

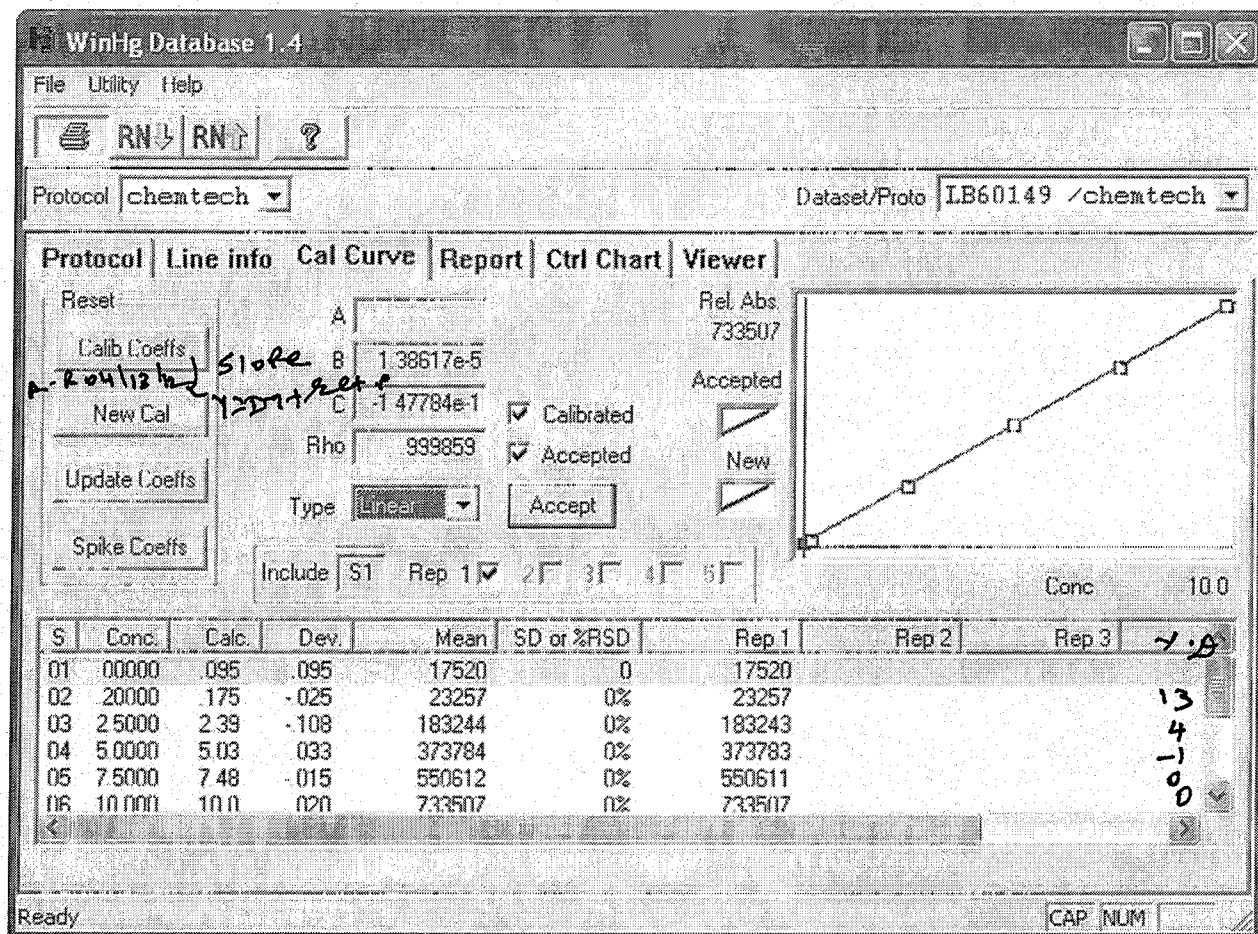
MERCURY ANALYSIS LOGBOOK

[illegible]

MERCURY ANALYSIS LOGBOOK

[illegible]

15260149A-P.



Instrument ID: W2 LB60149 A.P.

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Standard: 1 Rep: 1			<i>50</i>	Seq: 1		12:20:20 13 Apr 12	HG	
Hg	.000	ppb	17520					
*** Standard: 2 Rep: 1			<i>50.2</i>	Seq: 2		12:22:21 13 Apr 12	HG	
Hg	.200	ppb	23257					
*** Standard: 3 Rep: 1			<i>52.5</i>	Seq: 3		12:24:30 13 Apr 12	HG	
Hg	2.50	ppb	183243					
*** Standard: 4 Rep: 1			<i>55.0</i>	Seq: 4		12:26:40 13 Apr 12	HG	
Hg	5.00	ppb	373783					
*** Standard: 5 Rep: 1			<i>57.5</i>	Seq: 5		12:29:08 13 Apr 12	HG	
Hg	7.50	ppb	550611					
*** Standard: 6 Rep: 1			<i>10.0</i>	Seq: 6		12:31:14 13 Apr 12	HG	
Hg	10.0	ppb	733507					

021/13/12 A-R

Protocol: chemtech

POST-RUN REPORT

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: ICV								
					Seq: 7	12:36:39	13 Apr 12	HG
				ICV65				
Hg	3.67	ppb	.000	3.67				
=====								
*** Sample ID: ICB								
					Seq: 8	12:39:33	13 Apr 12	HG
				ICB65				
Hg	-.196	ppb	.000	-.196				
=====								
*** Sample ID: CCV								
					Seq: 9	12:42:11	13 Apr 12	HG
				CCV91				
Hg	5.09	ppb	.000	5.09				
=====								
*** Sample ID: CCB								
					Seq: 11	12:46:22	13 Apr 12	HG
				CCB91				
Hg	-.096	ppb	.000	-.096				
=====								
*** Sample ID: PB62330BL								
					Seq: 12	12:49:42	13 Apr 12	HG
				PBW01				
Hg	.081	ppb	.000	.081				
=====								
*** Sample ID: D2062-01								
					Seq: 13	12:51:57	13 Apr 12	HG
				MF5RB4				
Hg	-.089	ppb	.000	-.089				
=====								
*** Sample ID: D2081-20								
					Seq: 14	12:54:18	13 Apr 12	HG
				MF5RG6				
Hg	.032	ppb	.000	.032				
=====								
*** Sample ID: D2106-22								
					Seq: 15	12:56:26	13 Apr 12	HG
				MF5RN2				
Hg	-.100	ppb	.000	-.100				
=====								
*** Sample ID: D2130-21								
					Seq: 16	12:58:29	13 Apr 12	HG
				MF5RS0				
Hg	-.193	ppb	.000	-.193				
=====								
*** Sample ID: CCV								
					Seq: 17	13:00:41	13 Apr 12	HG
				CCV92				
Hg	4.95	ppb	.000	4.95				
=====								

Protocol: chemtech

POST-RUN REPORT

Line	Conc.	Units	SD/RSD	1	2	3	4	5
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*** Sample ID: CCB

Seq: 18

13:02:42 13 Apr 12 HG

CCB92

Hg -.042 ppb

.000

-.042

CHEMTECH

284, Sheffield Street, Mountainside NJ 07092 (908) 789 - 8900

Metals STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
871	MERCURY INTERMEDIATE B 250PPB WORKING STD.	MP11092	04/12/2012	04/13/2012	narendra
FROM 1.000ml of Nitric Acid, Instra-Analyzed (cs/4x2.5L)(M2316) + 2.500ml of Mercury Stock Solution, 10 ug/ml(M2310) + 96.500ml of DI Water(W1152) = Final Quantity: 100.000 ml					

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1340	Hg 0.00 PPB STD	MP11093	04/12/2012	04/13/2012	narendra
FROM 2.500ml of Nitric Acid, Instra-Analyzed (cs/4x2.5L)(M2316) + 247.500ml of DI Water(W1152) = Final Quantity: 250.000 ml					

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Metals STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1341	Hg 0.2 PPB STD	MP11094	04/12/2012	04/13/2012	narendra
FROM 2.500ml of Nitric Acid, Instra-Analyzed (cs/4x2.5L)(W1586) + 247.300ml of DI Water(W1152) + 0.200ml of MERCURY INTERMEDIATE B 250PPB WORKING STD.(MP11092) = Final Quantity: 250.000 ml					

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1342	Hg 2.5 PPB STD	MP11095	04/12/2012	04/13/2012	narendra
FROM 2.500ml of Nitric Acid, Instra-Analyzed (cs/4x2.5L)(W1586) + 245.000ml of DI Water(W1152) + 2.500ml of MERCURY INTERMEDIATE B 250PPB WORKING STD.(MP11092) = Final Quantity: 250.000 ml					

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Metals STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1343	Hg 5.0 PPB STD	MP11096	04/12/2012	04/13/2012	narendra
FROM 2.500ml of Nitric Acid, Instra-Analyzed (cs/4x2.5L)(W1586) + 242.500ml of DI Water(W1152) + 5.000ml of MERCURY INTERMEDIATE B 250PPB WORKING STD.(MP11092) = Final Quantity: 250.000 ml					

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1344	Hg 7.5 PPB STD	MP11097	04/12/2012	04/13/2012	narendra
FROM 2.500ml of Nitric Acid, Instra-Analyzed (cs/4x2.5L)(W1586) + 240.000ml of DI Water(W1152) + 7.500ml of MERCURY INTERMEDIATE B 250PPB WORKING STD.(MP11092) = Final Quantity: 250.000 ml					

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Metals STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1345	Hg 10.0 PPB STD	MP11098	04/12/2012	04/13/2012	narendra
FROM 2.500ml of Nitric Acid, Instra-Analyzed (cs/4x2.5L)(W1586) + 237.500ml of DI Water(W1152) + 10.000ml of MERCURY INTERMEDIATE B 250PPB WORKING STD.(MP11092) = Final Quantity: 250.000 ml					

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1346	Hg ICV SOLUTION	MP11099	04/12/2012	04/13/2012	narendra
FROM 2.500ml of ICV (HG) STOCK SOLN(M2099) + 2.500ml of Nitric Acid, Instra-Analyzed (cs/4x2.5L) (M2316) + 245.000ml of DI Water(W1152) = Final Quantity: 250.000 ml					

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Metals STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1351	ICB (Hg 0.00 PPB SOLUTION)	MP11100	04/12/2012	04/13/2012	narendra
FROM 2.500ml of Nitric Acid, Instra-Analyzed (cs/4x2.5L)(M2316) + 247.500ml of DI Water(W1152) = Final Quantity: 250.000 ml					

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1358	CCV (Hg 5.0 PPB SOLUTION)	MP11101	04/12/2012	04/13/2012	narendra
FROM 485.000ml of DI Water(W1152) + 5.000ml of Nitric Acid, Instra-Analyzed (cs/4x2.5L)(W1586) + 10.000ml of MERCURY INTERMEDIATE B 250PPB WORKING STD.(MP11092) = Final Quantity: 500.000 ml					

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Metals STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
1352	CCB (Hg 0.00 PPB SOLUTION)	MP11102	04/12/2012	04/13/2012	narendra
FROM 495.000ml of DI Water(W1152) + 5.000ml of Nitric Acid, Instra-Analyzed (cs/4x2.5L)(M2316) = Final Quantity: 500.000 ml					

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Metals STANDARD PREPARATION LOG

RecipeID	NAME	NO.	Prep Date	Expiration D	Prepared By
68	STANNOUS CHLORIDE SOLUTION	MP11106	04/13/2012	04/14/2012	ALPA
FROM 450.000ml of DI Water(W1152) + 50.000gram of Stannous Chloride (cs/4x500g)(M2288) + 50.000ml of Hydrochloric Acid, Instra-Analyzed (cs/6x2.5L)(W1096) = Final Quantity: 500.000 ml					

**QATS INORGANIC REFERENCE MATERIAL
INITIAL CALIBRATION VERIFICATION SOLUTIONS
(ICVs)**

m 2097 - m2101

*see data
11/16/11
A.P.*

ICV4-0499	
Element	Concentration (µg/L) (after 10 fold dilution)
Cd	98.7
Pb	99.8
Ag	101.9
Tl	98.8

ICV5-0508	
Element	Concentration (µg/L) (after 100 fold dilution)
Hg	4.0

ICV6-0400	
Element	Concentration (µg/L) (after 100 fold dilution)
CN-	99

PLASMA-PURE™

Standard Certificate

Catalog Number: 610-8002

Lot Number: 1199004

Starting Material: 99.999% purity Hg metal

Diluent/Matrix: 5% HNO₃

Preparation Date: Dec-11

Expiration Date: Dec-12

Element

Concentration

Mercury Stock Solution

Hg

10.00 ± 0.02 µg/ml

M2310
Rec. date: 01/18/12
A-E

Residual Impurities *

Concentration

None Detected

* Impurities were determined via ICP Emission Spectroscopy. Only elements detected are reported.

Traceability

1. This standard is certified using wet chemistry assay procedures and/or plasma emission spectroscopy, traceable to primary or well-characterized secondary standards. Traceable to: NIST SRM 3133, Hg
Lot#991304
2. Analytical balances are routinely calibrated using NIST weight sets.

Certification

Leeman Labs, Inc. certifies that PLASMA-PURE Standards have been formulated to the concentrations listed above (±0.5% of reported value). This certification does not apply and will be considered null and void if PLASMA-PURE Standards are used in a manner or in an environment not consistent with their intended purpose or are modified by the Customer in any manner.

Limitations

THE ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Limitation of Liability

In no event shall Leeman Labs, Inc. be liable for any indirect, incidental, special, or consequential damages, including loss of profits, revenue, or used incurred by Customer or any third party, whether in an action in contract or tort. Leeman Labs Inc's liability for damages hereunder shall in no event exceed the amounts paid for the PLASMA-PURE Standards.

QC Analyst: *SUS*

Date: December 1, 2011



TELEDYNE Leeman Labs

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