:48	519730	(MWH PFC)	PFOS-C13	75	%	1	
1713001 Well #3 (200908130825)								Sampled on 08/12/2009 1315
MWH PFC - Perfluorinated compounds								
09/01/2009	00:32	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1

Rounding on totals after summation.
(c) - indicates calculated results



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 312139

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/13/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
08/24/2009	10:06	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	10:06	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
08/24/2009	10:06	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	10:06	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	10:06	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	10:06	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	10:06	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	10:06	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
08/24/2009	10:06	519730	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
08/24/2009	10:06	519730	(MWH PFC)	PFBA-C13	118	%	1	
08/24/2009	10:06	519730	(MWH PFC)	PFOA-C13	103	%	1	
08/24/2009	10:06	519730	(MWH PFC)	PFOS-C13	79	%	1	

0610001 Well #1 (200908130826)

Sampled on 08/12/2009 1450

MWH PFC - Perfluorinated compounds

09/01/2009	00:49	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
08/24/2009	10:23	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	10:23	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
08/24/2009	10:23	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	10:23	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	10:23	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	10:23	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	10:23	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	10:23	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
08/24/2009	10:23	519730	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
08/24/2009	10:23	519730	(MWH PFC)	PFBA-C13	108	%	1	
08/24/2009	10:23	519730	(MWH PFC)	PFOA-C13	91	%	1	
08/24/2009	10:23	519730	(MWH PFC)	PFOS-C13	66	%	1	

Field Blank NJDEPFB (200908130827)

Sampled on 08/12/2009 1515

MWH PFC - Perfluorinated compounds

09/01/2009	01:05	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
08/24/2009	10:40	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	10:40	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
08/24/2009	10:40	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 312139

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/13/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
08/24/2009	10:40	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	10:40	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	10:40	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	10:40	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	10:40	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
08/24/2009	10:40	519730	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
08/24/2009	10:40	519730	(MWH PFC)	PFBA-C13	105	%		1
08/24/2009	10:40	519730	(MWH PFC)	PFOA-C13	90	%		1
08/24/2009	10:40	519730	(MWH PFC)	PFOS-C13	85	%		1



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Summary: 312139

New Jersey DEP/Water Supply

QC Ref # 519730 - Perfluorinated compounds

200908130823	1706305 Well #1
200908130824	1713308 Well #1
200908130825	1713001 Well #3
200908130826	0610001 Well #1
200908130827	Field Blank NJDEPFB

Analysis Date: 08/24/2009

Analyzed by: JYW

QC Ref # 522272 - Perfluorinated compounds

200908130823	1706305 Well #1
200908130823	1706305 Well #1
200908130824	1713308 Well #1
200908130825	1713001 Well #3
200908130826	0610001 Well #1
200908130827	Field Blank NJDEPFB

Analysis Date: 09/01/2009

Analyzed by: JYW

QC Ref # 522976 - Perfluorinated compounds

200908130827	Field Blank NJDEPFB
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Analysis Date: 08/22/2009

Analyzed by: JYW



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Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 312139

New Jersey DEP/Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD Limit (%)	RPD%
QC Ref# 519730 - Perfluorinated compounds by MWH PFC									
								Analysis Date: 08/24/2009	
LCS1	Perfluoro octanesulfonate-PFOS	25	19.7	ng/L	79	(70-130)			
LCS2	Perfluoro octanesulfonate-PFOS	25	22.7	ng/L	91	(70-130)	20	14	
MBLK	Perfluoro octanesulfonate-PFOS		<5	ng/L					
MRL_CHK	Perfluoro octanesulfonate-PFOS	5.0	3.66	ng/L	73	(50-150)			
MS_200908130827	Perfluoro octanesulfonate-PFOS	ND	25	ng/l	87	(70-130)			
MSD_200908130827	Perfluoro octanesulfonate-PFOS	ND	25	ng/l	72	(70-130)	30	20	
LCS1	Perfluoro octanoic acid - PFOA	25	21.2	ng/L	85	(70-130)			
LCS2	Perfluoro octanoic acid - PFOA	25	24.6	ng/L	99	(70-130)	20	15	
MBLK	Perfluoro octanoic acid - PFOA		<5	ng/L					
MRL_CHK	Perfluoro octanoic acid - PFOA	5.0	4.2	ng/L	84	(50-150)			
MS_200908130827	Perfluoro octanoic acid - PFOA	ND	25	ng/l	88	(70-130)			
MSD_200908130827	Perfluoro octanoic acid - PFOA	ND	25	ng/l	76	(70-130)	30	14	
LCS1	Perfluoro-1-butanesulfonate	25	20.7	ng/L	83	(70-130)			
LCS2	Perfluoro-1-butanesulfonate	25	25.0	ng/L	100	(70-130)	20	19	
MBLK	Perfluoro-1-butanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-butanesulfonate	5.0	4.6	ng/L	92	(50-150)			
MS_200908130827	Perfluoro-1-butanesulfonate	ND	20	ng/L	116	(70-130)			
MSD_200908130827	Perfluoro-1-butanesulfonate	ND	20	ng/l	93	(70-130)	30	22	
LCS1	Perfluoro-1-hexanesulfonate	25	30.3	ng/L	121	(70-130)			
LCS2	Perfluoro-1-hexanesulfonate	25	25.9	ng/L	104	(70-130)	20	16	
MBLK	Perfluoro-1-hexanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-hexanesulfonate	5.0	5.82	ng/L	116	(50-150)			
MS_200908130827	Perfluoro-1-hexanesulfonate	ND	20	ng/L	129	(70-130)			
MSD_200908130827	Perfluoro-1-hexanesulfonate	ND	20	ng/l	103	(70-130)	30	22	
LCS1	Perfluoro-n-decanoic acid	25	21.2	ng/L	85	(70-130)			
LCS2	Perfluoro-n-decanoic acid	25	22.6	ng/L	91	(70-130)	20	6.4	
MBLK	Perfluoro-n-decanoic acid		<5	ng/L					
MRL_CHK	Perfluoro-n-decanoic acid	5.0	3.85	ng/L	77	(50-150)			
MS_200908130827	Perfluoro-n-decanoic acid	ND	20	ng/L	106	(70-130)			
MSD_200908130827	Perfluoro-n-decanoic acid	ND	20	ng/l	91	(70-130)	30	15	
LCS1	Perfluoro-n-heptanoic acid	25	23.0	ng/L	92	(70-130)			
LCS2	Perfluoro-n-heptanoic acid	25	23.7	ng/L	95	(70-130)	20	3.0	
MBLK	Perfluoro-n-heptanoic acid		<5	ng/L					
MRL_CHK	Perfluoro-n-heptanoic acid	5.0	4.06	ng/L	81	(50-150)			
MS_200908130827	Perfluoro-n-heptanoic acid	ND	20	ng/L	124	(70-130)			
MSD_200908130827	Perfluoro-n-heptanoic acid	ND	20	ng/l	94	(70-130)	30	27	
LCS1	Perfluoro-n-hexanoic acid	25	20.5	ng/L	82	(70-130)			

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

10/14



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A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 312139

**State of New Jersey DEP/Water Supply
(continued)**

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro-n-hexanoic acid		25	23.0	ng/L	92	(70-130)	20	12
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	4.12	ng/L	82	(50-150)		
MS_200908130827	Perfluoro-n-hexanoic acid	ND	20	21.8	ng/L	105	(70-130)		
MSD_200908130827	Perfluoro-n-hexanoic acid	ND	20	19.2	ng/l	92	(70-130)	30	14
LCS1	Perfluoro-n-nonanoic acid		25	21.7	ng/L	87	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	24.1	ng/L	96	(70-130)	20	11
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	4.3	ng/L	86	(50-150)		
MS_200908130827	Perfluoro-n-nonanoic acid	ND	20	24.5	ng/L	119	(70-130)		
MSD_200908130827	Perfluoro-n-nonanoic acid	ND	20	19.7	ng/L	95	(70-130)	30	23
LCS1	Perfluoropentanoic acid		25	22.1	ng/L	88	(70-130)		
LCS2	Perfluoropentanoic acid		25	25.5	ng/L	102	(70-130)	20	14
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	4.26	ng/L	85	(50-150)		
MS_200908130827	Perfluoropentanoic acid	ND	20	22.8	ng/L	110	(70-130)		
MSD_200908130827	Perfluoropentanoic acid	ND	20	20.0	ng/l	96	(70-130)	30	14
LCS1	PFBA-C13 (I)			97.0	%	97	(50-150)		
LCS2	PFBA-C13 (I)			54.0	%	54	(50-150)		
MBLK	PFBA-C13 (I)			35.0	%	<u>35</u>	(50-150)		
MRL_CHK	PFBA-C13 (I)			88.0	%	88	(50-150)		
MS_200908130827	PFBA-C13 (I)			108	%	108	(25-180)		
MSD_200908130827	PFBA-C13 (I)			81.0	%	81	(25-180)		
LCS1	PFOA-C13 (I)			112	%	112	(50-150)		
LCS2	PFOA-C13 (I)			101	%	101	(50-150)		
MBLK	PFOA-C13 (I)			100	%	100	(50-150)		
MRL_CHK	PFOA-C13 (I)			119	%	119	(50-150)		
MS_200908130827	PFOA-C13 (I)			93.0	%	93	(25-180)		
MSD_200908130827	PFOA-C13 (I)			94.0	%	94	(25-180)		
LCS1	PFOS-C13 (I)			80.0	%	80	(50-150)		
LCS2	PFOS-C13 (I)			93.0	%	93	(50-150)		
MBLK	PFOS-C13 (I)			85.0	%	85	(50-150)		
MRL_CHK	PFOS-C13 (I)			86.0	%	86	(50-150)		
MS_200908130827	PFOS-C13 (I)			89.0	%	89	(25-180)		
MSD_200908130827	PFOS-C13 (I)			86.0	%	86	(25-180)		

QC Ref# 522272 - Perfluorinated compounds by MWH PFC

Analysis Date: 08/31/2009

LCS1	Perfluoro butanoic acid- PFBA	25	18.4	ng/L	74	(70-130)
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Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

11/14



MWH

LABORATORIES

A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
 Monrovia, California, 91016-3629
 Tel: 626 386 1100
 Fax: 626 386 1101
 1 800 566 LABS (1 800 566 5227)

Laboratory
 QC Report: 312139

State of New Jersey DEP/Water Supply
 (continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro butanoic acid- PFBA		25	23.9	ng/L	95	(70-130)	20	<u>26</u>
MBLK	Perfluoro butanoic acid- PFBA			<10	ng/L				
MRL_CHK	Perfluoro butanoic acid- PFBA		5.0	7.44	ng/L	149	(50-150)		
MS_200908270159	Perfluoro butanoic acid- PFBA	ND	25	27.5	ng/l	110	(70-130)		
MSD_200908270159	Perfluoro butanoic acid- PFBA	ND	25	24.6	ng/l	98	(70-130)	30	11
LCS1	Perfluoro octanesulfonate-PFOS		25	25.4	ng/L	102	(70-130)		
LCS2	Perfluoro octanesulfonate-PFOS		25	27.8	ng/L	111	(70-130)	20	9.0
MBLK	Perfluoro octanesulfonate-PFOS			<5	ng/L				
MRL_CHK	Perfluoro octanesulfonate-PFOS		5.0	6.46	ng/L	129	(50-150)		
MS_200908270159	Perfluoro octanesulfonate-PFOS	ND	25	31.7	ng/l	127	(70-130)		
MSD_200908270159	Perfluoro octanesulfonate-PFOS	ND	25	32.2	ng/l	129	(70-130)	30	9.8
LCS1	Perfluoro octanoic acid - PFOA		25	21.1	ng/L	84	(70-130)		
LCS2	Perfluoro octanoic acid - PFOA		25	25.4	ng/L	102	(70-130)	20	19
MBLK	Perfluoro octanoic acid - PFOA			<5	ng/L				
MRL_CHK	Perfluoro octanoic acid - PFOA		5.0	5.99	ng/L	120	(50-150)		
MS_200908270159	Perfluoro octanoic acid - PFOA	ND	25	29.2	ng/l	117	(70-130)		
MSD_200908270159	Perfluoro octanoic acid - PFOA	ND	25	31.3	ng/l	125	(70-130)	30	1.6
LCS1	Perfluoro-1-butanесulfonate		25	22.6	ng/L	90	(70-130)		
LCS2	Perfluoro-1-butanесulfonate		25	28.8	ng/L	115	(70-130)	20	<u>24</u>
MBLK	Perfluoro-1-butanесulfonate			<5	ng/L				
MRL_CHK	Perfluoro-1-butanесulfonate		5.0	5.16	ng/L	103	(50-150)		
MS_200908270159	Perfluoro-1-butanесulfonate	ND	25	30.9	ng/L	123	(70-130)		
MSD_200908270159	Perfluoro-1-butanесulfonate	ND	25	32.4	ng/l	129	(70-130)	30	2.4
LCS1	Perfluoro-1-hexanesulfonate		25	22.3	ng/L	89	(70-130)		
LCS2	Perfluoro-1-hexanesulfonate		25	25.1	ng/L	100	(70-130)	20	12
MBLK	Perfluoro-1-hexanesulfonate			<5	ng/L				
MRL_CHK	Perfluoro-1-hexanesulfonate		5.0	4.87	ng/L	97	(50-150)		
MS_200908270159	Perfluoro-1-hexanesulfonate	ND	25	31.9	ng/L	125	(70-130)		
MSD_200908270159	Perfluoro-1-hexanesulfonate	ND	25	32.8	ng/l	129	(70-130)	30	0.77
LCS1	Perfluoro-n-decanoic acid		25	23.8	ng/L	95	(70-130)		
LCS2	Perfluoro-n-decanoic acid		25	26.6	ng/L	106	(70-130)	20	11
MBLK	Perfluoro-n-decanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-decanoic acid		5.0	7.37	ng/L	147	(50-150)		
MS_200908270159	Perfluoro-n-decanoic acid	ND	25	32.6	ng/L	130	(70-130)		
MSD_200908270159	Perfluoro-n-decanoic acid	ND	25	32.2	ng/l	129	(70-130)	30	0.77
LCS1	Perfluoro-n-heptanoic acid		25	18.6	ng/L	74	(70-130)		
LCS2	Perfluoro-n-heptanoic acid		25	21.8	ng/L	87	(70-130)	20	16
MBLK	Perfluoro-n-heptanoic acid			<5	ng/L				

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

12/14



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750 Royal Oak Dr., Suite 100
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 Tel: 626 386 1100
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 1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 312139

State of New Jersey DEP/Water Supply
 (continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Perfluoro-n-heptanoic acid		5.0	4.28	ng/L	86	(50-150)		
MS_200908270159	Perfluoro-n-heptanoic acid	ND	25	32.6	ng/L	127	(70-130)		
MSD_200908270159	Perfluoro-n-heptanoic acid	ND	25	30.3	ng/l	121	(70-130)	30	8.6
LCS1	Perfluoro-n-hexanoic acid		25	23.3	ng/L	93	(70-130)		
LCS2	Perfluoro-n-hexanoic acid		25	30.4	ng/L	122	(70-130)	20	<u>26</u>
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	6.27	ng/L	125	(50-150)		
MS_200908270159	Perfluoro-n-hexanoic acid	ND	25	32.6	ng/L	130	(70-130)		
MSD_200908270159	Perfluoro-n-hexanoic acid	ND	25	31.6	ng/l	127	(70-130)	30	2.3
LCS1	Perfluoro-n-nonanoic acid		25	23.7	ng/L	95	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	27.5	ng/L	110	(70-130)	20	15
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	6.55	ng/L	131	(50-150)		
MS_200908270159	Perfluoro-n-nonanoic acid	ND	25	28.6	ng/L	114	(70-130)		
MSD_200908270159	Perfluoro-n-nonanoic acid	ND	25	32.1	ng/L	128	(70-130)	30	12
LCS1	Perfluoropentanoic acid		25	21.7	ng/L	87	(70-130)		
LCS2	Perfluoropentanoic acid		25	23.8	ng/L	95	(70-130)	20	9.2
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	5.8	ng/L	116	(50-150)		
MS_200908270159	Perfluoropentanoic acid	ND	25	31.3	ng/L	125	(70-130)		
MSD_200908270159	Perfluoropentanoic acid	ND	25	31.9	ng/l	128	(70-130)	30	0.0
LCS1	PFBA-C13 (I)			107	%	107	(50-150)		
LCS2	PFBA-C13 (I)			96.0	%	96	(50-150)		
MBLK	PFBA-C13 (I)			71.0	%	71	(50-150)		
MRL_CHK	PFBA-C13 (I)			204	%	<u>204</u>	(50-150)		
MS_200908270159	PFBA-C13 (I)			272	%	<u>272</u>	(25-180)		
MSD_200908270159	PFBA-C13 (I)			273	%	<u>273</u>	(25-180)		
LCS1	PFOA-C13 (I)			109	%	109	(50-150)		
LCS2	PFOA-C13 (I)			102	%	102	(50-150)		
MBLK	PFOA-C13 (I)			80.0	%	80	(50-150)		
MRL_CHK	PFOA-C13 (I)			142	%	142	(50-150)		
MS_200908270159	PFOA-C13 (I)			115	%	115	(25-180)		
MSD_200908270159	PFOA-C13 (I)			104	%	104	(25-180)		
LCS1	PFOS-C13 (I)			102	%	102	(50-150)		
LCS2	PFOS-C13 (I)			98.0	%	98	(50-150)		
MBLK	PFOS-C13 (I)			69.0	%	69	(50-150)		
MRL_CHK	PFOS-C13 (I)			112	%	112	(50-150)		
MS_200908270159	PFOS-C13 (I)			83.0	%	83	(25-180)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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Tel: 626 386 1100
Fax: 626 386 1101
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Laboratory
QC Report: 312139

State of New Jersey DEP/Water Supply
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MSD_200908270159	PFOS-C13 (I)			93.0	%	93	(25-180)		

QC Ref# 522976 - Perfluorinated compounds by MWH PFC

Analysis Date: 08/22/2009

LCS1	Perfluoro butanoic acid- PFBA	25	18.5	ng/L	74	(70-130)			
LCS2	Perfluoro butanoic acid- PFBA	25	18.3	ng/L	73	(70-130)	20	1.1	
MBLK	Perfluoro butanoic acid- PFBA		<10	ng/L					
MRL_CHK	Perfluoro butanoic acid- PFBA	5.0	2.83	ng/L	57	(50-150)			
MS_200908130827	Perfluoro butanoic acid- PFBA	ND	25	23.3	ng/l	93	(70-130)		
MSD_200908130827	Perfluoro butanoic acid- PFBA	ND	25	17.7	ng/l	71	(70-130)	30	27

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

14/14

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attention: Linda Walsh
Fax: 609-292-1654

Date of Issue 04/19/2010

MWH LABORATORIES

TDF: Thomas.D.French
Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.



Report#: 311349
Project: PFOA-PFOS
Group: 3rd Quarter 2009
PO#: 7073402

Acknowledgement of Samples Received**New Jersey DEP/Water Supply**

401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attn: Linda Walsh
Phone: 609-633-2149

Customer Code: NEWJERSEY-DEP

Group #: 311349

Project #: PFOA-PFOS

Sample Group: 3rd Quarter 2009

Project Manager: Thomas.D.French

Phone: (480) 778-1558

The following samples were received from you on **August 05, 2009**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample Id	Sample Date
<u>200908050574</u>	New Brunswick WD 1214001 D&R Canal @PFC_EXTRA	04-Aug-2009 1055
<u>200908050575</u>	Middlesex Water 1225001 D&R Canal @PFC_EXTRA	04-Aug-2009 1145
<u>200908050576</u>	NJ Amer Water Short Hills 0712001 TP @PFC_EXTRA	04-Aug-2009 1335
<u>200908050577</u>	NJ Amer Water 2004002 @PFC_EXTRA	04-Aug-2009 1440
<u>200908050578</u>	Field Blank @PFC_EXTRA	04-Aug-2009 1515

Test Description

@PFC_EXTRA -- Perfluorinated compounds



CHAIN OF CUSTODY RECORD

LABORATORIES

MWH LABS USE ONLY:

LOGIN COMMENTS:

SAMPLE TEMP RECEIVED AT:	<input type="checkbox"/> Scottsdale 9°C	(Compliance: 4 +/- 2°C)	SAMPLES LOGGED IN BY:	JS
RECEIVED FROM CLIENT:	<input type="checkbox"/> REFRIGERATED — ON ICE —	SAMPLES REC'D DAY OF COLLECTION	<input type="checkbox"/>	(check for yes)
CONDITION OF ICE:	<input checked="" type="checkbox"/> Monrovia 2°C	PARTIALLY FROZEN <input checked="" type="checkbox"/> THAWED	<input type="checkbox"/>	(check for yes)
TO BE COMPLETED BY SAMPLER:				
COMPANY, UTILITY or PROJECT:	NJ DEP			
MWH LABS CLIENT CODE:				

TO BE COMPLETED BY SAMPLER:

NAME: **John Berchfield**
 DATE: **07/17/03**
 TIME: **10:00 AM**

SAMPLE ID: **1219001**STATION # or LOCATION: **T.P. Sample tap RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225001**STATION # or LOCATION: **T.P. Sample tap RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225002**STATION # or LOCATION: **T.P. Sample tap at Passaic River interface**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225003**STATION # or LOCATION: **Conduit 1 P. sample tap RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225004**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225005**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225006**STATION # or LOCATION: **Conduit 1 P. sample tap RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225007**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225008**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225009**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225010**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225011**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225012**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225013**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225014**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225015**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225016**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225017**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225018**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225019**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225020**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225021**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225022**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225023**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225024**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225025**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225026**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225027**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225028**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225029**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225030**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225031**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225032**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225033**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225034**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225035**STATION # or LOCATION: **Reservoir RSW**MATRIX: **T.P.**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225036**STATION # or LOCATION: **Field Blank NIST#030409FB**MATRIX: **FB**CRAB: **✓**COMP: **X**DATE: **07/17/03**TIME: **10:00 AM**SAMPLE ID: **1225037**

750 Royal Oaks Drive, Suite 100
Monrovia, CA 91016 (626) 386-1100 FAX (626) 386-1124

Thomas D. French Your MWHL Project Manager

Sampler: please return
this paper with your samples

BO #: 7378

Created By: TDF

Order Date: 07/16/2009

Bottle Orders

Ship Sample Kits to

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Attn: Linda Walsh
Phone: 609-633-2149
Fax: 609-292-1654

of Samples

Tests

50 @PFC_EXTRA

Date Sampled

Date Received

Group#

Billing Address

State of New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Attn: Linda Walsh
Phone: 609-633-2149
Fax: 609-292-1654

UN DOT #

Send Report to

State of New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Attn: Linda Walsh
Phone: 609-633-2149
Fax: 609-292-1654

Comments

Place in 7 small coolers, each with COC, blue ice, sampling/packing, return shipment. In each cooler, supply one liter plastic(unpreserved), filled with DI water for Field Blanks.

Code: Status: Date Shipped: Via: Tracking #: # of Coolers:

Prepared By:



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New Jersey DEP/Water Supply
Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Laboratory Comments
Report: #311349

Group Comments

Revised report - PFOS results for samples 200908050574 and 200908050575 are changed from 6.9, 6.0ppt to 6.6 and 5.7 respectively due to systematic error.

Flags Legend:

R7 - LFB/LFBD RPD exceeded the laboratory acceptance limit. Recovery met acceptance criteria.



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Laboratory
Hits Report: 311349

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/05/2009

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
200908050574 New Brunswick WD 1214001 D&R Canal						
08/24/2009	07:58	Perfluoro octanesulfonate-PFOS	6.6		ng/L	5
08/24/2009	07:58	Perfluoro octanoic acid - PFOA	11		ng/L	5
200908050575 Middlesex Water 1225001 D&R Canal						
08/24/2009	08:15	Perfluoro octanesulfonate-PFOS	5.7		ng/L	5
08/24/2009	08:15	Perfluoro octanoic acid - PFOA	10		ng/L	5
200908050576 NJ Amer Water Short Hills 0712001 TP						
08/24/2009	07:41	Perfluoro octanoic acid - PFOA	9.1		ng/L	5
200908050577 NJ Amer Water 2004002						
08/24/2009	08:33	Perfluoro octanoic acid - PFOA	16		ng/L	5
08/24/2009	08:33	Perfluoropentanoic acid	6.7		ng/L	5
200908050578 Field Blank						
08/24/2009	09:14	Perfluoro-n-nonanoic acid	59		ng/L	5



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Laboratory Data
Report: 311349

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/05/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution		
New Brunswick WD 1214001 D&R Canal (200908050574)							Sampled on 08/04/2009 1055			
MWH PFC - Perfluorinated compounds										
08/22/2009 22:48 522976 (MWH PFC) Perfluoro butanoic acid- PFBA ND ng/L 5 1 08/24/2009 07:58 519730 (MWH PFC) Perfluoro octanesulfonate-PFOS 6.6 ng/L 5 1 08/24/2009 07:58 519730 (MWH PFC) Perfluoro octanoic acid - PFOA 11 ng/L 5 1 08/24/2009 07:58 519730 (MWH PFC) Perfluoro-1-butanesulfonate ND ng/L 5 1 08/24/2009 07:58 519730 (MWH PFC) Perfluoro-1-hexanesulfonate ND ng/L 5 1 08/24/2009 07:58 519730 (MWH PFC) Perfluoro-n-decanoic acid ND ng/L 5 1 08/24/2009 07:58 519730 (MWH PFC) Perfluoro-n-heptanoic acid ND ng/L 5 1 08/24/2009 07:58 519730 (MWH PFC) Perfluoro-n-hexanoic acid ND ng/L 5 1 08/24/2009 07:58 519730 (MWH PFC) Perfluoro-n-nonanoic acid ND ng/L 5 1 08/24/2009 07:58 519730 (MWH PFC) Perfluoropentanoic acid ND ng/L 5 1 08/24/2009 07:58 519730 (MWH PFC) PFBA-C13 97 % 1 08/24/2009 07:58 519730 (MWH PFC) PFOA-C13 138 % 1 08/24/2009 07:58 519730 (MWH PFC) PFOS-C13 103 % 1										
Middlesex Water 1225001 D&R Canal (200908050575)							Sampled on 08/04/2009 1145			
MWH PFC - Perfluorinated compounds										
08/22/2009 23:05 522976 (MWH PFC) Perfluoro butanoic acid- PFBA ND ng/L 5 1 08/24/2009 08:15 519730 (MWH PFC) Perfluoro octanesulfonate-PFOS 5.7 ng/L 5 1 08/24/2009 08:15 519730 (MWH PFC) Perfluoro octanoic acid - PFOA 10 ng/L 5 1 08/24/2009 08:15 519730 (MWH PFC) Perfluoro-1-butanesulfonate ND ng/L 5 1 08/24/2009 08:15 519730 (MWH PFC) Perfluoro-1-hexanesulfonate ND ng/L 5 1 08/24/2009 08:15 519730 (MWH PFC) Perfluoro-n-decanoic acid ND ng/L 5 1 08/24/2009 08:15 519730 (MWH PFC) Perfluoro-n-heptanoic acid ND ng/L 5 1 08/24/2009 08:15 519730 (MWH PFC) Perfluoro-n-hexanoic acid ND ng/L 5 1 08/24/2009 08:15 519730 (MWH PFC) Perfluoro-n-nonanoic acid ND ng/L 5 1 08/24/2009 08:15 519730 (MWH PFC) Perfluoropentanoic acid ND ng/L 5 1 08/24/2009 08:15 519730 (MWH PFC) PFBA-C13 94 % 1 08/24/2009 08:15 519730 (MWH PFC) PFOA-C13 128 % 1 08/24/2009 08:15 519730 (MWH PFC) PFOS-C13 89 % 1										
NJ Amer Water Short Hills 0712001 TP (200908050576)							Sampled on 08/04/2009 1335			

MWH PFC - Perfluorinated compounds

Rounding on totals after summation.
(c) - indicates calculated results



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750 Royal Oak Dr., Suite 100
 Monrovia, California, 91016-3629
 Tel: 626 386 1100
 Fax: 626 386 1101
 1 800 566 LABS (1 800 566 5227)

Laboratory Data
 Report: 311349

New Jersey DEP/Water Supply

Linda Walsh
 401 East State Street
 Third Floor, West Wing
 Trenton, NJ 08625-0426

Samples Received on:
 08/05/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
08/22/2009	22:31	522976	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
08/24/2009	07:41	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	07:41	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	9.1	ng/L	5	1
08/24/2009	07:41	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	07:41	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	07:41	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	07:41	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	07:41	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	07:41	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
08/24/2009	07:41	519730	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
08/24/2009	07:41	519730	(MWH PFC)	PFBA-C13	91	%	1	
08/24/2009	07:41	519730	(MWH PFC)	PFOA-C13	124	%	1	
08/24/2009	07:41	519730	(MWH PFC)	PFOS-C13	90	%	1	

NJ Amer Water 2004002 (200908050577)

Sampled on 08/04/2009 1440

MWH PFC - Perfluorinated compounds

08/31/2009	23:28	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
08/24/2009	08:33	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	08:33	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	16	ng/L	5	1
08/24/2009	08:33	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	08:33	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	08:33	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	08:33	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	08:33	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	08:33	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
08/24/2009	08:33	519730	(MWH PFC)	Perfluoropentanoic acid	6.7	ng/L	5	1
08/24/2009	08:33	519730	(MWH PFC)	PFBA-C13	62	%	1	
08/24/2009	08:33	519730	(MWH PFC)	PFOA-C13	137	%	1	
08/24/2009	08:33	519730	(MWH PFC)	PFOS-C13	100	%	1	

Field Blank (200908050578)

Sampled on 08/04/2009 1515

MWH PFC - Perfluorinated compounds

08/31/2009	23:44	522272	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND (R7)	ng/L	5	1
08/24/2009	09:14	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	09:14	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1

Rounding on totals after summation.
 (c) - indicates calculated results

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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

**Laboratory Data
Report: 311349****New Jersey DEP/Water Supply**

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
08/05/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
08/24/2009	09:14	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	09:14	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	09:14	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	09:14	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	09:14	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	09:14	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	59	ng/L	5	1
08/24/2009	09:14	519730	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
08/24/2009	09:14	519730	(MWH PFC)	PFBA-C13	95	%		1
08/24/2009	09:14	519730	(MWH PFC)	PFOA-C13	115	%		1
08/24/2009	09:14	519730	(MWH PFC)	PFOS-C13	91	%		1



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Summary: 311349

New Jersey DEP/Water Supply

QC Ref # 519730 - Perfluorinated compounds

200908050574	New Brunswick WD 1214001 D&R Canal
200908050575	Middlesex Water 1225001 D&R Canal
200908050576	NJ Amer Water Short Hills 0712001 TP
200908050577	NJ Amer Water 2004002
200908050578	Field Blank

Analysis Date: 08/24/2009

Analyzed by: JYW
Analyzed by: JYW
Analyzed by: JYW
Analyzed by: JYW
Analyzed by: JYW

QC Ref # 522272 - Perfluorinated compounds

200908050577	NJ Amer Water 2004002
200908050578	Field Blank

Analysis Date: 08/31/2009

Analyzed by: JYW
Analyzed by: JYW

QC Ref # 522976 - Perfluorinated compounds

200908050574	New Brunswick WD 1214001 D&R Canal
200908050575	Middlesex Water 1225001 D&R Canal
200908050576	NJ Amer Water Short Hills 0712001 TP

Analysis Date: 08/22/2009

Analyzed by: JYW
Analyzed by: JYW
Analyzed by: JYW



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A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 311349

New Jersey DEP/Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD Limit (%)	RPD%
QC Ref# 519730 - Perfluorinated compounds by MWH PFC									
								Analysis Date: 08/24/2009	
LCS1	Perfluoro octanesulfonate-PFOS	25	19.7	ng/L	79	(70-130)			
LCS2	Perfluoro octanesulfonate-PFOS	25	22.7	ng/L	91	(70-130)	20	14	
MBLK	Perfluoro octanesulfonate-PFOS		<5	ng/L					
MRL_CHK	Perfluoro octanesulfonate-PFOS	5.0	3.66	ng/L	73	(50-150)			
MS_200908130827	Perfluoro octanesulfonate-PFOS	ND	25	21.8	ng/l	87	(70-130)		
MSD_200908130827	Perfluoro octanesulfonate-PFOS	ND	25	17.9	ng/l	72	(70-130)	30	20
LCS1	Perfluoro octanoic acid - PFOA	25	21.2	ng/L	85	(70-130)			
LCS2	Perfluoro octanoic acid - PFOA	25	24.6	ng/L	99	(70-130)	20	15	
MBLK	Perfluoro octanoic acid - PFOA		<5	ng/L					
MRL_CHK	Perfluoro octanoic acid - PFOA	5.0	4.2	ng/L	84	(50-150)			
MS_200908130827	Perfluoro octanoic acid - PFOA	ND	25	22.1	ng/l	88	(70-130)		
MSD_200908130827	Perfluoro octanoic acid - PFOA	ND	25	19.1	ng/l	76	(70-130)	30	14
LCS1	Perfluoro-1-butanesulfonate	25	20.7	ng/L	83	(70-130)			
LCS2	Perfluoro-1-butanesulfonate	25	25.0	ng/L	100	(70-130)	20	19	
MBLK	Perfluoro-1-butanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-butanesulfonate	5.0	4.6	ng/L	92	(50-150)			
MS_200908130827	Perfluoro-1-butanesulfonate	ND	20	24.1	ng/L	116	(70-130)		
MSD_200908130827	Perfluoro-1-butanesulfonate	ND	20	19.4	ng/l	93	(70-130)	30	22
LCS1	Perfluoro-1-hexanesulfonate	25	30.3	ng/L	121	(70-130)			
LCS2	Perfluoro-1-hexanesulfonate	25	25.9	ng/L	104	(70-130)	20	16	
MBLK	Perfluoro-1-hexanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-hexanesulfonate	5.0	5.82	ng/L	116	(50-150)			
MS_200908130827	Perfluoro-1-hexanesulfonate	ND	20	26.0	ng/L	129	(70-130)		
MSD_200908130827	Perfluoro-1-hexanesulfonate	ND	20	20.9	ng/l	103	(70-130)	30	22
LCS1	Perfluoro-n-decanoic acid	25	21.2	ng/L	85	(70-130)			
LCS2	Perfluoro-n-decanoic acid	25	22.6	ng/L	91	(70-130)	20	6.4	
MBLK	Perfluoro-n-decanoic acid		<5	ng/L					
MRL_CHK	Perfluoro-n-decanoic acid	5.0	3.85	ng/L	77	(50-150)			
MS_200908130827	Perfluoro-n-decanoic acid	ND	20	23.0	ng/L	106	(70-130)		
MSD_200908130827	Perfluoro-n-decanoic acid	ND	20	20.1	ng/l	91	(70-130)	30	15
LCS1	Perfluoro-n-heptanoic acid	25	23.0	ng/L	92	(70-130)			
LCS2	Perfluoro-n-heptanoic acid	25	23.7	ng/L	95	(70-130)	20	3.0	
MBLK	Perfluoro-n-heptanoic acid		<5	ng/L					
MRL_CHK	Perfluoro-n-heptanoic acid	5.0	4.06	ng/L	81	(50-150)			
MS_200908130827	Perfluoro-n-heptanoic acid	ND	20	25.3	ng/L	124	(70-130)		
MSD_200908130827	Perfluoro-n-heptanoic acid	ND	20	19.5	ng/l	94	(70-130)	30	27
LCS1	Perfluoro-n-hexanoic acid	25	20.5	ng/L	82	(70-130)			

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 311349

**State of New Jersey DEP/Water Supply
(continued)**

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro-n-hexanoic acid		25	23.0	ng/L	92	(70-130)	20	12
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	4.12	ng/L	82	(50-150)		
MS_200908130827	Perfluoro-n-hexanoic acid	ND	20	21.8	ng/L	105	(70-130)		
MSD_200908130827	Perfluoro-n-hexanoic acid	ND	20	19.2	ng/l	92	(70-130)	30	14
LCS1	Perfluoro-n-nonanoic acid		25	21.7	ng/L	87	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	24.1	ng/L	96	(70-130)	20	11
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	4.3	ng/L	86	(50-150)		
MS_200908130827	Perfluoro-n-nonanoic acid	ND	20	24.5	ng/L	119	(70-130)		
MSD_200908130827	Perfluoro-n-nonanoic acid	ND	20	19.7	ng/L	95	(70-130)	30	23
LCS1	Perfluoropentanoic acid		25	22.1	ng/L	88	(70-130)		
LCS2	Perfluoropentanoic acid		25	25.5	ng/L	102	(70-130)	20	14
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	4.26	ng/L	85	(50-150)		
MS_200908130827	Perfluoropentanoic acid	ND	20	22.8	ng/L	110	(70-130)		
MSD_200908130827	Perfluoropentanoic acid	ND	20	20.0	ng/l	96	(70-130)	30	14
LCS1	PFBA-C13 (I)			97.0	%	97	(50-150)		
LCS2	PFBA-C13 (I)			54.0	%	54	(50-150)		
MBLK	PFBA-C13 (I)			35.0	%	<u>35</u>	(50-150)		
MRL_CHK	PFBA-C13 (I)			88.0	%	88	(50-150)		
MS_200908130827	PFBA-C13 (I)			108	%	108	(25-180)		
MSD_200908130827	PFBA-C13 (I)			81.0	%	81	(25-180)		
LCS1	PFOA-C13 (I)			112	%	112	(50-150)		
LCS2	PFOA-C13 (I)			101	%	101	(50-150)		
MBLK	PFOA-C13 (I)			100	%	100	(50-150)		
MRL_CHK	PFOA-C13 (I)			119	%	119	(50-150)		
MS_200908130827	PFOA-C13 (I)			93.0	%	93	(25-180)		
MSD_200908130827	PFOA-C13 (I)			94.0	%	94	(25-180)		
LCS1	PFOS-C13 (I)			80.0	%	80	(50-150)		
LCS2	PFOS-C13 (I)			93.0	%	93	(50-150)		
MBLK	PFOS-C13 (I)			85.0	%	85	(50-150)		
MRL_CHK	PFOS-C13 (I)			86.0	%	86	(50-150)		
MS_200908130827	PFOS-C13 (I)			89.0	%	89	(25-180)		
MSD_200908130827	PFOS-C13 (I)			86.0	%	86	(25-180)		

QC Ref# 522272 - Perfluorinated compounds by MWH PFC

Analysis Date: 08/31/2009

LCS1	Perfluoro butanoic acid- PFBA	25	18.4	ng/L	74	(70-130)
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Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

12/15



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A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
 Monrovia, California, 91016-3629
 Tel: 626 386 1100
 Fax: 626 386 1101
 1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 311349

State of New Jersey DEP/Water Supply
 (continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro butanoic acid- PFBA		25	23.9	ng/L	95	(70-130)	20	<u>26</u>
MBLK	Perfluoro butanoic acid- PFBA			<10	ng/L				
MRL_CHK	Perfluoro butanoic acid- PFBA		5.0	7.44	ng/L	149	(50-150)		
MS_200908270159	Perfluoro butanoic acid- PFBA	ND	25	27.5	ng/l	110	(70-130)		
MSD_200908270159	Perfluoro butanoic acid- PFBA	ND	25	24.6	ng/l	98	(70-130)	30	11
LCS1	Perfluoro octanesulfonate-PFOS		25	25.4	ng/L	102	(70-130)		
LCS2	Perfluoro octanesulfonate-PFOS		25	27.8	ng/L	111	(70-130)	20	9.0
MBLK	Perfluoro octanesulfonate-PFOS			<5	ng/L				
MRL_CHK	Perfluoro octanesulfonate-PFOS		5.0	6.46	ng/L	129	(50-150)		
MS_200908270159	Perfluoro octanesulfonate-PFOS	ND	25	31.7	ng/l	127	(70-130)		
MSD_200908270159	Perfluoro octanesulfonate-PFOS	ND	25	32.2	ng/l	129	(70-130)	30	9.8
LCS1	Perfluoro octanoic acid - PFOA		25	21.1	ng/L	84	(70-130)		
LCS2	Perfluoro octanoic acid - PFOA		25	25.4	ng/L	102	(70-130)	20	19
MBLK	Perfluoro octanoic acid - PFOA			<5	ng/L				
MRL_CHK	Perfluoro octanoic acid - PFOA		5.0	5.99	ng/L	120	(50-150)		
MS_200908270159	Perfluoro octanoic acid - PFOA	ND	25	29.2	ng/l	117	(70-130)		
MSD_200908270159	Perfluoro octanoic acid - PFOA	ND	25	31.3	ng/l	125	(70-130)	30	1.6
LCS1	Perfluoro-1-butanесulfonate		25	22.6	ng/L	90	(70-130)		
LCS2	Perfluoro-1-butanесulfonate		25	28.8	ng/L	115	(70-130)	20	<u>24</u>
MBLK	Perfluoro-1-butanесulfonate			<5	ng/L				
MRL_CHK	Perfluoro-1-butanесulfonate		5.0	5.16	ng/L	103	(50-150)		
MS_200908270159	Perfluoro-1-butanесulfonate	ND	25	30.9	ng/L	123	(70-130)		
MSD_200908270159	Perfluoro-1-butanесulfonate	ND	25	32.4	ng/l	129	(70-130)	30	2.4
LCS1	Perfluoro-1-hexanesulfonate		25	22.3	ng/L	89	(70-130)		
LCS2	Perfluoro-1-hexanesulfonate		25	25.1	ng/L	100	(70-130)	20	12
MBLK	Perfluoro-1-hexanesulfonate			<5	ng/L				
MRL_CHK	Perfluoro-1-hexanesulfonate		5.0	4.87	ng/L	97	(50-150)		
MS_200908270159	Perfluoro-1-hexanesulfonate	ND	25	31.9	ng/L	125	(70-130)		
MSD_200908270159	Perfluoro-1-hexanesulfonate	ND	25	32.8	ng/l	129	(70-130)	30	0.77
LCS1	Perfluoro-n-decanoic acid		25	23.8	ng/L	95	(70-130)		
LCS2	Perfluoro-n-decanoic acid		25	26.6	ng/L	106	(70-130)	20	11
MBLK	Perfluoro-n-decanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-decanoic acid		5.0	7.37	ng/L	147	(50-150)		
MS_200908270159	Perfluoro-n-decanoic acid	ND	25	32.6	ng/L	130	(70-130)		
MSD_200908270159	Perfluoro-n-decanoic acid	ND	25	32.2	ng/l	129	(70-130)	30	0.77
LCS1	Perfluoro-n-heptanoic acid		25	18.6	ng/L	74	(70-130)		
LCS2	Perfluoro-n-heptanoic acid		25	21.8	ng/L	87	(70-130)	20	16
MBLK	Perfluoro-n-heptanoic acid			<5	ng/L				

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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750 Royal Oak Dr., Suite 100
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Fax: 626 386 1101
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Laboratory
QC Report: 311349

State of New Jersey DEP/Water Supply
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	Perfluoro-n-heptanoic acid		5.0	4.28	ng/L	86	(50-150)		
MS_200908270159	Perfluoro-n-heptanoic acid	ND	25	32.6	ng/L	127	(70-130)		
MSD_200908270159	Perfluoro-n-heptanoic acid	ND	25	30.3	ng/l	121	(70-130)	30	8.6
LCS1	Perfluoro-n-hexanoic acid		25	23.3	ng/L	93	(70-130)		
LCS2	Perfluoro-n-hexanoic acid		25	30.4	ng/L	122	(70-130)	20	<u>26</u>
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	6.27	ng/L	125	(50-150)		
MS_200908270159	Perfluoro-n-hexanoic acid	ND	25	32.6	ng/L	130	(70-130)		
MSD_200908270159	Perfluoro-n-hexanoic acid	ND	25	31.6	ng/l	127	(70-130)	30	2.3
LCS1	Perfluoro-n-nonanoic acid		25	23.7	ng/L	95	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	27.5	ng/L	110	(70-130)	20	15
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	6.55	ng/L	131	(50-150)		
MS_200908270159	Perfluoro-n-nonanoic acid	ND	25	28.6	ng/L	114	(70-130)		
MSD_200908270159	Perfluoro-n-nonanoic acid	ND	25	32.1	ng/L	128	(70-130)	30	12
LCS1	Perfluoropentanoic acid		25	21.7	ng/L	87	(70-130)		
LCS2	Perfluoropentanoic acid		25	23.8	ng/L	95	(70-130)	20	9.2
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	5.8	ng/L	116	(50-150)		
MS_200908270159	Perfluoropentanoic acid	ND	25	31.3	ng/L	125	(70-130)		
MSD_200908270159	Perfluoropentanoic acid	ND	25	31.9	ng/l	128	(70-130)	30	0.0
LCS1	PFBA-C13 (I)			107	%	107	(50-150)		
LCS2	PFBA-C13 (I)			96.0	%	96	(50-150)		
MBLK	PFBA-C13 (I)			71.0	%	71	(50-150)		
MRL_CHK	PFBA-C13 (I)			204	%	<u>204</u>	(50-150)		
MS_200908270159	PFBA-C13 (I)			272	%	<u>272</u>	(25-180)		
MSD_200908270159	PFBA-C13 (I)			273	%	<u>273</u>	(25-180)		
LCS1	PFOA-C13 (I)			109	%	109	(50-150)		
LCS2	PFOA-C13 (I)			102	%	102	(50-150)		
MBLK	PFOA-C13 (I)			80.0	%	80	(50-150)		
MRL_CHK	PFOA-C13 (I)			142	%	142	(50-150)		
MS_200908270159	PFOA-C13 (I)			115	%	115	(25-180)		
MSD_200908270159	PFOA-C13 (I)			104	%	104	(25-180)		
LCS1	PFOS-C13 (I)			102	%	102	(50-150)		
LCS2	PFOS-C13 (I)			98.0	%	98	(50-150)		
MBLK	PFOS-C13 (I)			69.0	%	69	(50-150)		
MRL_CHK	PFOS-C13 (I)			112	%	112	(50-150)		
MS_200908270159	PFOS-C13 (I)			83.0	%	83	(25-180)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 311349

State of New Jersey DEP/Water Supply
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MSD_200908270159	PFOS-C13 (I)			93.0	%	93	(25-180)		
QC Ref# 522976 - Perfluorinated compounds by MWH PFC									
Analysis Date: 08/22/2009									
LCS1	Perfluoro butanoic acid- PFBA		25	18.5	ng/L	74	(70-130)		
LCS2	Perfluoro butanoic acid- PFBA		25	18.3	ng/L	73	(70-130)	20	1.1
MBLK	Perfluoro butanoic acid- PFBA			<10	ng/L				
MRL_CHK	Perfluoro butanoic acid- PFBA		5.0	2.83	ng/L	57	(50-150)		
MS_200908130827	Perfluoro butanoic acid- PFBA	ND	25	23.3	ng/l	93	(70-130)		
MSD_200908130827	Perfluoro butanoic acid- PFBA	ND	25	17.7	ng/l	71	(70-130)	30	27

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

15/15

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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750 Royal Oak Dr., Suite 100
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Tel: 626 386 1100
Fax: 626 386 1101
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Laboratory Report

for

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attention: Linda Walsh
Fax: 609-292-1654

Date of Issue 01/13/2010

MWH LABORATORIES

TDF: Thomas.D.French
Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.



Report#: 310973
Project: PFOA-PFOS
Group: 3rd Quarter 2009
PO#: 7073402

750 Royal Oaks Drive Suite 100, Monrovia, Ca 91016
 Phone 626-386-1100/Fax: 626-386-1101

Acknowledgement of Samples Received

New Jersey DEP/Water Supply

401 East State Street
 Third Floor, West Wing
 Trenton, NJ 08625-0426
 Attn: Linda Walsh
 Phone: 609-633-2149

Customer Code: NEWJERSEY-DEP
 Group #: 310973
 Project #: PFOA-PFOS
 Sample Group: 3rd Quarter 2009
 Project Manager: Thomas.D.French
 Phone: (480) 778-1558

The following samples were received from you on **July 30, 2009**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample Id	Sample Date
<u>200907300202</u>	0714001 NEWMARK WD CHARLOTTE RES @PFC_EXTRA	29-Jul-2009 1120
<u>200907300206</u>	1403001 BUTLER WD KAKEOUT RES @PFC_EXTRA	29-Jul-2009 1155
<u>200907300207</u>	1401001 BOONTOON WD TAYLORTOWN RES @PFC_EXTRA	29-Jul-2009 1225
<u>200907300208</u>	1429001 PAR TROY HILLS WD WELL #21 TROY RD @PFC_EXTRA	29-Jul-2009 1310
<u>200907300209</u>	1424001 SEM CO MWA WING WELL @PFC_EXTRA	29-Jul-2009 1445
<u>200907300210</u>	FIELD BLANK NJDEP 072909FB @PFC_EXTRA	29-Jul-2009 1500

Test Description

@PFC_EXTRA -- Perfluorinated compounds

Bottle Order for

Thomas.D.French Your MWHL Project Manager

BO #: 7378

Created By: TDF

Order Date: 07/16/2009

Bottle Orders

**Sampler: please return
this paper with your samples**

E 1/4

Ship By: 07/17/2009

Comments

Ship Sample Kits to

New Jersey DEP/Water Supply

401 East State Street

Third Floor, West Wing

Trenton, NJ 08625-0426

Attn: Linda Walsh

Phone: 609-633-2149

Fax: 609-292-1654

of Samples

Tests

Qteline# Bottles - Qty for each sample, type & preservative if any
1 125ml poly no preservative

Comments

Place in 7 small coolers, each with COC, blue ice, sampling/packing, return shipment. In each cooler, supply one liter plastic(unpreserved), filled with DI water for Field Blanks.

Group#

Date Sampled

Date Received

Client Code

NEWJERSEY-DEP

Project Code

PFOA-PFOS Bottle Orders

Group Name

3rd Quarter 2009

PO# / Job#

Send Report to

State of New Jersey DEP/Water Supply

401 East State Street

Third Floor, West Wing

Trenton, NJ 08625-0426

Attn: Linda Walsh

Phone: 609-633-2149

Fax: 609-292-1654

UN DOT #

Comments

of Coolers Tracking # Date Shipped Via Status Code,

Prepared By



MWH

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Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
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Laboratory Comments
Report: #310973

New Jersey DEP/Water Supply
Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

This is a revised final report. Recovery data for surrogate compounds is included.



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Tel: 626 386 1100
Fax: 626 386 1101
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Laboratory
Hits Report: 310973

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
07/30/2009

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
200907300202 0714001 NEWMARK WD CHARLOTTE RES						
08/24/2009	05:57	Perfluoro octanoic acid - PFOA	6.0		ng/L	5
08/24/2009	05:57	Perfluoro-n-nonanoic acid	9.4		ng/L	5
200907300206 1403001 BUTLER WD KAKEOUT RES						
08/24/2009	06:15	Perfluoro octanoic acid - PFOA	9.5		ng/L	5
08/24/2009	06:15	Perfluoro-n-nonanoic acid	14		ng/L	5
200907300207 1401001 BOONTOON WD TAYLORTOWN RES						
08/24/2009	06:32	Perfluoro octanoic acid - PFOA	12		ng/L	5
08/24/2009	06:32	Perfluoro-n-nonanoic acid	19		ng/L	5
200907300208 1429001 PAR TROY HILLS WD WELL #21 TROY RD						
08/24/2009	06:49	Perfluoro-n-nonanoic acid	17		ng/L	5
200907300209 1424001 SEM CO MWA WING WELL						
08/24/2009	07:07	Perfluoro-n-nonanoic acid	80		ng/L	5



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Laboratory Data
Report: 310973

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
07/30/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
0714001 NEWMARK WD CHARLOTTE RES (200907300202)								Sampled on 07/29/2009 1120
MWH PFC - Perfluorinated compounds								
08/22/2009	20:47	522976	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
08/24/2009	05:57	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	05:57	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	6.0	ng/L	5	1
08/24/2009	05:57	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	05:57	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	05:57	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	05:57	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	05:57	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	05:57	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	9.4	ng/L	5	1
08/24/2009	05:57	519730	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
08/24/2009	05:57	519730	(MWH PFC)	PFBA-C13	136	%		1
08/24/2009	05:57	519730	(MWH PFC)	PFOA-C13	134	%		1
08/24/2009	05:57	519730	(MWH PFC)	PFOS-C13	69	%		1
1403001 BUTLER WD KAKEOUT RES (200907300206)								Sampled on 07/29/2009 1155
MWH PFC - Perfluorinated compounds								
08/22/2009	21:04	522976	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
08/24/2009	06:15	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	06:15	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	9.5	ng/L	5	1
08/24/2009	06:15	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	06:15	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	06:15	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	06:15	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	06:15	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	06:15	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	14	ng/L	5	1
08/24/2009	06:15	519730	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
08/24/2009	06:15	519730	(MWH PFC)	PFBA-C13	120	%		1
08/24/2009	06:15	519730	(MWH PFC)	PFOA-C13	138	%		1
08/24/2009	06:15	519730	(MWH PFC)	PFOS-C13	99	%		1
1401001 BOONTOON WD TAYLORTOWN RES (200907300207)								Sampled on 07/29/2009 1225
MWH PFC - Perfluorinated compounds								

Rounding on totals after summation.
(c) - indicates calculated results



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
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Laboratory Data
Report: 310973

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
07/30/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
08/22/2009	21:22	522976	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
08/24/2009	06:32	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	06:32	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	12	ng/L	5	1
08/24/2009	06:32	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	06:32	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	06:32	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	06:32	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	06:32	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	06:32	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	19	ng/L	5	1
08/24/2009	06:32	519730	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
08/24/2009	06:32	519730	(MWH PFC)	PFBA-C13	123	%		1
08/24/2009	06:32	519730	(MWH PFC)	PFOA-C13	148	%		1
08/24/2009	06:32	519730	(MWH PFC)	PFOS-C13	80	%		1

1429001 PAR TROY HILLS WD WELL #21 TROY RD (200907300208)

Sampled on 07/29/2009 1310

MWH PFC - Perfluorinated compounds

08/22/2009	21:39	522976	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
08/24/2009	06:49	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	06:49	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
08/24/2009	06:49	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	06:49	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	06:49	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	06:49	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	06:49	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	06:49	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	17	ng/L	5	1
08/24/2009	06:49	519730	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
08/24/2009	06:49	519730	(MWH PFC)	PFBA-C13	110	%		1
08/24/2009	06:49	519730	(MWH PFC)	PFOA-C13	128	%		1
08/24/2009	06:49	519730	(MWH PFC)	PFOS-C13	79	%		1

1424001 SEM CO MWA WING WELL (200907300209)

Sampled on 07/29/2009 1445

MWH PFC - Perfluorinated compounds

08/22/2009	21:56	522976	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
08/24/2009	07:07	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	07:07	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

**Laboratory Data
Report: 310973**

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
07/30/2009

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
08/24/2009	07:07	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	07:07	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	07:07	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	07:07	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	07:07	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	07:07	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	80	ng/L	5	1
08/24/2009	07:07	519730	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
08/24/2009	07:07	519730	(MWH PFC)	PFBA-C13	111	%		1
08/24/2009	07:07	519730	(MWH PFC)	PFOA-C13	120	%		1
08/24/2009	07:07	519730	(MWH PFC)	PFOS-C13	60	%		1

FIELD BLANK NJDEP O72909FB (200907300210)

Sampled on 07/29/2009 1500

MWH PFC - Perfluorinated compounds

08/22/2009	22:14	522976	(MWH PFC)	Perfluoro butanoic acid- PFBA	ND	ng/L	5	1
08/24/2009	07:24	519730	(MWH PFC)	Perfluoro octanesulfonate-PFOS	ND	ng/L	5	1
08/24/2009	07:24	519730	(MWH PFC)	Perfluoro octanoic acid - PFOA	ND	ng/L	5	1
08/24/2009	07:24	519730	(MWH PFC)	Perfluoro-1-butanesulfonate	ND	ng/L	5	1
08/24/2009	07:24	519730	(MWH PFC)	Perfluoro-1-hexanesulfonate	ND	ng/L	5	1
08/24/2009	07:24	519730	(MWH PFC)	Perfluoro-n-decanoic acid	ND	ng/L	5	1
08/24/2009	07:24	519730	(MWH PFC)	Perfluoro-n-heptanoic acid	ND	ng/L	5	1
08/24/2009	07:24	519730	(MWH PFC)	Perfluoro-n-hexanoic acid	ND	ng/L	5	1
08/24/2009	07:24	519730	(MWH PFC)	Perfluoro-n-nonanoic acid	ND	ng/L	5	1
08/24/2009	07:24	519730	(MWH PFC)	Perfluoropentanoic acid	ND	ng/L	5	1
08/24/2009	07:24	519730	(MWH PFC)	PFBA-C13	112	%		1
08/24/2009	07:24	519730	(MWH PFC)	PFOA-C13	100	%		1
08/24/2009	07:24	519730	(MWH PFC)	PFOS-C13	96	%		1



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Tel: 626 386 1100
Fax: 626 386 1101
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Laboratory
QC Summary: 310973

New Jersey DEP/Water Supply

QC Ref # 519730 - Perfluorinated compounds**Analysis Date: 08/24/2009**

200907300202	0714001 NEWMARK WD CHARLOTTE RES	Analyzed by: JYW
200907300206	1403001 BUTLER WD KAKEOUT RES	Analyzed by: JYW
200907300207	1401001 BOONTOON WD TAYLORTOWN RES	Analyzed by: JYW
200907300208	1429001 PAR TROY HILLS WD WELL #21 TROY RD	Analyzed by: JYW
200907300209	1424001 SEM CO MWA WING WELL	Analyzed by: JYW
200907300210	FIELD BLANK NJDEP O72909FB	Analyzed by: JYW

QC Ref # 522976 - Perfluorinated compounds**Analysis Date: 08/22/2009**

200907300202	0714001 NEWMARK WD CHARLOTTE RES	Analyzed by: JYW
200907300206	1403001 BUTLER WD KAKEOUT RES	Analyzed by: JYW
200907300207	1401001 BOONTOON WD TAYLORTOWN RES	Analyzed by: JYW
200907300208	1429001 PAR TROY HILLS WD WELL #21 TROY RD	Analyzed by: JYW
200907300209	1424001 SEM CO MWA WING WELL	Analyzed by: JYW
200907300210	FIELD BLANK NJDEP O72909FB	Analyzed by: JYW



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 310973

New Jersey DEP/Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD Limit (%)	RPD%
QC Ref# 519730 - Perfluorinated compounds by MWH PFC									
								Analysis Date: 08/24/2009	
LCS1	Perfluoro octanesulfonate-PFOS	25	19.7	ng/L	79	(70-130)			
LCS2	Perfluoro octanesulfonate-PFOS	25	22.7	ng/L	91	(70-130)	20	14	
MBLK	Perfluoro octanesulfonate-PFOS		<5	ng/L					
MRL_CHK	Perfluoro octanesulfonate-PFOS	5.0	3.66	ng/L	73	(50-150)			
MS_200908130827	Perfluoro octanesulfonate-PFOS	ND	25	ng/l	87	(70-130)			
MSD_200908130827	Perfluoro octanesulfonate-PFOS	ND	25	ng/l	72	(70-130)	30	20	
LCS1	Perfluoro octanoic acid - PFOA	25	21.2	ng/L	85	(70-130)			
LCS2	Perfluoro octanoic acid - PFOA	25	24.6	ng/L	99	(70-130)	20	15	
MBLK	Perfluoro octanoic acid - PFOA		<5	ng/L					
MRL_CHK	Perfluoro octanoic acid - PFOA	5.0	4.2	ng/L	84	(50-150)			
MS_200908130827	Perfluoro octanoic acid - PFOA	ND	25	ng/l	88	(70-130)			
MSD_200908130827	Perfluoro octanoic acid - PFOA	ND	25	ng/l	76	(70-130)	30	14	
LCS1	Perfluoro-1-butanesulfonate	25	20.7	ng/L	83	(70-130)			
LCS2	Perfluoro-1-butanesulfonate	25	25.0	ng/L	100	(70-130)	20	19	
MBLK	Perfluoro-1-butanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-butanesulfonate	5.0	4.6	ng/L	92	(50-150)			
MS_200908130827	Perfluoro-1-butanesulfonate	ND	20	ng/L	116	(70-130)			
MSD_200908130827	Perfluoro-1-butanesulfonate	ND	20	ng/l	93	(70-130)	30	22	
LCS1	Perfluoro-1-hexanesulfonate	25	30.3	ng/L	121	(70-130)			
LCS2	Perfluoro-1-hexanesulfonate	25	25.9	ng/L	104	(70-130)	20	16	
MBLK	Perfluoro-1-hexanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-hexanesulfonate	5.0	5.82	ng/L	116	(50-150)			
MS_200908130827	Perfluoro-1-hexanesulfonate	ND	20	ng/L	129	(70-130)			
MSD_200908130827	Perfluoro-1-hexanesulfonate	ND	20	ng/l	103	(70-130)	30	22	
LCS1	Perfluoro-n-decanoic acid	25	21.2	ng/L	85	(70-130)			
LCS2	Perfluoro-n-decanoic acid	25	22.6	ng/L	91	(70-130)	20	6.4	
MBLK	Perfluoro-n-decanoic acid		<5	ng/L					
MRL_CHK	Perfluoro-n-decanoic acid	5.0	3.85	ng/L	77	(50-150)			
MS_200908130827	Perfluoro-n-decanoic acid	ND	20	ng/L	106	(70-130)			
MSD_200908130827	Perfluoro-n-decanoic acid	ND	20	ng/l	91	(70-130)	30	15	
LCS1	Perfluoro-n-heptanoic acid	25	23.0	ng/L	92	(70-130)			
LCS2	Perfluoro-n-heptanoic acid	25	23.7	ng/L	95	(70-130)	20	3.0	
MBLK	Perfluoro-n-heptanoic acid		<5	ng/L					
MRL_CHK	Perfluoro-n-heptanoic acid	5.0	4.06	ng/L	81	(50-150)			
MS_200908130827	Perfluoro-n-heptanoic acid	ND	20	ng/L	124	(70-130)			
MSD_200908130827	Perfluoro-n-heptanoic acid	ND	20	ng/l	94	(70-130)	30	27	
LCS1	Perfluoro-n-hexanoic acid	25	20.5	ng/L	82	(70-130)			

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 310973

**State of New Jersey DEP/Water Supply
(continued)**

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro-n-hexanoic acid		25	23.0	ng/L	92	(70-130)	20	12
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	4.12	ng/L	82	(50-150)		
MS_200908130827	Perfluoro-n-hexanoic acid	ND	20	21.8	ng/L	105	(70-130)		
MSD_200908130827	Perfluoro-n-hexanoic acid	ND	20	19.2	ng/l	92	(70-130)	30	14
LCS1	Perfluoro-n-nonanoic acid		25	21.7	ng/L	87	(70-130)		
LCS2	Perfluoro-n-nonanoic acid		25	24.1	ng/L	96	(70-130)	20	11
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	4.3	ng/L	86	(50-150)		
MS_200908130827	Perfluoro-n-nonanoic acid	ND	20	24.5	ng/L	119	(70-130)		
MSD_200908130827	Perfluoro-n-nonanoic acid	ND	20	19.7	ng/L	95	(70-130)	30	23
LCS1	Perfluoropentanoic acid		25	22.1	ng/L	88	(70-130)		
LCS2	Perfluoropentanoic acid		25	25.5	ng/L	102	(70-130)	20	14
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	4.26	ng/L	85	(50-150)		
MS_200908130827	Perfluoropentanoic acid	ND	20	22.8	ng/L	110	(70-130)		
MSD_200908130827	Perfluoropentanoic acid	ND	20	20.0	ng/l	96	(70-130)	30	14
LCS1	PFBA-C13 (I)			97.0	%	97	(50-150)		
LCS2	PFBA-C13 (I)			54.0	%	54	(50-150)		
MBLK	PFBA-C13 (I)			35.0	%	<u>35</u>	(50-150)		
MRL_CHK	PFBA-C13 (I)			88.0	%	88	(50-150)		
MS_200908130827	PFBA-C13 (I)			108	%	108	(25-180)		
MSD_200908130827	PFBA-C13 (I)			81.0	%	81	(25-180)		
LCS1	PFOA-C13 (I)			112	%	112	(50-150)		
LCS2	PFOA-C13 (I)			101	%	101	(50-150)		
MBLK	PFOA-C13 (I)			100	%	100	(50-150)		
MRL_CHK	PFOA-C13 (I)			119	%	119	(50-150)		
MS_200908130827	PFOA-C13 (I)			93.0	%	93	(25-180)		
MSD_200908130827	PFOA-C13 (I)			94.0	%	94	(25-180)		
LCS1	PFOS-C13 (I)			80.0	%	80	(50-150)		
LCS2	PFOS-C13 (I)			93.0	%	93	(50-150)		
MBLK	PFOS-C13 (I)			85.0	%	85	(50-150)		
MRL_CHK	PFOS-C13 (I)			86.0	%	86	(50-150)		
MS_200908130827	PFOS-C13 (I)			89.0	%	89	(25-180)		
MSD_200908130827	PFOS-C13 (I)			86.0	%	86	(25-180)		

QC Ref# 522976 - Perfluorinated compounds by MWH PFC

Analysis Date: 08/22/2009

LCS1	Perfluoro butanoic acid- PFBA	25	18.5	ng/L	74	(70-130)
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Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

12/13



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 310973

State of New Jersey DEP/Water Supply
(continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro butanoic acid- PFBA		25	18.3	ng/L	73	(70-130)	20	1.1
MBLK	Perfluoro butanoic acid- PFBA			<10	ng/L				
MRL_CHK	Perfluoro butanoic acid- PFBA		5.0	2.83	ng/L	57	(50-150)		
MS_200908130827	Perfluoro butanoic acid- PFBA	ND	25	23.3	ng/l	93	(70-130)		
MSD_200908130827	Perfluoro butanoic acid- PFBA	ND	25	17.7	ng/l	71	(70-130)	30	27

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

13/13



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

New Jersey DEP/Water Supply
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attention: Linda Walsh
Fax: 609-292-1654



TDF: Thomas.D.French
Project Manager

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Hits Reports, Comments, QC Summary, QC Report and Regulatory Forms. This report shall not be reproduced except in full, without the written approval of the laboratory.



Report#: 326521
Project: PFOA-PFOS
Group: 3rd Quarter 2009
PO#: 7073402

750 Royal Oaks Drive Suite 100, Monrovia, Ca 91016
Phone 626-386-1100/Fax: 626-386-1101

Acknowledgement of Samples Received

New Jersey DEP/Water Supply

401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426
Attn: Linda Walsh
Phone: 609-633-2149

Customer Code: NEWJERSEY-DEP

Group #: 326521

Project #: PFOA-PFOS

Sample Group: 3rd Quarter 2009

Project Manager: Thomas.D.French

Phone: (480) 778-1558

PO #: 7073402

The following samples were received from you on **February 19, 2010**. They have been scheduled for the tests listed below each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample #	Sample Id	Sample Date
<u>201002190095</u>	Lakewood Tap composites well # 9,10,15 @PFC_EXTRA	18-Feb-2010 1330
<u>201002190096</u>	Field Blank NJ021810 @PFC_EXTRA	18-Feb-2010 1350

Test Description

@PFC_EXTRA -- Perfluorinated compounds



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Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

**Laboratory Comments
Report: #326521**

New Jersey DEP/Water Supply
Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426



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750 Royal Oak Dr., Suite 100
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Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
Hits Report: 326521

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
02/19/2010

Analyzed	Analyte	Sample ID	Result	Federal MCL	Units	MRL
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Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 326521

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
02/19/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution		
Lakewood Tap composites well # 9,10,15 (201002190095)							Sampled on 02/18/2010 1330			
MWH PFC - Perfluorinated compounds										
03/18/2010 23:20 545557 (MWH PFC) Perfluoro butanoic acid- PFBA ND ng/L 10 1 03/18/2010 23:20 545557 (MWH PFC) Perfluoro octanesulfonate-PFOS ND ng/L 5 1 03/18/2010 23:20 545557 (MWH PFC) Perfluoro octanoic acid - PFOA ND ng/L 5 1 03/18/2010 23:20 545557 (MWH PFC) Perfluoro-1-butanesulfonate ND ng/L 5 1 03/18/2010 23:20 545557 (MWH PFC) Perfluoro-1-hexanesulfonate ND ng/L 5 1 03/18/2010 23:20 545557 (MWH PFC) Perfluoro-n-decanoic acid ND ng/L 5 1 03/18/2010 23:20 545557 (MWH PFC) Perfluoro-n-heptanoic acid ND ng/L 5 1 03/18/2010 23:20 545557 (MWH PFC) Perfluoro-n-hexanoic acid ND ng/L 5 1 03/18/2010 23:20 545557 (MWH PFC) Perfluoro-n-nonanoic acid ND ng/L 5 1 03/18/2010 23:20 545557 (MWH PFC) Perfluoropentanoic acid ND ng/L 5 1 03/18/2010 23:20 545557 (MWH PFC) PFBA-C13 97 % 1 03/18/2010 23:20 545557 (MWH PFC) PFDA-C13 70 % 1 03/18/2010 23:20 545557 (MWH PFC) PFHxA-C13 86 % 1 03/18/2010 23:20 545557 (MWH PFC) PFNA-C13 82 % 1 03/18/2010 23:20 545557 (MWH PFC) PFOA-C13 59 % 1 03/18/2010 23:20 545557 (MWH PFC) PFOS-C13 65 % 1										
Field Blank NJ021810 (201002190096)							Sampled on 02/18/2010 1350			
MWH PFC - Perfluorinated compounds										
03/18/2010 23:35 545557 (MWH PFC) Perfluoro butanoic acid- PFBA ND ng/L 10 1 03/18/2010 23:35 545557 (MWH PFC) Perfluoro octanesulfonate-PFOS ND ng/L 5 1 03/18/2010 23:35 545557 (MWH PFC) Perfluoro octanoic acid - PFOA ND ng/L 5 1 03/18/2010 23:35 545557 (MWH PFC) Perfluoro-1-butanesulfonate ND ng/L 5 1 03/18/2010 23:35 545557 (MWH PFC) Perfluoro-1-hexanesulfonate ND ng/L 5 1 03/18/2010 23:35 545557 (MWH PFC) Perfluoro-n-decanoic acid ND ng/L 5 1 03/18/2010 23:35 545557 (MWH PFC) Perfluoro-n-heptanoic acid ND ng/L 5 1 03/18/2010 23:35 545557 (MWH PFC) Perfluoro-n-hexanoic acid ND ng/L 5 1 03/18/2010 23:35 545557 (MWH PFC) Perfluoro-n-nonanoic acid ND ng/L 5 1 03/18/2010 23:35 545557 (MWH PFC) Perfluoropentanoic acid ND ng/L 5 1 03/18/2010 23:35 545557 (MWH PFC) PFBA-C13 104 % 1 03/18/2010 23:35 545557 (MWH PFC) PFDA-C13 56 % 1 03/18/2010 23:35 545557 (MWH PFC) PFHxA-C13 95 % 1										



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750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory Data
Report: 326521

New Jersey DEP/Water Supply

Linda Walsh
401 East State Street
Third Floor, West Wing
Trenton, NJ 08625-0426

Samples Received on:
02/19/2010

Prepared	Analyzed	QC Ref #	Method	Analyte	Result	Units	MRL	Dilution
03/18/2010	23:35	545557	(MWH PFC)	PFNA-C13	68	%		1
03/18/2010	23:35	545557	(MWH PFC)	PFOA-C13	65	%		1
03/18/2010	23:35	545557	(MWH PFC)	PFOS-C13	68	%		1



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Tel: 626 386 1100
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Laboratory
QC Summary: 326521

New Jersey DEP/Water Supply

QC Ref # 545557 - Perfluorinated compounds

201002190095 Lakewood Tap composites well # 9,10,15
201002190096 Field Blank NJ021810

Analysis Date: 03/18/2010

Analyzed by: JYW
Analyzed by: JYW



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Tel: 626 386 1100
Fax: 626 386 1101
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Laboratory
QC Report: 326521

New Jersey DEP/Water Supply

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD Limit (%)	RPD%
QC Ref# 545557 - Perfluorinated compounds by MWH PFC									
								Analysis Date: 03/18/2010	
LCS1	Perfluoro butanoic acid- PFBA	25	26.0	ng/L	104	(70-130)			
LCS2	Perfluoro butanoic acid- PFBA	25	28.2	ng/L	113	(70-130)	20	8.1	
MBLK	Perfluoro butanoic acid- PFBA		<10	ng/L					
MRL_CHK	Perfluoro butanoic acid- PFBA	5.0	6.03	ng/L	121	(50-150)			
MS_201002190095	Perfluoro butanoic acid- PFBA	ND	25	30.4	ng/l	110	(70-130)		
MSD_201002190095	Perfluoro butanoic acid- PFBA	ND	25	31.4	ng/l	115	(70-130)	30	4.4
LCS1	Perfluoro octanesulfonate-PFOS	24	20.8	ng/L	87	(70-130)			
LCS2	Perfluoro octanesulfonate-PFOS	24	22.3	ng/L	93	(70-130)	20	7.0	
MBLK	Perfluoro octanesulfonate-PFOS		<5	ng/L					
MRL_CHK	Perfluoro octanesulfonate-PFOS	4.8	5.07	ng/L	106	(50-150)			
MS_201002190095	Perfluoro octanesulfonate-PFOS	ND	24	19.5	ng/l	71	(70-130)		
MSD_201002190095	Perfluoro octanesulfonate-PFOS	ND	24	24.1	ng/l	91	(70-130)	30	24
LCS1	Perfluoro octanoic acid - PFOA	25	24.4	ng/L	98	(70-130)			
LCS2	Perfluoro octanoic acid - PFOA	25	20.1	ng/L	81	(70-130)	20	19	
MBLK	Perfluoro octanoic acid - PFOA		<5	ng/L					
MRL_CHK	Perfluoro octanoic acid - PFOA	5.0	5.31	ng/L	106	(50-150)			
MS_201002190095	Perfluoro octanoic acid - PFOA	ND	25	26.7	ng/l	98	(70-130)		
MSD_201002190095	Perfluoro octanoic acid - PFOA	ND	25	23.5	ng/l	85	(70-130)	30	14
LCS1	Perfluoro-1-butanesulfonate	22	25.6	ng/L	116	(70-130)			
LCS2	Perfluoro-1-butanesulfonate	22	25.8	ng/L	117	(70-130)	20	0.78	
MBLK	Perfluoro-1-butanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-butanesulfonate	4.4	4.67	ng/L	106	(50-150)			
MS_201002190095	Perfluoro-1-butanesulfonate	ND	22	24.2	ng/L	109	(70-130)		
MSD_201002190095	Perfluoro-1-butanesulfonate	ND	22	25.6	ng/l	116	(70-130)	30	6.2
LCS1	Perfluoro-1-hexanesulfonate	24	22.6	ng/L	96	(70-130)			
LCS2	Perfluoro-1-hexanesulfonate	24	23.6	ng/L	100	(70-130)	20	4.3	
MBLK	Perfluoro-1-hexanesulfonate		<5	ng/L					
MRL_CHK	Perfluoro-1-hexanesulfonate	4.7	5.02	ng/L	106	(50-150)			
MS_201002190095	Perfluoro-1-hexanesulfonate	ND	24	21.5	ng/L	87	(70-130)		
MSD_201002190095	Perfluoro-1-hexanesulfonate	ND	24	23.1	ng/l	94	(70-130)	30	7.7
LCS1	Perfluoro-n-decanoic acid	25	23.1	ng/L	93	(70-130)			
LCS2	Perfluoro-n-decanoic acid	25	21.3	ng/L	85	(70-130)	20	8.1	
MBLK	Perfluoro-n-decanoic acid		<5	ng/L					
MRL_CHK	Perfluoro-n-decanoic acid	5.0	3.03	ng/L	61	(50-150)			
MS_201002190095	Perfluoro-n-decanoic acid	ND	25	21.7	ng/L	87	(70-130)		
MSD_201002190095	Perfluoro-n-decanoic acid	ND	25	18.1	ng/l	73	(70-130)	30	18
LCS1	Perfluoro-n-heptanoic acid	25	18.6	ng/L	75	(70-130)			

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)



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 Tel: 626 386 1100
 Fax: 626 386 1101
 1 800 566 LABS (1 800 566 5227)

Laboratory
 QC Report: 326521

State of New Jersey DEP/Water Supply
 (continued)

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
LCS2	Perfluoro-n-heptanoic acid		25	22.1	ng/L	89	(70-130)	20	17
MBLK	Perfluoro-n-heptanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-heptanoic acid		5.0	5.09	ng/L	102	(50-150)		
MS_201002190095	Perfluoro-n-heptanoic acid	ND	25	23.8	ng/L	87	(70-130)		
MSD_201002190095	Perfluoro-n-heptanoic acid	ND	25	19.5	ng/l	70	(70-130)	30	22
LCS1	Perfluoro-n-hexanoic acid			25	27.5	ng/L	110	(70-130)	
LCS2	Perfluoro-n-hexanoic acid			25	25.8	ng/L	103	(70-130)	20
MBLK	Perfluoro-n-hexanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-hexanoic acid		5.0	4.48	ng/L	90	(50-150)		
MS_201002190095	Perfluoro-n-hexanoic acid	ND	25	22.1	ng/L	86	(70-130)		
MSD_201002190095	Perfluoro-n-hexanoic acid	ND	25	26.1	ng/l	103	(70-130)	30	18
LCS1	Perfluoro-n-nonanoic acid			25	27.2	ng/L	109	(70-130)	
LCS2	Perfluoro-n-nonanoic acid			25	25.0	ng/L	100	(70-130)	20
MBLK	Perfluoro-n-nonanoic acid			<5	ng/L				
MRL_CHK	Perfluoro-n-nonanoic acid		5.0	4.58	ng/L	92	(50-150)		
MS_201002190095	Perfluoro-n-nonanoic acid	ND	25	24.9	ng/L	100	(70-130)		
MSD_201002190095	Perfluoro-n-nonanoic acid	ND	25	18.5	ng/L	74	(70-130)	30	30
LCS1	Perfluoropentanoic acid			25	23.2	ng/L	93	(70-130)	
LCS2	Perfluoropentanoic acid			25	26.8	ng/L	107	(70-130)	20
MBLK	Perfluoropentanoic acid			<5	ng/L				
MRL_CHK	Perfluoropentanoic acid		5.0	3.37	ng/L	67	(50-150)		
MS_201002190095	Perfluoropentanoic acid	ND	25	26.3	ng/L	105	(70-130)		
MSD_201002190095	Perfluoropentanoic acid	ND	25	23.8	ng/l	95	(70-130)	30	9.7
LCS1	PFBA-C13 (I)				%	94	(50-150)		
LCS2	PFBA-C13 (I)			94.2	%	96	(50-150)		
MBLK	PFBA-C13 (I)			96.4	%	101	(50-150)		
MRL_CHK	PFBA-C13 (I)			101	%	107	(50-150)		
MS_201002190095	PFBA-C13 (I)			107	%	107	(50-150)		
MSD_201002190095	PFBA-C13 (I)			87.3	%	87	(25-180)		
LCS1	PFDA-C13 (I)			83.9	%	84	(25-180)		
MBLK	PFDA-C13 (I)			83.9	%	76	(50-150)		
MRL_CHK	PFDA-C13 (I)			75.9	%	61	(50-150)		
MS_201002190095	PFDA-C13 (I)			61.1	%	61	(50-150)		
MSD_201002190095	PFDA-C13 (I)			61.8	%	62	(50-150)		
LCS1	PFDA-C13 (I)			80.7	%	81	(50-150)		
MBLK	PFDA-C13 (I)			93.3	%	93	(25-180)		
MRL_CHK	PFDA-C13 (I)			56.3	%	56	(25-180)		
MS_201002190095	PFDA-C13 (I)			86.2	%	86	(50-150)		
MSD_201002190095	PFDA-C13 (I)			85.1	%	85	(50-150)		
LCS1	PFHxA-C13 (I)			85.2	%	85	(50-150)		
MBLK	PFHxA-C13 (I)								

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)

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LABORATORIES

A Division of MWH Americas, Inc.

750 Royal Oak Dr., Suite 100
Monrovia, California, 91016-3629
Tel: 626 386 1100
Fax: 626 386 1101
1 800 566 LABS (1 800 566 5227)

Laboratory
QC Report: 326521

**State of New Jersey DEP/Water Supply
(continued)**

QC Type	Analyte	Native	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPDLimit (%)	RPD%
MRL_CHK	PFHxA-C13 (I)			94.2	%	94	(50-150)		
MS_201002190095	PFHxA-C13 (I)			87.8	%	88	(25-180)		
MSD_201002190095	PFHxA-C13 (I)			79.2	%	79	(25-180)		
LCS1	PFNA-C13 (I)			83.7	%	84	(50-150)		
LCS2	PFNA-C13 (I)			64.3	%	64	(50-150)		
MBLK	PFNA-C13 (I)			76.2	%	76	(50-150)		
MRL_CHK	PFNA-C13 (I)			80.1	%	80	(50-150)		
MS_201002190095	PFNA-C13 (I)			74.7	%	75	(25-180)		
MSD_201002190095	PFNA-C13 (I)			70.3	%	70	(25-180)		
LCS1	PFOA-C13 (I)			53.5	%	54	(50-150)		
LCS2	PFOA-C13 (I)			61.0	%	61	(50-150)		
MBLK	PFOA-C13 (I)			73.2	%	73	(50-150)		
MRL_CHK	PFOA-C13 (I)			66.2	%	66	(50-150)		
MS_201002190095	PFOA-C13 (I)			58.6	%	59	(25-180)		
MSD_201002190095	PFOA-C13 (I)			56.9	%	57	(25-180)		
LCS1	PFOS-C13 (I)			72.8	%	73	(50-150)		
LCS2	PFOS-C13 (I)			59.8	%	60	(50-150)		
MBLK	PFOS-C13 (I)			74.5	%	75	(50-150)		
MRL_CHK	PFOS-C13 (I)			77.4	%	77	(50-150)		
MS_201002190095	PFOS-C13 (I)			73.7	%	74	(25-180)		
MSD_201002190095	PFOS-C13 (I)			47.0	%	47	(25-180)		

Spike recovery is already corrected for native results.

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

Criteria for MS and Dup are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

(S) Indicates surrogate compound.

(I) Indicates internal standard compound.

RPD not calculated for LCS2 when different a concentration than LCS1 is used

RPD not calculated for Duplicates when the result is not five times the MRL (Minimum Reporting Level)