

Meeting Minute Approval Sheet

**222-S Project Managers Meeting & Misc. Lab Issues  
(TSD: TS-2-1)**

2440 Stevens Center, Room 1600

October 13, 2005

9:30 - 10:15 p.m.

**RECEIVED**  
FEB 06 2006  
EDMC

DOE: <sup>FEB</sup> Andrew Stevens

12-8-05  
Date

ECOLOGY: Deborah Singleton

12-8-05  
Date

# MEETING MINUTES

222-S Project Manager's Meeting and Miscellaneous Lab Issues (TSD:TS-2-1)

10/13/05

Page 1 of 1

## Meeting Attendees:

Andrew Stevens, DOE ORP  
Noe'l Smith-Jackson, Ecology  
Lucinda Borneman, CH2M HILL  
Heather Anastos, ATL

Deborah Singleton, Ecology  
Jeanne Wallace, Ecology  
Barb Hill, CH2M HILL

## Introduction and Approval of Previous Meeting Minutes:

Mr. Andy Stevens, ORP, called the meeting to order at 9:30 a.m. ORP and Ecology approved the September 2005 meeting minutes.

## Action Items:-

Provide Ecology with a description of changes made to EPA Method 29 to make it amenable for use with a handheld instrument.

STATUS: Description of changes made to EPA Method 29 was provided Ecology.  
ACTION IS CLOSED.

## 222-S Laboratory TSD, RCRA Permit, or Miscellaneous Issues:

Ecology related that they are in the process of reviewing the 222-S Laboratory RCRA Part B application.

## 222-S Laboratory Operations:

Heather Anastos of ATL presented the Analytical Report and Ms. Barb Hill of CH2M HILL presented the Operations Report. The reports are attached.

## Next Meeting:

November 10, 2005

2440 Stevens, room 1600

9:30 – 10:00 a.m.

222-S Project Managers Meeting & Misc. Lab Issues (TSD: TS-2-1)  
10/13/05

**Attachment 1**  
**List of Attendees**  
**Agenda**  
**222-S Lab Operations Report**  
**Action Items**



## 222-S Project Managers Meeting & Misc. Lab Issues

2440 Stevens, Room 1200

October 13, 2005

9:30 – 10:15 a.m.

### Agenda

1. Introductions
2. Approval of Previous Meeting Minutes
3. Status of Action Items
4. 222-S TSD
5. 222-S Permit Issues
6. 222-S Laboratory
  - 6.1. Operational and Analytical Report
7. Misc. Issues
8. Review of New Action Items

## **MONTHLY ANALYTICAL REPORT**

**222-S Laboratory**

**October 2005**

- The vendor has completed the installation of the new liquid scintillation instrument. It is now in service.
- Mixed Analyte Performance Evaluation Program (MAPEP) samples have been analyzed and were submitted by the October 6, 2005 due date.
- The report for the ICAT (Integrated Contractor Audit Team) audit of the Advanced Technologies and Laboratories International, Inc. (ATL) 222-S Laboratory program against the requirements of the Hanford Analytical Services Quality Assurance Requirements Documents (HASQARD) was received by ATL on September 26. The response, including corrective action plans for the four findings and 8 observations will be sent to Fluor Hanford within 30 days.
- ATE brought in a subject matter expert from Severn Trent Laboratories to teach a Data Integrity and Laboratory Ethics class to all ATL analytical staff in early October. This class focused on proper data handling techniques, including manual integration of data.

**MONTHLY STATUS REPORT**  
**222-S Laboratory**  
**OPERATIONS AND TECHNOLOGY DEVELOPMENT**  
**October 2005**

- Discussion continues with the Washington State Department of Health on the 222-S Laboratory Main Stack (296-S-21). At issue is its designation as a "Minor Stack" under the National Emission Standards for Hazardous Air Pollutants (NESHAPS) and WAC 246-247, Radioactive Air Emissions.
- Winterization work packages have been completed and steam will be returned to the facility on schedule during October.
- Corrective maintenance on the Room 2B, hood 16 drain system was successfully completed during this reporting period. This drain system has had a chronic slow drain for the past several years. This drain system leads to the 219-S Tank System.
- Replaced P2A and P2B pumps at the 207-SL Basin. The pumps are required to pump 207-SL water to the above ground storage tanks.
- Successfully completed preventative maintenance routine on Motor Control Centers #1 and 2. The Centers are the electrical distribution centers for the 222-S Laboratory. The laboratory completed this work, on schedule, during the planned 2 day outage.
- Eleven mixed waste containers were shipped for treatment during this reporting period.
- Waste Services personnel completed training to access and use the electronic profile system from the new hazardous waste treatment and disposal vendor. Philips Services Corporation was the vendor selected to provide hazardous waste treatment and disposal.
- Finished the development and implementation of SUMMA volatile organic analytical methods that support Tank Farm Vapor Sampling. About 70 compounds are targeted by this method.
- Task Technical and Quality Assurance Plans were released for Waste Treatment Plant laser ablation demonstration project.
- Determined the Minimum Detection Levels for the elements of interest for the Hand-Held XRF instrument for support of the Waste Treatment Plant.

## **SUMMARY OF 222-S LABORATORY PROCEDURE LT-549-155 AND COMPARISON TO EPA METHOD 29**

This procedure provides the guidance for assembling the sampling equipment needed to sample air vapors for metals. The equipment and procedure is designed to sample for metals as particulates or as other volatile species. The sampling train may include a mixed cellulose ester (MCE) filter to capture the particulates followed by two impinger traps filled with a mixture of 5% HNO<sub>3</sub> and 10% H<sub>2</sub>O<sub>2</sub> to trap any volatile organometallic species that may not be trapped on the filter. The second trap is used to evaluate the trapping efficiency of the system. The HNO<sub>3</sub>/H<sub>2</sub>O<sub>2</sub> traps may be followed by an empty trap to prevent the HNO<sub>3</sub>/H<sub>2</sub>O<sub>2</sub> mixture from being pulled into the vacuum pump. After sampling, the filter and sampling traps are returned to the laboratory for breakdown and analysis. The use of the HNO<sub>3</sub>/H<sub>2</sub>O<sub>2</sub> mixture is based on EPA's Method 29; the use of MCE filters is based on OSHA and NIOSH procedures.

### **APPLICATIONS**

This sampling train is intended for sampling the air from double-shell tank (DST) stacks and from tank head space in support of industrial hygiene evaluations. The method is not intended to be a substitute for the more rigorous EPA Method 29 because the data from this sampling and analysis is not intended to support regulatory decisions. This method does not use trapping solutions applicable for mercury vapor. This procedure is not configured for Hg analysis. This option for excluding Hg is implemented as discussed and outlined in method 29. The primary purpose of the procedure is to provide a rapid method of screening these air spaces and streams for metals.

### **Relationship or comparison to EPA Method 29**

The EPA Method 29 is designed to use isokinetic sampling as does this procedure.

EPA Method 29 suggests using larger impingers and higher sample volumes than we use in procedure LT-549-155. The equipment and sampling volumes are reduced to enhance method safety for the field samplers by reducing the volume of acid that must be handled in the field and allowing for better control of related radiological dose issues.

Method 29 is applicable to the following metals: Sb, As, Ba, Be, Cd, Cr, Co, Cu, Pb, Mn, Hg, Ni, P, Se, Ag, Tl and Zn. As written, this procedure is applicable to all the metals listed except mercury.

The sensitivity of the method is a function of the volume of gas sampled and the detection limits for the method (ICP/AES, ICP/MS or AA) used for final analysis. Where Method 29 suggests Graphite furnace AAS for analysis 222-S is using ICP-MS. The use of ICP-MS for metal analysis is discussed in Method 29.

Other metals may be detected by these techniques; however, the accuracy (quantitation) of the analysis will depend on the completeness of the trapping and the dissolution of the metal species.

# CORRESPONDENCE DISTRIBUTION COVERSHEET

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Addressee  
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Correspondence No.  
CH2M-0600211  
January 12, 2006

Subject: 222-S PROJECT MANAGERS' MEETING AND MISCELLANEOUS LAB ISSUES  
(TSD: TS-2-1), OCTOBER 2005

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		222-S Regulatory File	T6-03	X
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		H. L. Anastos	T6-10	X
		J. G. Hwang	T6-10	X

*LE Borneman 1/11/06*