



Centre Analytical Laboratories, Inc.

3048 Research Drive
Phone: (814) 231-8032

State College, PA 16801

www.centrelab.com

Fax: (814) 231-1253 or (814) 231-1580

Analytical Report

Fluorochemical Characterization of Drinking Water, Surface Water, Sediment,

POTW Effluent, POTW Sludge and Landfill Leachate Samples

Port St. Lucie Resampling (E00-2003)

Centre Analytical Laboratory Report No. 023-014P (Revision 1)

Revision Date 3/27/01

Testing Laboratory

Centre Analytical Laboratory, Inc.
3048 Research Drive
State College, PA 16801

3M Environmental Laboratory Contact

Kent R. Lindstrom
Bldg. 2-3E-09
P.O. Box 33331
St. Paul, MN 55133-3331
Phone: (651) 778-5352

Requester

Dale Bacon Ph.D.
3M Environmental Technology & Safety Services
Bldg. 2-3E-09
P.O. Box 33331
St. Paul, MN 55133-3331

1 Introduction

Results are reported for the analysis of a series of water, leachate, sludge, and sediment samples received by Centre Analytical Laboratories, Inc. (Centre) from the 3M Environmental Laboratory. The samples were collected from Port St. Lucie, Florida and are part of 3M Project E00-2003. The Centre study number assigned to the project is 023-014.

Specific fluorochemical characterization by liquid chromatography / tandem mass spectrometry (LC/MS/MS) and ion chromatography was requested for all samples. A total of 45 samples were received for analysis.

The samples were prepared and analyzed by LC/MS/MS for the following list of fluorochemicals:

- Table 1: Target Analysis

Compound Name	Acronym
Perfluorooctane Sulfonate	PFOS
Perfluorooctane Sulfonamide	PFOSA
Perfluorooctanoate	POAA

The analytical methods used for water samples were validated by Centre. The validation protocol and results are on file with Centre. The methods were modified for the sediment samples, however the procedures have not been fully validated for this matrix. Data presented here is the highest quality data available at this time.

2 Sample Receipt

The samples were submitted in individual plastic containers and were not preserved. Forty-five individual sample containers were received. Samples were received on 7/25/00. The samples were collected between 7/18/00 and 7/19/00. Chain-of-custody information is presented in Attachment C.

3 Holding Times

The analytical method used was validated against a maximum holding time of 14 days. Stability after this time period has not been validated. However, it should be noted that field fortifications in water and other matrices have shown acceptable recoveries at 100 and 1000 ng/L for periods longer than 14 days.

4 Methods - Analytical and Preparatory

4.1 LC/MS/MS

4.1.1 Sample Preparation for LC/MS/MS Analysis

Water samples were initially treated with 200 μ L of 250 mg/L sodium thiosulfate solution to remove residual chlorine. Solid phase extraction (SPE) was used to prepare the samples for LC/MS/MS analysis. A forty-milliliter portion of sample was transferred to a C₁₈ SPE cartridge. The cartridge was first eluted with 5 mL of 40% methanol in water solution. The eluate was discarded and the SPE column was then eluted with 100% methanol. A 5 mL portion of methanol was collected for analysis by LC/MS/MS. This treatment resulted in an eight-fold concentration of the samples prior to analysis.

For the sediment and sludge samples, a representative portion of sample (5 grams) was first extracted into 5 mL of methanol. The extracts were filtered and diluted to a final volume of 40 mL with Type I water. The diluted extracts were then treated in the same manner as the water samples, beginning with the solid phase extraction.

4.1.2 Sample Analysis by LC/MS/MS

In HPLC, an aliquot of extract is injected and passed through a liquid-phase chromatographic column. Based on the affinity of the analyte for the stationary phase in the column relative to the liquid mobile phase, the analyte is retained for a characteristic amount of time. Following HPLC separation, ES/MS provides a rapid and accurate means for analyzing a wide range of organic compounds, including fluorochemicals. Electrospray is generally operated at relatively mild temperatures; molecules are ionized, fragmented, and detected. Ions characteristic of known fluorochemicals are observed and quantitated against standards.

A Hewlett-Packard HP1100 HPLC system coupled to a Micromass Ultima MS/MS was used to analyze the sample extracts. Analysis was performed using selected reaction monitoring (SRM). Water samples were extracted between 8/15/00 and 8/17/00 and analyzed by MS/MS between 8/18/00 and 8/23/00. Sediment and sludge samples were extracted on 8/18/00 and were analyzed by MS/MS on 8/21/00. The HPLC and MS/MS methods used for analysis and instrument parameters can be found in Attachments D and E.

5 Analysis

5.1 Calibration

A 7-point calibration curve was analyzed at the beginning and end of the analytical sequence for the compounds of interest. The calibration points were prepared at 0, 25, 50, 100, 250, 500, and 1000 ng/L (ppt) for LC/MS/MS analysis. The instrument response versus the concentration was plotted for each point. Using linear regression with 1/x weighting, the slope, y-intercept and correlation coefficient (r) and coefficient of determination (r^2) were determined. A calibration curve is acceptable if $r \geq 0.985$ ($r^2 \geq 0.970$).

Calibration standards are prepared using the same SPE procedure used for samples.

Calibration check standards were analyzed periodically (every three to five sample injections) throughout the analysis sequence. Compliance is obtained if the standard analyte concentrations are within $\pm 20\%$ of the actual value.

For the results reported here, calibration criteria were met.

5.2 Blanks

Extraction blanks were prepared and analyzed with every extraction batch of samples. The extraction blanks should not have any target analytes present at or above the concentration of the low-level calibration standard. For these samples, the extraction blanks were compliant.

Instrument blanks in the form of clean methanol solvent were also analyzed after every high-level calibration standard, and after known high-level samples. Again, the blanks should not have any target analytes present at or above the low-level calibration standard. For the samples presented here the instrument blanks are compliant.

5.3 Surrogates

Surrogate spikes are not a component of the LC/MS/MS analytical methods.

5.4 Matrix Spikes

Matrix spikes were prepared for every field sample using all compounds of interest. Matrix spike recoveries are given in Attachment B.

Field spikes were submitted with the water samples. Field spike recoveries are also included in Attachment B. The PSLF Leach-C-FMS sample spiked at 200 ng/L appears to have been spiked in error. Spike results are comparable to the 1000 ng/L spiking level.

5.5 Duplicates

All field samples were analyzed in duplicate. Results are given along with the sample results in Attachment A.

5.6 Laboratory Control Samples

For LC/MS/MS analyses, MilliQ water was spiked with all compounds of interest at 25 and 250 ng/L during each extraction set. All recoveries for all compounds were between 70-130% in each LCS. Results are given along with the raw data in Attachments D and E.

5.7 Sample Related Comments

There are no other sample related comments for this data set.

6 Data Summary

Please see Attachment A for a detailed listing of the analytical results. Surface water results are reported in parts per trillion (ppt) (ng/L). Sediment and sludge sample results are reported in parts per billion (ppb) (ug/Kg) on both an as-received and dry-weight basis.

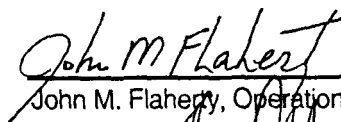
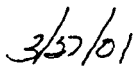
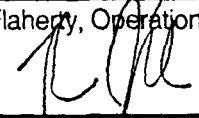
7 Data/Sample Retention

Samples are disposed of one month after the report is issued unless otherwise specified. All electronic data is archived on retrievable media and hard copy reports are stored in data folders maintained by Centre.

8 Attachments

- 8.1 Attachment A: Results
- 8.2 Attachment B: Matrix Spike Recoveries
- 8.3 Attachment C: Chain of Custody
- 8.4 Attachment D: LC/MS/MS Raw Analytical Data (Surface Water Samples)
- 8.5 Attachment E: LC/MS/MS Raw Analytical Data (Sediment and Sludge Samples)

9 Signatures

 _____ John M. Flaherty, Operations Manager	 _____ Date
 _____ Kevin J Lloyd, Vice President	 _____ Date

Other Lab Members Contributing to Data

Karen Smith



Centre Analytical Laboratories, Inc.

3048 Research Drive, State College PA 16801 814-231-8032 FAX 814-231-1253

3M Sample Identification

MDWPIN-R-O-C

MDWPIN-Lime-C

MDWPOut -C

NPWWTPEff -C

NPWWTPCC-C

PSLF Leach-C

TW#2 Fire Dept-C

SW#3 SH-C

TW#3 Penpark-C

SW#1 Penpark-C

TW#1 Holiday Inn-C

SW#2 MCM-C

QSW Palm City-C

NPWWTP Sludge-C

SED #3 SH-C

SED #1 Penpark-C

SED #2 MCM-C

Sample Description

Municipal Drinking Water Plant Intake - Reverse Osmosis

Municipal Drinking Water Plant Intake - LIME

Municipal Drinking Water Plant Outflow

North Port Wastewater Treatment Plant Effluent

North Port Wastewater Treatment Plant Chlorine Contact Chamber

Port St. Lucie Landfill Leachate

Tap Water Site #2 Fire Department

Surface Water Site #3 Stuart Harbor

Tap Water Site #3 Pendarvis Park

Surface Water Site #1 Pendarvis Park

Tap Water Site #1 Holiday Inn

Surface Water Site #2 Martin Cty Marina

Quiet Surface Water Palm City

North Port Wastewater Treatment Plant Sludge Sample

Sediment Sample #3 Stuart Harbor

Sediment Sample #1 Pendarvis Park

Sediment Sample #2 Martin Cty Marina



[illegible]

WE THANK YOU FOR THIS
OPPORTUNITY TO BE OF SERVICE



Centre Analytical Laboratories, Inc.

3048 Research Drive, State College PA 16801 814-231-8032 FAX 814-231-1253

Analytical Results E00-2003 Port St. Lucie, FL Resampling (water samples)

3M Sample Identification	PFOS (ng/L)	PFOSA (ng/L)	POAA (ng/L)
MDWPIN-R-O-C	ND	ND	ND
MDWPIN-R-O-C dup	ND	ND	ND
MDWPIN-Lime-C	ND	ND	ND
MDWPIN-Lime-C dup	ND	ND	ND
MDWPOut -C	ND	ND	ND
MDWPOut-C dup	ND	ND	ND
NPWWTPEff -C	NQ	ND	NQ
NPWWTPEff-C dup	NQ	ND	NQ
NPWWTPCC-C	85.5	NQ	42.9
NPWWTPCC-C dup	78.8	NQ	40.2
PSLF Leach-C	429	NQ	1030
PSLF Leach-C dup	425	NQ	1020
TW#2 Fire Dept-C	ND	ND	ND
TW#2 Fire Dept-C dup	ND	ND	ND
SW#3 SH-C	NQ	ND	ND
SW#3 SH-C dup	NQ	ND	ND
TW#3 Penpark-C	ND	ND	ND
TW#3 Penpark-C dup	ND	ND	ND
SW#1 Penpark-C	NQ	ND	ND
SW#1 Penpark-C dup	NQ	ND	ND
TW#1 Holiday Inn-C	ND	ND	ND
TW#1 Holiday Inn-C dup	ND	ND	ND
SW#2 MCM-C	NQ	ND	ND
SW#2 MCM-C dup	NQ	ND	ND
QSW Palm City-C	2930	30.0	96.9
QSW Palm City-C dup	2850	27.5	97.1
Blind Dup C1	ND	ND	ND
Blind Dup C1 dup	ND	ND	ND
Blind Dup C2	NQ	ND	ND
Blind Dup C2 dup	NQ	ND	ND

Limit of Detection (LOD) for the procedure is approximately 2.5 ng/L for PFOS and PFOSA and 7.5 ng/L for POAA

Limit of Quantitation (LOQ) for the procedure is 25 ng/L for all compounds

ND - Compound not detected

NQ - Compound detected at a level between the LOD and LOQ. Result is not quantifiable.

ND < LOD < NQ < LOQ





Centre Analytical Laboratories, Inc.

3048 Research Drive, State College PA 16801 814-231-8032 FAX 814-231-1253

Analytical Results E00-2003 Port St. Lucie, FL Resampling (solids)

3M Sample Identification	PFOS (ug/Kg) (as received)	PFOSA (ug/Kg) (as received)	POAA (ug/Kg) (as received)	% Solids
NPWWTP Sludge-C	1.36	ND	ND	2.16
NPWWTP Sludge-C dup	1.30	ND	ND	2.16
SED #3 SH-C	ND	ND	ND	76.68
SED #3 SH-C dup	ND	ND	ND	76.68
SED#1 Penpark-C	ND	ND	ND	76.10
SED#1 Penpark-C dup	ND	ND	ND	76.10
SED#2 MCM-C	ND	ND	ND	65.74
SED#2 MCM-C dup	ND	ND	ND	65.74

3M Sample Identification	PFOS (ug/Kg) (dry weight)	PFOSA (ug/Kg) (dry weight)	POAA (ug/Kg) (dry weight)
NPWWTP Sludge-C	62.9	ND	ND
NPWWTP Sludge-C dup	60.2	ND	ND
SED #3 SH-C	ND	ND	ND
SED #3 SH-C dup	ND	ND	ND
SED#1 Penpark-C	ND	ND	ND
SED#1 Penpark-C dup	ND	ND	ND
SED#2 MCM-C	ND	ND	ND
SED#2 MCM-C dup	ND	ND	ND

Limit of Detection (LOD) for the procedure is approximately 0.08 ug/Kg for all compounds (as received)

Limit of Quantitation (LOQ) for the procedure is 0.20 ug/Kg for all compounds (as received)

ND - Compound not detected

NQ - Compound detected at a level between the LOD and LOQ. Result is not quantifiable.

ND < LOD < NQ < LOQ



Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID: MDWPIN-RO C

Spiked Amount (ng/L): 100

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	90.3	90.3	PASS
PFOSA	0	105	105.0	PASS
POAA	0	117	117.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID: MDWPIN-Lime C

Spiked Amount (ng/L): 100

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	101	101.0	PASS
PFOSA	0	98.8	98.8	PASS
POAA	0	111	111.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID: MDWPIN-Out C

Spiked Amount (ng/L): 100

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	102	102.0	PASS
PFOSA	0	103	103.0	PASS
POAA	0	103	103.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	14.7	112	97.3	PASS
PFOSA	0	85.0	85.0	PASS
POAA	15.1	127	111.9	PASS

Lower Recovery Limit:

Upper Recovery Limit:

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	85.5	187	101.5	PASS
PFOSA	4.4	88.5	84.1	PASS
POAA	42.9	149	106.1	PASS

Lower Recovery Limit:

Upper Recovery Limit:

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	429	554	125.0	PASS
PFOSA	7.0	102	95.0	PASS
POAA	1030	1125	95.0	PASS

Lower Recovery Limit:

Upper Recovery Limit:

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID: TW#2 Fire Dept-C

Spiked Amount (ng/L): 100

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	101	101.0	PASS
PFOSA	0	102	102.0	PASS
POAA	0	110	110.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID: SW#3 SH-C

Spiked Amount (ng/L): 100

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	7.8	103	95.2	PASS
PFOSA	0	98.5	98.5	PASS
POAA	0	117	117.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID: TW#3 Penpark-C

Spiked Amount (ng/L): 100

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	96.0	96.0	PASS
PFOSA	0	107	107.0	PASS
POAA	0	110	110.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID: SW#1 Penpark-C

Spiked Amount (ng/L): 100

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	5.2	114	108.8	PASS
PFOSA	0	109	109.0	PASS
POAA	0	126	126.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID: TW#1 Holiday Inn-C

Spiked Amount (ng/L): 100

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	108	108.0	PASS
PFOSA	0	119	119.0	PASS
POAA	0	117	117.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID: SW#2 MCM-C

Spiked Amount (ng/L): 100

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	7.7	125	117.3	PASS
PFOSA	0	119	119.0	PASS
POAA	0	135	135.0	FAIL

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	2930	3260	330.0	FAIL
PFOSA	30.0	160	130.0	PASS
POAA	96.9	249	152.1	FAIL

Lower Recovery Limit:

Upper Recovery Limit:

PFOS sample concentration exceeds spiking concentration by greater than 10X

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	101	101.0	PASS
PFOSA	0	93.5	93.5	PASS
POAA	0	99.4	99.4	PASS

Lower Recovery Limit:

Upper Recovery Limit:

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	8.0	109	101.0	PASS
PFOSA	0	103	103.0	PASS
POAA	0	112	112.0	PASS

Lower Recovery Limit:

Upper Recovery Limit:

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID: NPWWTP Sludge-C

Spiked Amount (ng/L): 250

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	170	377	82.8	PASS
PFOSA	16.7	193	70.5	PASS
POAA	12.3	256	97.5	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Concentrations indicate amount of material in the sample extract

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	227	90.8	PASS
PFOSA	0	210	84.0	PASS
POAA	0	237	94.8	PASS

Lower Recovery Limit:

Upper Recovery Limit:

Concentrations indicate amount of material in the sample extract

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	3.3	215	84.7	PASS
PFOSA	0	216	86.4	PASS
POAA	0	236	94.4	PASS

Lower Recovery Limit:

Upper Recovery Limit:

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Concentrations indicate amount of material in the sample extract

Attachment B: LC/MS/MS Laboratory Spike Recovery

Sample ID: Sed#2 MCM-C

Spiked Amount (ng/L): 250

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	2.9	240	94.8	PASS
PFOSA	0	220	88.0	PASS
POAA	0	246	98.4	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Concentrations indicate amount of material in the sample extract

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: MDWPIN-RO-C FMS

Spiked Amount (ng/L): 200

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	197	98.5	PASS
PFOSA	0	177	88.5	PASS
POAA	0	173	86.5	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: MDWPIN-RO-C FMS

Spiked Amount (ng/L): 1000

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	954	95.4	PASS
PFOSA	0	857	85.7	PASS
POAA	0	768	76.8	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: MDWPIN-Lime-C FMS

Spiked Amount (ng/L): 200

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	179	89.5	PASS
PFOSA	0	173	86.5	PASS
POAA	0	189	94.5	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: MDWPIN-Lime-C FMS

Spiked Amount (ng/L): 1000

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	844	84.4	PASS
PFOSA	0	844	84.4	PASS
POAA	0	793	79.3	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: MDWP Out-C FMS

Spiked Amount (ng/L): 200

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	201	100.5	PASS
PFOSA	0	190	95.0	PASS
POAA	0	172	86.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: MDWP Out-C FMS

Spiked Amount (ng/L): 1000

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	831	83.1	PASS
PFOSA	0	787	78.7	PASS
POAA	0	708	70.8	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: NPWWTP Eff-C FMS

Spiked Amount (ng/L): 200

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	14.7	203	94.2	PASS
PFOSA	0	106	53.0	FAIL
POAA	15.1	223	104.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: NPWWTP Eff-C FMS

Spiked Amount (ng/L): 1000

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	14.7	816	80.1	PASS
PFOSA	0	538	53.8	FAIL
POAA	15.1	1290	127.5	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: NPWWTPCC-C FMS

Spiked Amount (ng/L): 200

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	85.5	302	108.3	PASS
PFOSA	4.4	162	78.8	PASS
POAA	42.9	252	104.6	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: NPWWTPCC-C FMS

Spiked Amount (ng/L): 1000

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	85.5	946	86.1	PASS
PFOSA	4.4	775	77.1	PASS
POAA	42.9	972	92.9	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: PSLF Leach-C FMS

Spiked Amount (ng/L): 200

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	429	1066	318.5	FAIL
PFOSA	7.0	897	445.0	FAIL
POAA	1030	1790	380.0	FAIL

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Data indicates that this sample was spiked at 1000 ng/L rather than the 200 ng/L given in the field data

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: PSLF Leach-C FMS

Spiked Amount (ng/L): 1000

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	429	1100	67.1	FAIL
PFOSA	7.0	829	82.2	PASS
POAA	1030	1870	84.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: PSLF Leach-C FMS

Spiked Amount (ng/L): 25000

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	429	20900	81.9	PASS
PFOSA	7.0	21800	87.2	PASS
POAA	1030	22800	87.1	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: PSLF Leach-C FMS B

Spiked Amount (ng/L): 200

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	429	630	100.5	PASS
PFOSA	7.0	179	86.0	PASS
POAA	1030	1270	120.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	429	1170	74.1	PASS
PFOSA	7.0	877	87.0	PASS
POAA	1030	1980	95.0	PASS

Lower Recovery Limit:

Upper Recovery Limit:

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: PSLF Leach-C FMS B

Spiked Amount (ng/L): 25000

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	429	21900	85.9	PASS
PFOSA	7.0	19800	79.2	PASS
POAA	1030	20500	77.9	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Note: Sample results less than 25 ng/L are reported as NQ in the results section as they are below the limit of quantitation. Results are given in this table for recovery calculations only.

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	200	100.0	PASS
PFOSA	0	139	69.5	FAIL
POAA	0	194	97.0	PASS

Lower Recovery Limit:

Upper Recovery Limit:

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	831	83.1	PASS
PFOSA	0	678	67.8	FAIL
POAA	0	794	79.4	PASS

Lower Recovery Limit:

Upper Recovery Limit:

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	212	106.0	PASS
PFOSA	0	193	96.5	PASS
POAA	0	200	100.0	PASS

Lower Recovery Limit:

Upper Recovery Limit:

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID:

Spiked Amount (ng/L):

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	0	1060	106.0	PASS
PFOSA	0	865	86.5	PASS
POAA	0	866	86.6	PASS

Lower Recovery Limit:

Upper Recovery Limit:

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: QSW Palm City-C FMS

Spiked Amount (ng/L): 200

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	2930	3360	215.0	FAIL
PFOSA	30.0	248	109.0	PASS
POAA	96.9	325	114.1	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

PFOS sample concentration exceeds the spiking level by greater than 10X

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: QSW Palm City-C FMS

Spiked Amount (ng/L): 1000

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	2930	3810	88.0	PASS
PFOSA	30.0	761	73.1	PASS
POAA	96.9	899	80.2	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: QSW Palm City-C FMS

Spiked Amount (ng/L): 25000

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	2930	23300	81.5	PASS
PFOSA	30.0	20700	82.7	PASS
POAA	96.9	20900	83.2	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: QSW Palm City-C FMS B

Spiked Amount (ng/L): 200

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	2930	3590	330.0	FAIL
PFOSA	30.0	240	105.0	PASS
POAA	96.9	340	121.6	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

PFOS sample concentration exceeds the spiking amount by greater than 10X

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: QSW Palm City-C FMS B

Spiked Amount (ng/L): 1000

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	2930	4000	107.0	PASS
PFOSA	30.0	819	78.9	PASS
POAA	96.9	955	85.8	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Attachment B: LC/MS/MS Field Spike Recovery

Sample ID: QSW Palm City-C FMS B

Spiked Amount (ng/L): 25000

	Sample Concentration (ng/L)	Matrix Spike Result (ng/L)	Matrix Spike Result (% Recovery)	Criteria (Pass / Fail)
PFOS	2930	24500	86.3	PASS
PFOSA	30.0	26200	104.7	PASS
POAA	96.9	20100	80.0	PASS

Lower Recovery Limit: 70

Upper Recovery Limit: 130

Shipping Address:
3M Bldg 2-3E-09
935 Bush Avenue
St. Paul, MN 55106

Telephone:

Sample Receiving: (651) 778-4948
Alternate: (651) 778-6753
FAX: (651) 778-6176

Project ID/Project Name Port St. Lucie Resampling
Template # 8-7-00
Project Lead SSE
Internal Due Date 8-6-00
Dept. # (main) 502180
Class/Job/Project # 0010535009

3M Env. Lab Project #
For Internal Use Only

Report Results to:	Contact Name <u>Date Bacon</u>	Date Available <u>8-25</u>	
Company <u>3M Environmental Lab</u>		Date Due <u>8-6</u>	
Mailing Address <u>935 Bush Bldg 2-3E-09</u>		Contract Lab <u>CALNE</u>	
City, State, Zip <u>St. Paul, MN 55106</u>			
Telephone # <u>(651) 778-4736</u>			
FAX # <u>(651) 778-6176</u>			

Special Instructions and/or Specific Regulatory Requirements:
(method, limit of detection, reporting units, etc)

Item #	Client Sample Identification	3M LIMS#	Date Sampled	Time Sampled	Matrix/Media	Preservatives:				Total Number of Containers	Analysis Requested:									
						HNO ₃	H ₂ SO ₄	VOCs	None	Other	Complete below. Attach any associated information.									
1.	MDWPIN-RO-C	12124	7-18-00	0900	water						LCMS-SCAN									
2.	MDWPIN-RO-C-FMS-200ppt	12127																		
3.	↓ 1 PPb	12128																		
4.	MDWPIN-Lime-C	12130		09:25																
5.	MDWPIN-Lime-C-FMS-200ppt	12133																		
6.	↓ 1 PPb	12134																		
7.	MDWP Out - C	12136		0940																
8.	MDWP Out - C - FMS-200ppt	12139																		
9.	↓ - 1 PPb	12140																		
10.	NPWWTP EFF-C	12142		1030																

Collected by (print):

Collector's signature:

Chain of Custody		Relinquished by/Affiliation		Time	Date	Shipped Via:	Received by/Affiliation	Time	Date
Item #	1-10	Rebecca A. Anderson		1530	7-25	Fedex	R. Miller		1030 7-25-00

Sample Condition Upon Receipt: ☒ Acceptable ☐ Other:

Temperature: °C ☐ Received on Ice ☐

Other Associated CoCs:

Copies to:

Comments:

Samples R/CYC

[illegible]

Shipping Address:
3M Bldg. 2-3E-09
935 Bush Avenue
St. Paul, MN 55106

Telephone:

Sample Receiving: (651) 778-4948
Alternate: (651) 778-6753
FAX: (651) 778-6176

Project ID/Project Name: Port St. Lucie Re-Sampling
Template #: 8-7-00
Project Lead: SSE
Internal Due Date: 8-6-00
Class/Job/Project #: 0010535009

Report Results to:	Client Name: DALE BACON	3M LIMS#	Date Sampled	Time Sampled	Matrix/Media	Preservatives:	Total Number of Containers	Analysis Requested:
Company: 3M	Mailing Address: 935 Bush Ave Bldg 2-3E-09	12194	152057	7-18	Sed.	H ₂ SO ₄	1	Complete below. Attach any associated information. (Enter an 'X' in the box below to indicate request)
City, State, Zip: St. Paul, MN 55106	Telephone #: (651) 778-4736 FAX #: (651) 778-6176	12198	7-18	1745	water	None	1	
		12202				VOCs	1	
		12203				Other	1	
		12211	7-19	0710	Sed		1	
		12214		0720	sed		1	
		12216		0755	water		1	
		12224					1	
		12225					1	
		12226					1	

Special Instructions and/or Specific Regulatory Requirements:
(method, limit of detection, reporting units, etc.)

Chain of Custody	Item #	Relinquished by/Affiliation	Time	Date	Shipped Via:	Received by/Affiliation	Time	Date
	1-10	David O. Anderson	1530	7-24	Fedex	R. Miller	1030	7-25-00

Sample Condition Upon Receipt:	O Acceptable	O Other:
Temperature:	'C	O Received on Ice
Other Associated CoCs:	Copies to:	
Comments: Samples R Centre		



Centre Analytical Laboratories

Sample Login Report

Page 1 of 3

Study Number: 023-014

CAL ID	Client Sample ID	Received	Matrix	Submitted By	Logged in By/Date	Initial Loc.	Condition of Samples	Comments
0006740	12124	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006741	12127	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006742	12128	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006743	12130	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006744	12133	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006745	12134	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006746	12136	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006747	12139	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006748	12140	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006749	12142	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006750	12145	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006751	12146	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006752	12148	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006753	12151	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006754	12152	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006755	12154	7-25-00 10:30	Sludge	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006756	12156	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006757	12163	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---

Verified By/Date: R.K / 7-25-00

Printed 7/25/2000



Centre Analytical Laboratories

Sample Login Report

Page 2 of 3

Study Number: 023-014

CAL ID	Client Sample ID	Received	Matrix	Submitted By	Logged in By/Date	Initial Loc.	Condition of Samples	Comments
0006758	12164	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006759	12165	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006760	12166	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006761	12167	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006762	12168	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006763	12170	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006764	12172	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006765	12174	7-25-00 10:30	SEDIMENT	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006766	12186	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006767	12188	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006768	12191	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006769	12192	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006770	12194	7-25-00 10:30	SEDIMENT	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006771	12198	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006772	12202	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006773	12203	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006774	12211	7-25-00 10:30	WATER	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006775	12214	7-25-00 10:30	SEDIMENT	Enaksha Wickkremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---

Verified By/Date: R.K / 7-25-00

Printed 7/25/2000



Centre Analytical Laboratories

Sample Login Report

Page 3 of 3

Study Number: 023-014

CAL ID	Client Sample ID	Received	Matrix	Submitted By	Logged in By/Date	Initial Loc.	Condition of Samples	Comments
0006776	12216	7-25-00 10:30	WATER	Enaksha Wickremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006777	12224	7-25-00 10:30	WATER	Enaksha Wickremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006778	12225	7-25-00 10:30	WATER	Enaksha Wickremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006779	12226	7-25-00 10:30	WATER	Enaksha Wickremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006780	12230	7-25-00 10:30	WATER	Enaksha Wickremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006781	12231	7-25-00 10:30	WATER	Enaksha Wickremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006782	12232	7-25-00 10:30	WATER	Enaksha Wickremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006783	12238	7-25-00 10:30	WATER	Enaksha Wickremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---
0006784	12239	7-25-00 10:30	WATER	Enaksha Wickremesinha	RICK K 7-25-00	COOLER 6	C-WET ICE-A	---

Verified By/Date: R.K / 7-25-00

Printed 7/25/2000