Accomplishments:

Report Status:

The following analytical reports were generated and issued during the last reporting period:

- (3) Final Reports for PERSONAL SAMPLING September 2018 (VOA Analysis). (Issued by Organic Studies)
- (2) Final Reports for AREA SOURCE SAMPLING September 2018 (VOA Analysis). (Issued by Organic Studies)
- (1) Final Report for AREA SOURCE SAMPLING July 2018 (SVOA Analysis). (Issued by Organic Studies)

The following summary data reports were generated and issued during the last reporting period:

- (2) Final Reports for PERSONAL SAMPLING JAN 2019 (Nitrous Oxide analysis). (Issued by Assay Technologies)
- (2) Final Reports for PERSONAL SAMPLING FEB 2019 (Nitrous Oxide analysis). (Issued by Assay Technologies)
- (1) Final Report for AREA SOURCE SAMPLING JAN 2019 (Nitrous Oxide analysis). (Issued by Assay Technologies)
- (2) Final Reports for AREA SOURCE SAMPLING FEB 2019 (Nitrous Oxide analysis). (Issued by Assay Technologies)
- (3) Final Reports for PERSONAL SAMPLING JAN 2019 (Nitrosamines Analysis). Issued by CBAL
- (2) Final Reports for PERSONAL SAMPLING FEB 2019 (Nitrosamines Analysis). Issued by CBAL
- (2) Final Reports for AREA SOURCE SAMPLING JAN 2019 (Nitrosamines Analysis). Issued by CBAL
- (3) Final Reports for AREA SOURCE SAMPLING FEB 2019 (Nitrosamines Analysis). Issued by CBAL
Reports (cont.):

- (1) Final Report for PERSONAL SAMPLING FEB 2019 (Amines Analysis). Issued by ALS
- (1) Final Report for AREA SOURCE SAMPLING JAN 2019 (Amines Analysis). Issued by ALS
- (1) Final Report for AREA SOURCE SAMPLING FEB 2019 (Amines Analysis). Issued by ALS
- (1) Final Report for PERSONAL SAMPLING JAN 2019 (1, 3-Butadiene analysis). (Issued by ALS)
- (1) Final Report for AREA SOURCE SAMPLING JAN 2019 (1, 3-Butadiene analysis). (Issued by ALS)
- (1) Final Report for PERSONAL SAMPLING JAN 2019 (Asbestos analysis). (Issued by ALS)
- (3) Final Reports for PERSONAL SAMPLING JAN 2019 (Beryllium analysis). (Issued by CBAL)
- (1) Final Report for PERSONAL SAMPLING FEB 2019 (Beryllium analysis). (Issued by CBAL)
- (17) Final Reports for AREA SOURCE SAMPLING JAN 2019 (Beryllium analysis). (Issued by ALS)
- (5) Final Reports for AREA SOURCE SAMPLING JAN 2019 (Beryllium analysis). (Issued by ALS)
- (2) Final Reports for PERSONAL SAMPLING JAN 2019 (Acetonitrile analysis). (Issued by ALS)
- (1) Final Report for AREA SOURCE SAMPLING JAN 2019 (Acetonitrile analysis). (Issued by ALS)
- (2) Final Reports for AREA SOURCE SAMPLING FEB 2019 (Acetonitrile analysis). (Issued by ALS)
- (5) Final Reports for PERSONAL SAMPLING JAN 2019 (Aldehyde analysis). (Issued by ALS)
- (1) Final Report for AREA SOURCE SAMPLING JAN 2019 (Aldehyde analysis). (Issued by ALS)
- (4) Final Reports for AREA SOURCE SAMPLING JAN 2019 (Aldehyde analysis). (Issued by ALS)
- (2) Final Reports for AREA SOURCE SAMPLING FEB 2019 (Aldehyde analysis). (Issued by ALS)
- (1) Final Report for PERSONAL SAMPLING JAN 2019 (Silica analysis). (Issued by ALS)

WRPS Analytical Project Status:

ETF Catalyst Testing 2018 (PC: Buddy Sosa):
The test plan, WRPS-1805004, was released on 12/27/18. Analysis preparation is underway.
WRPS Analytical Project Status (cont.):

4H Unknown (PC: Buddy Sosa):  Analysis is complete and the results have been issued.

AP106 CORROSION STUDY (RESEARCH) (PC: Buddy Sosa):
The test plan (WRPS-1804207) was issued on 10/17/18. Corrosion analysis was performed and report (RPP-RPT-61357 Rev 00) was issued on 02/07/19. Three more samples were submitted for radiochemistry and solid phase characterization on 2/20/19.

IDF Sediments (PC: Buddy Sosa):
The test plan, LAB-PLN-19-0001, was issued on 2/6/19. Samples are pending.

VADOSE WMA A-AX Focus Area 1 (Tanks A-104/A-105) (PC: Steve McKinney):
Sampling for core 9386 is complete. Sampling on the second core started 1/29/19. Intervals 001 and 002 have been received, broken down, and submitted to WHL for analyses. Subsamples from each interval will be sent off-site for pesticide and TOC analysis.

2019 A105 Solid Phase Characterization (PC: Steve McKinney):
Two solid samples from A-105 were received 2/1/19. Sample breakdown diagrams and the alpha worksheet are complete and a test plan for APD is complete and in review.

2017 AW105 SPC (PC: Steve McKinney):
WHL analyses of 2018 AW105 SPC samples is in progress.

AN107 2017 SPC (PC: Steve McKinney):
Tentatively identified compounds (TICs) need to be reported for one of the samples. Completion of the report is dependent on the final TIC report.

Dissolved Double Salt Precipitate (PC: Steve McKinney):
Additional analyses for SPC (PLM/SEM/XRD) and ICP have been requested. Two batches (36 samples) have been submitted to WHL for ICP analysis.

224 Waste Corrosion Test “T111”; (PC: Julie Osborn):
The T-111 results (Test Plan WRPS-1801898) were reported on 11/30/18. Nine-month exposure of test coupon testing is in progress.

AN102 CO2 - “CO2 Aging”; (PC: Julie Osborn):
The AN102 analytical results (Test Plan, WRPS-1303030) were reported on 12/5/18. SPC analyses are in progress. The final report is pending review.

DST Secondary Liner Corrosion Testing; (PC: Julie Osborn):
Test plan, LAB-PLN-16-00004 R0, was issued. Refractory testing is underway.

AY/AZ Stack Sampling 2018 – Annual; (PC: Julie Osborn):
The final report (RPP-RPT-61230) was released on 2/19/19.
WRPS Analytical Project Status (cont.):

**AP Stack Sampling 2018 – Qtr. 2; (PC: Julie Osborn):**
VOA and SVOA samples were received during the facility outage. Reanalysis by direct read instrument (DRI) for VOA is complete. VOA is pending data package verification.

**AY/AZ Stack Sampling 2018 – Qtr. 3; (PC: Julie Osborn):**
VOA, SVOA, and ammonia samples were received 7/31/18. DRIs for VOA and SVOA is complete; however, VOA data package is pending verification.

**AP Stack Sampling 2018 – Annual; (PC: Julie Osborn):**
AP Stack 2018 sampling event (RPP-PLAN-60685 Rev. 2) is complete. Analyses of total chrome, acrolein, 1, 3-butadiene, nitrosamines, dimethyl mercury, Summa-VOA, TDU-VOA, and mercury are 80% complete. Raw data QA reviews are 50% complete.

**Archive Viscosity (PC: Gary Noyes)**
Analysis is complete and the report is being drafted.

**AN-107 Corrosion Testing (PC: Gary Noyes)**
Analysis is complete and the report is being drafted.

**AY-101 Corrosion (PC: Gary Noyes)**
Report RPP-RPT-60844 was released on 7/5/18. An amendment to this report will be released when long term corrosion testing is complete.

**AW-103 Corrosion (PC: Gary Noyes)**
Corrosion testing, per WRPS-1801844, is underway.

**Courtroom Radon-222 Measurement (PC: Gary Noyes)**
The sample plan has issued and radon test kits arrived at 222-S on 2/5/19.

**222SE HEPA Filters (PC: Gary Noyes)**
HMC re-sampled on 1/23/19 for TCLP metals analysis. Shipped re-sample to GEL on 1/24/19.

**2018 AZ-102 LDP (PC: Gary Noyes)**
Samples were collected on 12/10/18, and shipped offsite to SRNL on 12/17/18. A meeting will be held with SRNL during the week of 2/25/19 to discuss returning the samples to 222-S after analysis is complete.

**TEDF Monthly Samples for February (PC: Gary Noyes)**
Samples shipped on 2/6/19.

**SALDs Samples (PC: Gary Noyes)**
Samples shipped on 1/28/19.
WRPS Analytical Project Status (cont.):

241-AX-Farm Pump Oil (PC: Gary Noyes)
Potentially contaminated pump oil was could not be shipped offsite for analysis due to radioactivity levels. Sample will need characterized before disposal. Analytical commitment has been reached with WHL and analysis is underway.

Organic Hydrolysis in Caustic Solution (PC: Gary Noyes)
A kickoff meeting was held on 1/22/19 with ETF Engineering and 222-S Organic Studies to discuss analytical needs for the project. A test plan is being drafted.

Alternative Corrosion Inhibition Testing (PC: Robert Compton)
Test plan is in draft. Work underway to find a corrosion simulant for test plan.

222-S Air Handling Unit Filter Sampling (PC: Robert Compton):
Additional testing under consideration. Procedure review and changes underway to improve results for future testing.

Hydrogen Generation (PC: Robert Compton):
Test plan approved. Work continues to assemble instrumentation.

Cartridge Evaluation (PC: Robert Compton):
Event 1 – Due June 22: All results reported.
Event 2 – Due August 7: All results reported.
Event 3 – Due October 2: Results 85% complete.

Hose-In-Hose Waste Transfer Pipe (PC: Robert Compton):
Hose in hose transfer line was loaded into hot cell on 11/6/18. Exposure testing with chemical and radiological environments is being conducted per test plan WRPS-1802769. Coupons were cut and loaded out for analysis on 11/14/18. Additional coupons identified and work underway to obtain GKI and complete COC.

207-SL Basin (PC: Robert Compton):
RPP-Plan-60233 pending approvals. Sampling scheduled for 3/19/19.

WRPS LIMS Project Status:

22S Calculation Forms (Harold Baker)
Chemists are compiling appropriate data files created for the various Liquid Scintillation Counter methods. The tritium methods are planned be the first to be converted over to the direct upload into OmniLIMS. Changes to the upload file may require a change to the parser that has already been made.
WRPS LIMS Project Status (cont.):

**OmniLIMS (Harold Baker):**
Patch 3.1.1 was released on 2/19/2019 and has been installed on the development database. Initial testing has been started and as soon as it is confirmed that the disposal changes are working correctly then a meeting with the sample custodians and project coordinators will be held to review the changes.

**Initiatives:**

59 records were processed for final storage in the Managed Information module of IDMS for electronic records.

222S instrument techs have worked out a manual procedure to back up the instrument controllers on SLAN. Thirty-eight systems have backups within the required 3-month window. Four SLAN systems have yet to be done. Twelve systems are in the process of being replaced or are too old to run the software, and 17 systems do not yet have SLAN connections. (R Kerns, G Johnson, P O’Neil)

**Issues:**

TraceFinder 4.1 software is having issues with Tentatively Identified Compounds (TICS) on Windows 10. The vendor recommends moving from .NET 4.7 back to .NET 4.6. This cannot be done on HLAN. A windows 10 system was set up for testing on SLAN, but Windows 10 comes with .NET 4.7 and will not allow the earlier version to be installed. The SLAN test system is being moved to Windows 7 for further testing. (R Kerns, G Johnson)

It has been found that users of HLAN shares with write access can modify the permissions of sub-folders within the share. They can add additional users to the folders, and can even remove the access of the shareowners. WRPS CIO office is working on resolution of this issue since it bypasses the centralized access control for the HLAN shares. (R Kerns)

DOE Cyber Security has an issue with the ACRONIS back-up software used in the 222S labs to back-up the instrument controllers. Further details are expected within the next few weeks, but at a minimum, ACRONIS will be removed and a different back-up software package. No contract direction has been given at this time. No change. (RE Kerns)

The license server for Origin Pro is not functioning. This has been turned over to MSA for resolution. Currently the chemists are using the older version with Dongles for their work. Consideration is being given to going back to the dongles to improve reliability. No change. (RE Kerns)

Procurement has indicated that USB bar code readers will need both an ADP form and an EAM MR in order to accommodate an NRTL check. Since USB, devices operate at 5 volts DC and plug into an NRTL listed computer, and, since other USB devices have not had this requirement in the past, the issue has been sent to the Authority Having Jurisdiction for evaluation. (RE Kerns, K Welsch)
The following documents were processed and moved into electronic records for Process Chemistry:

WRPS-1805461: Test Results for the Viscosity and Chemical Analysis of Hanford Tank Wastes for Updating the Best Basis Inventory

**BTR Activities:**

Requisition 316596 – 219-S NDA Analysis: Pending Approval
Requisition 317671 – 242-A Evaporator Sample Analysis: Approved
Requisition 317496 – Scientific Technician (Cooke): Technical evaluation in process
Requisition 318031 – RCRA Training: Approved

**Peer Reviews:**

TDU VOA Samples

1. TDU VOA Group 20182756 September Personal
2. TDU VOA Group 20182711 September Area
3. TDU VOA Group 20182774 September Area
4. TDU VOA Group 20182208 July Personal
5. TDU VOA Group 20181828 June Area
6. TDU VOA Group 20181850 June Area
7. TDU VOA Group 20181885 June Area
8. TDU VOA Group 20181891 June Area
9. TDU VOA Group 20181762 June Personal
10. TDU VOA Group 20181816 June Area
11. TDU VOA Group 20181827 June Personal
12. TDU VOA Group 20181851 June Area
13. TDU VOA Group 20181884 June Personal
14. TDU VOA Group 20181892 June Personal
15. TDU VOA Group 20182015 July Personal
16. TDU VOA Group 20181958 July Area
17. TDU VOA Group 20182016 July Area
18. TDU VOA Group 20182070 July Area
19. TDU VOA Group 20182038 July Personal
20. TDU VOA Group 20182069 July Personal
21. TDU VOA Group 20181918 June Personal
22. TDU VOA Group 20181943 June Personal
23. TDU VOA Group 20181957 June Personal
90-day Sampling Look Ahead:

- Ongoing IH Vapor
- VADOSE Zone Sampling (A-AX) (started on November 5, continuing thru July 2019)
- SY-102 Grab Sampling (February)
- EW-151 Catch Tank (May March)
- AW-103 Grab Sampling for Evaporator Feed Qual (March)
- AN-107 Grab Sampling (April)
- AY-101 Core Sampling (April)
- AZ-101 Grab Sampling (May)