PAT PROGRAMS
AIHA PROFICIENCY ANALYTICAL TESTING PROGRAMS

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Report Issue Date: 08/15/2016

Steve Green
AT Labs, A Unit Of Assay Technology
1382 Stealth St
Livermore, CA 94551

Participant ID# 101728

Dear Steve Green,

Please find your organization's Industrial Hygiene Proficiency Analytical Testing results for **IHPAT Round 206**. It is the participant's responsibility to thoroughly review results and to immediately contact the AIHA Proficiency Analytical Testing Programs in writing, if any errors are found in your report.

The proficiency demonstrated by the results of this IHPAT round is valid until the results of the retest round are available on October 14, 2016, if the participant chooses to enroll, or until November 15, 2016 when the next IHPAT report will be available. Unacceptable performance may be improved by correctly analyzing a set of retest samples. If you require a retest for the round, you may order one by completing the Retest Order Form available online at www.aihapat.org. The completed form and payment must be received by August 25, 2016. Refer to the PAT Programs Schedule located at www.aihapat.org for important retest round dates.

Please handle, store and analyze your PAT samples in the same manner as routine client samples. To submit results, visit the Proficiency Analytical Testing (PAT) page and click on the PAT Data Entry Portal: www.aihapat.org**. Always print and save the confirmation page** after submitting data via the PAT Data Entry Portal.

Participants shall not describe their proficiency status in a manner that implies accreditation, certification or variations thereof. PAT results pertain only to the participant organization at the location listed on this results report. AIHA PAT Programs makes every effort to ensure that individual participant results are kept confidential and are not made public. Round results are only released to the participant and those entities requiring this information for accreditation, regulatory and contract purposes. New participants are made aware of the arrangement in advance of participation and consent is sought prior to the release of records for participants. PAT reports may not be reproduced or distributed unless copied in its entirety.

Any enrolled participant that is unable to participate in a PT round must request an "Excused Absence" in order to not receive outliers and an unacceptable performance rating. This written request must be received before the PT round closes. Please note that an "Excused Absence" will not be granted for more than two consecutive rounds.

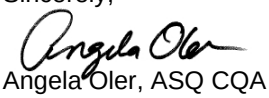
IHPAT Round 207 sample kits will be mailed to participants around October 1, 2016. An email will be sent out upon shipment of the samples. If you do not receive samples within fifteen (15) days after the ship date please contact the AIHA PAT Programs. Y our organization's data will be due by 11:59pm ET on November 1, 2016. The analytes for **IHPAT Round 207** are:

- **Metals – cadmium (CAD), lead (LEA), nickel (NKL)**
- **Asbestos – chrysotile**
- **Silica – coal mine dust**
- **Organics – n-butyl acetate (BAC), ethyl acetate (EAC), 2-propanol (IPA)include analytes**

Samples are generated, characterized, packaged, and shipped by SRI International, Menlo Park, CA 94025 under contract with AIHA Proficiency Analytical Testing Programs. Unless otherwise noted, sample homogeneity and stability criteria were satisfied for all samples.

I encourage you to contact me with any feedback, questions or if you wish to contest your results at aoler@aiha.org.

Sincerely,



Angela Oler, ASQ CQA
Manager, AIHA PAT Programs

Industrial Hygiene Proficiency Analytical Testing Results

This document contains three sub-reports relating to IHPAT Round 206. The first report contains your organization's results listed per contaminant, per sample. The second report contains your current and 2 previous test round performance respectively (where applicable), and the final report contains summary results for all participants for IHPAT Round 206.

Testing Results for IHPAT Round 206

This part of the report contains your organization's results listed per contaminant, per sample.

Contaminant	Units	#	Result	Ref. Value	Lower Limit	Upper Limit	z-Score	Rating
Benzene (BNZ)	mg	1	0.0852	0.0860	0.0746	0.0975	-0.2	A
	mg	2	0.3050	0.3040	0.2675	0.3405	0.1	A
	mg	3	0.1420	0.1435	0.1260	0.1611	-0.3	A
	mg	4	0.6100	0.6154	0.5402	0.6905	-0.2	A
O-xylene (OXY)	mg	1	0.3960	0.4034	0.3311	0.4758	-0.3	A
	mg	2	0.6450	0.6737	0.5520	0.7953	-0.7	A
	mg	3	0.2100	0.2329	0.1761	0.2896	-1.2	A
	mg	4	0.7720	0.7399	0.5653	0.9145	0.6	A
Toluene (TOL)	mg	1	0.3990	0.3959	0.3484	0.4434	0.2	A
	mg	2	0.2180	0.2193	0.1930	0.2457	-0.1	A
	mg	3	1.0900	1.1163	0.9765	1.2562	-0.6	A
	mg	4	0.5880	0.5899	0.5165	0.6633	-0.1	A

Statistical Analysis Interpretation Note:
Reference value is the mean of the reference group.
Lower limit = reference value - 3 standard deviations; Upper limit = reference value + 3 standard deviations
z-Score = (reported result - reference value)/standard deviation. Note: z-Scores are used to predict trends and to indicate how far a particular score is away from the mean.
A – Acceptable* Analysis; U - Unacceptable Analysis
Fiber data are positively skewed therefore transformations are used to obtain approximately normal distributions.
Both the assigned values and acceptance limits are based on consensus of the reference group. *The acceptability of reported results is based on upper and lower acceptance limits. This is why a reported result may appear unacceptable according to z-Score, but be identified as acceptable.
Any non-participation or non-reporting of PAT data will result in unacceptable results (see PAT Programs Participation Policies, Section 2.1.6.2.).

Overall Performance Summary Concluding with 206

The following table contains your organization's current and 2 previous test rounds performance respectively (where applicable). For more information in regard to the determination of proficiency, please visit: www.aihapat.org.

Sample	Round	Round Score	Round Performance	Proficiency Status -Three Round Score
Organic Solvents	204	11/12	Pass	
	205	4/4	Pass	
	206	12/12	Pass	P

Interpretation Note:
The denominators represent the total number of samples analyzed.
The numerators represent the number of acceptable results.
Pass: Round Score ≥ 75% Fail: Round Score < 75%
P – Proficient; NP – Non-proficient; I – Indeterminate (not enough rounds to determine proficiency)
A participant is rated proficient for the applicable IHPAT analyte group if the participant has a passing score for the applicable IHPAT analyte group in two (2) of the last three (3) consecutive PT rounds. A participant is rated non-proficient for the applicable PT analyte group if the participant has failing scores for the associated PT analyte group in two (2) of the last three (3) consecutive PT rounds.
The following items are available in the Industrial Hygiene Scheme Plan:
Procedures used to statistically analyze the data, establish any assigned value and standard deviation for proficiency assessment, or other criteria for evaluation; details of the metrological traceability and measurement uncertainty of any assigned value; information about design and implementation of PT scheme. Industrial Hygiene Scheme Plan is available at http://www.aihapat.org/Programs/IHPAT/Documents/IHPAT%20Scheme%20Plan%20R2.pdf
Measurement uncertainty of any assigned value is also available on the respective certificate of analysis for the round.
Technical Comment: No remarkable observations.

Performance of all Participants for IHPAT Round 206

The following table contains aggregate results for all participants IHPAT Round 206.

Contaminant	#	Ref. Value	Ref. Std. Dev.**	RSD (%)	Uncertainty Measurement	Total Participants	Total Acceptable	Low*	High*
Cadmium (CAD)	1	0.01517	0.00070	4.6	0.000084	141	136	2	3
	2	0.00900	0.00038	4.2	0.000046	141	135	3	3
	3	0.00400	0.00016	4.0	0.000019	141	135	5	1
	4	0.02108	0.00099	4.7	0.000119	141	137	2	2
Lead (LEA)	1	0.0970	0.0043	4.4	0.000513	142	135	4	3
	2	0.0404	0.0018	4.4	0.000213	142	137	2	3
	3	0.1385	0.0055	4.0	0.000667	142	138	2	2
	4	0.0614	0.0028	4.5	0.000332	142	137	2	3
Manganese (MNG)	1	0.0502	0.0024	4.9	0.000294	141	136	3	2
	2	0.1108	0.0057	5.2	0.000691	141	141	0	0
	3	0.0354	0.0015	4.1	0.000177	141	138	1	2
	4	0.0712	0.0037	5.2	0.000445	141	135	4	2
Silica (SIL)	1	0.0693	0.0081	11.7	0.001484	49	45	0	4
	2	0.1114	0.0169	15.2	0.003093	49	48	0	1
	3	0.0882	0.0117	13.3	0.002138	49	48	0	1
	4	0.1822	0.0248	13.6	0.004524	49	47	1	1
Asbestos / Fibers (ASB)	1	311	44	14.2	5.684680	717	665	15	37
	2	231	39	16.9	5.042870	717	662	14	41
	3	481	76	15.8	9.788526	717	682	14	21
	4	93	19	20.0	2.391439	717	676	7	34
Benzene (BNZ)	1	0.0860	0.0038	4.4	0.000531	105	96	5	4
	2	0.3040	0.0122	4.0	0.001686	105	99	4	2
	3	0.1435	0.0058	4.1	0.000810	105	96	5	4
	4	0.6154	0.0250	4.1	0.003472	105	95	6	4
O-xylene (OXY)	1	0.4034	0.0241	6.0	0.003343	105	101	3	1
	2	0.6737	0.0406	6.0	0.005623	105	99	5	1
	3	0.2329	0.0189	8.1	0.002624	105	100	3	2
	4	0.7399	0.0582	7.9	0.008070	105	101	3	1
Toluene (TOL)	1	0.3959	0.0158	4.0	0.002197	105	98	5	2
	2	0.2193	0.0088	4.0	0.001216	105	97	4	4
	3	1.1163	0.0466	4.2	0.006464	105	92	10	3
	4	0.5899	0.0245	4.1	0.003393	105	91	6	8

Note: **The reference group standard deviation is used but is limited to no less than 4% relative standard deviation or no greater than 20% relative standard deviation.
*__Low__ - number of participant results that are less than the Lower Limit; *__High__ - number of participant results that are greater than the Upper Limit.
Reference group/participant data sets for individual methods are not separated out during statistical analysis. Methods used by participants produce comparable data based upon the proficiency samples provided. Methods represented by fewer than eight participant data points are not assessed for comparability.
Additional technical comments or recommendations, when available, shall be shared with participants via the web and participants shall be notified via email.