	Environmental Analysis Teaching	Date: 6/12/2017	Number: 75B v0.1
	and Research Laboratory		
	Standard Operating Procedure	Title: Flash EA and IRMS	
POMONA COLLEGE	Approved By: TBD	Revision Date: February 14, 2018	

1. Scope and Application

- 1.1 The scope of this SOP covers how to operate the IRMS for certified users.
- 1.2 The applications of this SOP are for the Thermo Scientific Delta V Serice IRMS.

2. Summary of Method

2.1 This SOP describes how to 1) prepare samples, 2) prepare instrument, 3) set up sequence, 4) run samples, 5) clean up samples; and 6) data reduction.

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- 3. Acknowledgements
- 4. Definitions
 - **4.1** Term1: is...
- 5. Biases and Interferences
 - **5.1** Biases and interferences can come from...
- 6. Health and Safety
 - **6.1** Describe the risk...

Safety and Personnnel Protective Equipment

- 7. Personnel & Training Responsibilities
 - **7.1** Researchers training is required before this the procedures in this method can be used...
 - **7.2** Researchers using this SOP should be trained for the following SOPs:
 - SOP01 Laboratory Safety
 - SOP75A Becomming an IRMS User
 - SOPXX Using the Metler WXTE
- 8. Required Materials and Apparati
 - **8.1** Item 1 w/catalog number!
 - **8.2** Item 2
- 9. Reagents and Standards
- 10. Estimated Time
 - 10.1 This procedure requires XX minutes...

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11. Sample Collection, Preservation, and Storage

12. Sample Preparation

12.1 You can start the instrument warm-up procesdures...

13. Instrument Warm-Up and Zero Enrichment Tests

13.1 Check gas tank and regulated pressures:

He?

O2?

N2?

Turning On the Instrument that has been Off

- 13.2 Make sure gases valves are turned on. Make sure compressed air is connected.
- 13.3 check that the needle value is closed
- 13.4 Switch the system with MAIN SWITCH
- 13.5 Switch on the computer and start Isodat
- 13.6 Switch on pumps at the Control Panel
- 13.7 MS State panel, swithch on all heater you need...
- 13.8 In the Acessories toolobar of Isodata cline on the ion source...
- 13.9 The instrument will be stable in 24-48 hours.
- 13.10 Start the machine...
- **13.11** check the vacuum, the should be ??
- 13.12 Introduce Gas to the Continuous Flow System
- 13.13 Focus Settings

14. Prepare Sequence – Isodat

- **14.1** Open the Acquisition tool of Isodat software and open a new file and select the sequence icon.
- **14.2** Define the number of samples.

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- **14.3** Select the appropriate method. If you do not have a prepared method, contact the manager for assistance.
- 14.4 Make sure Peak Center has a green check mark
- 14.5 Enter text to identify the sample in the "Identifier 1" column.
- 14.6 Make sure each sample has a method, you can use an autofill function to accomplish this.

15. Run Sequence

- 15.1 Click on the "Start" button.
- **15.2** Enter a file name, where the extension .seq is added automatically. The file convention used in the lab is:

YYYYMMDD_Project_SamplesIDs_Username.seq

16. End-of-Run Shut Down and Clean Up

16.1

- 17. Data Analysis and Calculations
- 18. QC/QA Criteria
- 19. Trouble Shooting
- 20. References
 - **20.1** APHA, AWWA. WEF. (2012) Standard Methods for examination of water and wastewater. 22nd American Public Health Association (Eds.). Washington. 1360 pp. (2014).

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