

ภาคผนวก ช  
เอกสารสอบเทียบเครื่องมือ





### List of Instruments Certification for Air & Noise Quality Analysis

No.	Instrument/Equipment	Parameter	Manufacturer	Model/Serial No.	Calibrator	Certification No.	Date of Calibration	Due date of Calibration	Remark
<b>Ambient</b>									
1	Orifice Transfer Standard Calibrator	Total Suspended Particulate (TSP) Particulate Matter < 10 µm (PM <sub>10</sub> )	Andersen Instruments, Inc.	G25A 11MX	Tisch Environmental, Inc.	28062022	28 Jun 21	27 Jun 23	-
2	Orifice Transfer Standard Calibrator	Total Suspended Particulate (TSP) Particulate Matter < 10 µm (PM <sub>10</sub> )	Tisch Environmental, Inc.	TE-5025A 3393	Jiranatee Associates Co., Ltd.	CL-004-65	26 Jul 22	25 Jul 24	-
3	U-Tube Manometer	Total Suspended Particulate (TSP) Particulate Matter < 10 µm (PM <sub>10</sub> )	Dwyer	1221-36-W/M -	Technology Promotion Association (Thailand-Japan)	22P803	12 Mar 22	11 Mar 23	-
4	U-Tube Manometer	Total Suspended Particulate (TSP) Particulate Matter < 10 µm (PM <sub>10</sub> )	Dwyer	1221-36-W/M -	Technology Promotion Association (Thailand-Japan)	22P801	12 Mar 22	11 Mar 23	-
5	U-Tube Manometer	Total Suspended Particulate (TSP) Particulate Matter < 10 µm (PM <sub>10</sub> )	Dwyer	1221-36-W/M -	Technology Promotion Association (Thailand-Japan)	22P918	11 Jul 22	10 Jul 23	-
6	U-Tube Manometer	Total Suspended Particulate (TSP) Particulate Matter < 10 µm (PM <sub>10</sub> )	Dwyer	1221-36-W/M -	Technology Promotion Association (Thailand-Japan)	22P967	12 Aug 22	11 Aug 23	-
7	Aneroid Barometer	Total Suspended Particulate (TSP) Particulate Matter < 10 µm (PM <sub>10</sub> )	Barigo, Germany	-	Technology Promotion Association (Thailand-Japan)	22P2728	22 Jul 22	21 Jul 23	-
8	Dial Thermo-Hygrometer	Total Suspended Particulate (TSP) Particulate Matter < 10 µm (PM <sub>10</sub> )	Barigo, Germany	-	Technology Promotion Association (Thailand-Japan)	22H1587	27 Jul 22	26 Jul 23	-
9	High Volume Air Sampler	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1010	Tisch Environmental, Inc.	Ref. No.11MX	28 Jun 21	27 Jun 23	-
10	High Volume Air Sampler	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1011	Tisch Environmental, Inc.	Ref. No.11MX	28 Jun 21	27 Jun 23	-



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<b>Ambient</b>									
11	High Volume Air Sampler	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1016	Tisch Environmental,Inc.	Ref. No.11MX	28 Jun 21	27 Jun 23	-
12	High Volume Air Sampler	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1017	Tisch Environmental,Inc.	Ref. No.11MX	28 Jun 21	27 Jun 23	-
13	High Volume Air Sampler	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1020	Tisch Environmental,Inc.	Ref. No.11MX	28 Jun 21	27 Jun 23	-
14	High Volume Air Sampler	Total Suspended Particulate (TSP)	Thremo Scientific	GS2312-10105-1 2010-16	Tisch Environmental,Inc.	Ref. No.11MX	28 Jun 21	27 Jun 23	-
15	High Volume Air Sampler	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1010	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
16	High Volume Air Sampler	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1011	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
17	High Volume Air Sampler	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1016	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
18	High Volume Air Sampler	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1017	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
19	High Volume Air Sample	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1020	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
20	High Volume Air Sample	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1008	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-



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No.	Instrument/Equipment	Parameter	Manufacturer	Model/Serial No.	Calibrator	Certification No.	Date of Calibration	Due date of Calibration	Remark
<b>Ambient</b>									
21	High Volume Air Sample	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1007	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
22	High Volume Air Sample	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1009	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
23	High Volume Air Sample	Total Suspended Particulate (TSP)	Thremo Scientific	CMCBD 1012	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
24	High Volume Air Sample	Total Suspended Particulate (TSP)	Andersen Instruments, Inc.	GL 2000 H-1 0104-109	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
25	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	CMBBD 1011	Tisch Environmental,Inc.	Ref. No.11MX	28 Jun 21	27 Jun 23	-
26	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	CMBBD 1012	Tisch Environmental,Inc.	Ref. No.11MX	28 Jun 21	27 Jun 23	-
27	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	CMBBD 1013	Tisch Environmental,Inc.	Ref. No.11MX	28 Jun 21	27 Jun 23	-
28	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	CMBBD 1016	Tisch Environmental,Inc.	Ref. No.11MX	28 Jun 21	27 Jun 23	-
29	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	CMBBD 1016	Tisch Environmental,Inc.	Ref. No.11MX	28 Jun 21	27 Jun 23	-
30	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	IP10-1	Tisch Environmental,Inc.	Ref. No.11MX	28 Jun 21	27 Jun 23	-



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No.	Instrument/Equipment	Parameter	Manufacturer	Model/Serial No.	Calibrator	Certification No.	Date of Calibration	Due date of Calibration	Remark
<b>Ambient</b>									
31	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	CMBBD 1011	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
32	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	CMBBD 1012	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
33	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	CMBBD 1013	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
34	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	CMBBD 1016	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
35	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	CMBBD 1017	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
36	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	CMBBD 1006	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
37	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Thremo Scientific	CMBBD 1005	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
38	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Andersen Instruments, Inc.	IP10 4389	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
39	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Andersen Instruments, Inc.	IP10 4390	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-
40	High Volume Air Sample	Particulate Matter < 10 µm (PM <sub>10</sub> )	Andersen Instruments, Inc.	IP10 4393	Jiranatee Associates Co., Ltd.	Ref. No.3393	26 Jul 22	25 Jul 24	-



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No.	Instrument/Equipment	Parameter	Manufacturer	Model/Serial No.	Calibrator	Certification No.	Date of Calibration	Due date of Calibration	Remark
<b>Ambient</b>									
41	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM11356	Calibration Laboratory Co.Ltd	Q22097248	23 Sep 22	22 Sep 23	-
42	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12392	Calibration Laboratory Co.Ltd	Q22017950	22 Feb 22	21 Feb 23	-
43	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12393	Calibration Laboratory Co.Ltd	Q22012260	8 Feb 22	7 Feb 23	-
44	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12395	Calibration Laboratory Co.Ltd	Q22012258	8 Feb 22	7 Feb 23	-
45	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12865	Calibration Laboratory Co.Ltd	Q22086865	30 Aug 22	29 Aug 23	-
46	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12866	Calibration Laboratory Co.Ltd	Q22097011	23 Sep 22	22 Sep 23	-
47	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12889	Calibration Laboratory Co.Ltd	Q22053609	31 May 22	30 May 23	-
48	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12890	Calibration Laboratory Co.Ltd	Q22053608	31 May 22	30 May 23	-
49	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM14547	Calibration Laboratory Co.Ltd	Q22012261	8 Feb 22	7 Feb 23	-
50	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM11229	Calibration Laboratory Co.Ltd	Q22097008	23 Sep 22	22 Sep 23	-



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No.	Instrument/Equipment	Parameter	Manufacturer	Model/Serial No.	Calibrator	Certification No.	Date of Calibration	Due date of Calibration	Remark
<b>Ambient</b>									
51	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM11230	Calibration Laboratory Co.Ltd	Q22086863	30 Aug 22	29 Aug 23	-
52	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12867	Calibration Laboratory Co.Ltd	Q22064051	27 Jun 22	26 Jun 23	-
53	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM11355	Calibration Laboratory Co.Ltd	Q23019604	22 Feb 23	21 Feb 24	-
54	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM11356	Calibration Laboratory Co.Ltd	Q22097248	23 Sep 22	22 Sep 23	-
55	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12393	Calibration Laboratory Co.Ltd	Q23019601	22 Feb 23	21 Feb 24	-
56	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12394	Calibration Laboratory Co.Ltd	Q23015866	13 Feb 23	12 Feb 24	-
57	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12395	Calibration Laboratory Co.Ltd	Q23022495	1 Mar 23	28 Feb 24	-
58	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12888	Calibration Laboratory Co.Ltd	Q23022492	1 Mar 23	28 Feb 24	-
59	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM12891	Calibration Laboratory Co.Ltd	Q22097007	23 Sep 22	22 Sep 23	-
60	Vibration Meter	Vibration Level Acceleration Level	Instantel Inc.	Micromate UM13206	Calibration Laboratory Co.Ltd	Q22064050	27 Jun 22	26 Jun 23	-



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No.	Instrument/Equipment	Parameter	Manufacturer	Model/Serial No.	Calibrator	Certification No.	Date of Calibration	Due date of Calibration	Remark
<b>Ambient</b>									
61	Vibration Meter	Vibration Level Acceleration Level	InstanTel Inc.	Micromate UM13368	Calibration Laboratory Co.Ltd	Q23015868	13 Feb 23	12 Feb 24	-
62	Sound Level Calibrator (Acoustic Calibrator)	Calibrate Sound Level Meter	Larson Davis	CAL150 6307	Innovative Instrument Co.,Ltd.	22-ACT-373	8 Jun 22	7 Jun 23	-
63	Sound Level Calibrator (Acoustic Calibrator)	Calibrate Sound Level Meter	01dB	CAL31 84065	Innovative Instrument Co.,Ltd.	22-ACT-523	19 Aug 22	18 Aug 23	-
64	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005286	Sithiporn Associates Co., Ltd.	ACL22081	25 Jan 22	24 Jan 23	-
65	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005289	Sithiporn Associates Co., Ltd.	ACL22082	25 May 22	24 May 23	-
66	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005304	Innovative Instrument Co.,Ltd.	22-ACT-249	1 Apr 22	31 Mar 23	-
67	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005344	Innovative Instrument Co.,Ltd.	22-ACT-248	1 Apr 22	31 Mar 23	-
68	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005394	Innovative Instrument Co.,Ltd.	22-ACT-034	21 Jan 22	20 Jan 23	-
69	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005395	Innovative Instrument Co.,Ltd.	22-ACT-247	1 Apr 22	31 Mar 23	-
70	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005396	Innovative Instrument Co.,Ltd.	22-ACT-105	11 Feb 22	10 Feb 23	-



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No.	Instrument/Equipment	Parameter	Manufacturer	Model/Serial No.	Calibrator	Certification No.	Date of Calibration	Due date of Calibration	Remark
<b>Ambient</b>									
71	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Rion, Japan	NL-42 00321432	Innovative Instrument Co.,Ltd.	22-ACT-207	17 Mar 22	16 Mar 23	-
72	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Rion, Japan	NL-42 00321441	Innovative Instrument Co.,Ltd.	22-ACT-208	17 Mar 22	16 Mar 23	-
73	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Rion, Japan	NL-42 00558039	Innovative Instrument Co.,Ltd.	22-ACT-209	17 Mar 22	16 Mar 23	-
74	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Rion, Japan	NL-42 00558208	Innovative Instrument Co.,Ltd.	22-ACT-210	17 Mar 22	16 Mar 23	-
75	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Rion, Japan	NL-42 00558212	Innovative Instrument Co.,Ltd.	22-ACT-206	17 Mar 22	16 Mar 23	-
76	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Rion, Japan	NL-42 01010782	Sithiporn Associates Co., Ltd.	ACL22088	22 Apr 22	21 Apr 23	-
77	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Rion, Japan	NL-42 01010783	Sithiporn Associates Co., Ltd.	ACL22089	22 Apr 22	21 Apr 23	-
78	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Rion, Japan	NL-42 01010784	Sithiporn Associates Co., Ltd.	ACL22090	22 Apr 22	21 Apr 23	-
79	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005286	Sithiporn Associates Co., Ltd.	ACL22081	26 Jan 22	25 Jan 24	-
80	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005289	Sithiporn Associates Co., Ltd.	ACL22082	26 Jan 22	25 Jan 24	-



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<b>Ambient</b>									
81	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005304	Innovative Instrument Co.,Ltd.	22-ACT-249	1 Apr 22	31 Mar 24	-
82	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005344	Innovative Instrument Co.,Ltd.	22-ACT-248	1 Apr 22	31 Mar 24	-
83	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005394	Innovative Instrument Co.,Ltd.	22-ACT-034	21 Jan 22	20 Jan 24	-
84	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005395	Innovative Instrument Co.,Ltd.	22-ACT-247	1 Apr 22	31 Mar 24	-
85	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005396	Innovative Instrument Co.,Ltd.	22-ACT-105	11 Feb 22	10 Feb 24	-
86	Sound Level Meter	$L_{Aeq\ 24\ hours}$ , $L_{Amax}$ , $L_{A90}$ , $L_{Adn}$	Larson Davis	LxT2 0005398	Innovative Instrument Co.,Ltd.	22-ACT-035	21 Jan 22	20 Jan 24	-









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Actual Finance	2012-2013		2013-2014	2014-2015	2015-2016
	2012-2013	2013-2014			
1000	1000	1000	1000	1000	1000
2000	2000	2000	2000	2000	2000
3000	3000	3000	3000	3000	3000
4000	4000	4000	4000	4000	4000
5000	5000	5000	5000	5000	5000
6000	6000	6000	6000	6000	6000
7000	7000	7000	7000	7000	7000
8000	8000	8000	8000	8000	8000
9000	9000	9000	9000	9000	9000
10000	10000	10000	10000	10000	10000
11000	11000	11000	11000	11000	11000
12000	12000	12000	12000	12000	12000
13000	13000	13000	13000	13000	13000
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## เอกสารไม่ควบคุม



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**Quantifying the impact of climate change**

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Interest	Asset	Security	Certificate No.	Due Date
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- | Question number   | Correct | Wrong | Answered | Rating |
|---|---------|-------|----------|--------|
| 1. The result of addition is always less than the summands of the addition.   |         |       |          |        |
| 2. Every non-zero number has a reciprocal.                                    |         |       |          |        |
| 3. The product of two numbers is always less than the sum of the numbers.     |         |       |          |        |
| 4. The product of two numbers is always greater than the sum of the numbers.  |         |       |          |        |
| 5. The product of two numbers is always less than the sum of the numbers.     |         |       |          |        |
| 6. The product of two numbers is always greater than the sum of the numbers.  |         |       |          |        |
| 7. The product of two numbers is always less than the sum of the numbers.     |         |       |          |        |
| 8. The product of two numbers is always greater than the sum of the numbers.  |         |       |          |        |
| 9. The product of two numbers is always less than the sum of the numbers.     |         |       |          |        |
| 10. The product of two numbers is always greater than the sum of the numbers. |         |       |          |        |

Estimated log rank time:	Estimated mean rank time:
14.00000000	14.00000000

Approved Engineering:                     

1. ☐ Thomas P. Kuchta

2. ☐ John Smith

3. ☐ David Johnson

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Source: U.S. Census Bureau.  
 Note: Data for 1990 are preliminary.

Annual Payments	10% Interest		Net Present Value	Rate of Return
	Present Value	Annual Payment		
1.00	0.91	1.10	0.09	1.00
2.00	1.73	2.20	0.18	2.00
3.00	2.47	3.30	0.26	3.00
4.00	3.17	4.40	0.33	4.00
5.00	3.86	5.50	0.39	5.00
6.00	4.52	6.60	0.45	6.00
7.00	5.18	7.70	0.50	7.00
8.00	5.83	8.80	0.55	8.00
9.00	6.46	9.90	0.60	9.00
10.00	7.08	11.00	0.65	10.00
11.00	7.69	12.10	0.69	11.00
12.00	8.28	13.20	0.73	12.00
13.00	8.86	14.30	0.77	13.00
14.00	9.42	15.40	0.81	14.00
15.00	9.97	16.50	0.85	15.00
16.00	10.51	17.60	0.89	16.00
17.00	11.04	18.70	0.93	17.00
18.00	11.56	19.80	0.97	18.00
19.00	12.07	20.90	1.00	19.00
20.00	12.58	22.00	1.04	20.00
21.00	13.08	23.10	1.07	21.00
22.00	13.57	24.20	1.11	22.00
23.00	14.06	25.30	1.14	23.00
24.00	14.54	26.40	1.17	24.00
25.00	15.01	27.50	1.21	25.00
26.00	15.48	28.60	1.24	26.00
27.00	15.94	29.70	1.27	27.00
28.00	16.40	30.80	1.31	28.00
29.00	16.85	31.90	1.34	29.00
30.00	17.30	33.00	1.37	30.00

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Author	Year	Sample Size	Study Type	Findings
...	...	...	...	...

- 1) Phasor Addition
- 2) The result of addition and speed is required by the car described by scenario
- 3) Find the maximum force of 1.4 N + 1.0 N (1000) (1000)
- 4) The maximum force is the sum of the two forces
- 5) The maximum force is the sum of the two forces
- 6) The maximum force is the sum of the two forces
- 7) The maximum force is the sum of the two forces
- 8) The maximum force is the sum of the two forces
- 9) The maximum force is the sum of the two forces
- 10) The maximum force is the sum of the two forces

1. *Journal of Management Education*, 2000, 24(1), 1-10.  
 2. *Journal of Management Education*, 2000, 24(1), 11-20.

Approved Signature	Date
_____	_____
_____	_____
_____	_____
_____	_____

111 8250411





Doc No. 02797  
Page 2 of 2

Recalibration, Without adjustment  
Custom Pressure Measurement  
Sensing Process

Range: 0 MPa to 10 MPa  
Subsistence: 0.1 MPa (1 bar) (100 bar)

JSC calibration				
Applied Pressure kPa (PSI)	High pressure kPa (PSI)	Low pressure kPa (PSI)	SP kPa (PSI)	Error kPa (PSI)
0.00	0.00	0.00	0.00	0.00
0.50	1.00	1.00	0.02	0.50
1.00	2.00	2.00	0.03	0.97
1.50	3.00	3.00	0.04	1.46
2.00	4.00	4.00	0.05	1.95
2.50	5.00	5.00	0.06	2.44
3.00	6.00	6.00	0.07	2.93
3.50	7.00	7.00	0.08	3.42
4.00	8.00	8.00	0.09	3.91
4.50	9.00	9.00	0.10	4.40
5.00	10.00	10.00	0.11	4.89
5.50	11.00	11.00	0.12	5.38
6.00	12.00	12.00	0.13	5.87
6.50	13.00	13.00	0.14	6.36
7.00	14.00	14.00	0.15	6.85
7.50	15.00	15.00	0.16	7.34
8.00	16.00	16.00	0.17	7.83
8.50	17.00	17.00	0.18	8.32
9.00	18.00	18.00	0.19	8.81
9.50	19.00	19.00	0.20	9.30
10.00	20.00	20.00	0.21	9.79

The uncertainty of measurement was ± 0.1% (k=2)

\*SP = Zero Point Calibration

\*SP = High and low - constant bias

The reported uncertainty of measurement was based on a reported uncertainty multiplied by a coverage factor k = 2, providing a level of confidence of approximately 95%.

Page 2 of 2

เอกสารไม่ควบคุม  
# 1237425



1. THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST) is a federal agency of the U.S. Department of Commerce. It is the primary agency for the development and maintenance of the U.S. national system of measurement. NIST is also the primary agency for the development and maintenance of the U.S. national system of standards.

## Certificate of Calibration

Certificate No.: 02797  
Page: 1 of 1

Equipment:	12.00000000	Pressure Measurement
Manufacturer:	Agilent	This calibration was performed by NIST personnel. The results are valid for the use of the equipment for the purpose of the calibration.
Model:	12.00000000	Custom Pressure Measurement
Serial No.:	12.00000000	Custom Pressure Measurement
Location:	12.00000000	Custom Pressure Measurement
Calibration Date:	12.00000000	Custom Pressure Measurement
Calibration Interval:	12.00000000	Custom Pressure Measurement
Calibration Method:	12.00000000	Custom Pressure Measurement
Calibration Results:	12.00000000	Custom Pressure Measurement
Calibration Uncertainty:	12.00000000	Custom Pressure Measurement
Calibration Status:	12.00000000	Custom Pressure Measurement

Pressure Measurement: The calibration was performed by NIST personnel. The results are valid for the use of the equipment for the purpose of the calibration.

### Statement of Calibration

Indication	Result	Uncertainty	Calibration No.	Due Date
1. Pressure Measurement	12.00000000	± 0.00000000	02797	12.00000000
2. The result of calibration was used to adjust the pressure measurement.				
3. The result of calibration was used to adjust the pressure measurement.				
4. The result of calibration was used to adjust the pressure measurement.				
5. The result of calibration was used to adjust the pressure measurement.				
6. The result of calibration was used to adjust the pressure measurement.				
7. The result of calibration was used to adjust the pressure measurement.				
8. The result of calibration was used to adjust the pressure measurement.				
9. The result of calibration was used to adjust the pressure measurement.				
10. The result of calibration was used to adjust the pressure measurement.				

Calibration by: NIST Personnel  
Approved Signature: [Signature]  
Approved Date: 12.00000000

เอกสารไม่ควบคุม  
# 1237425



Doc No. 02797  
Page 2 of 2

Recalibration, Without adjustment  
Custom Pressure Measurement  
Sensing Process

Range: 0 MPa to 10 MPa  
Subsistence: 0.1 MPa (1 bar) (100 bar)

JSC calibration				
Applied Pressure kPa (PSI)	High pressure kPa (PSI)	Low pressure kPa (PSI)	SP kPa (PSI)	Error kPa (PSI)
0.00	0.00	0.00	0.00	0.00
0.50	1.00	1.00	0.02	0.48
1.00	2.00	2.00	0.03	0.97
1.50	3.00	3.00	0.04	1.46
2.00	4.00	4.00	0.05	1.95
2.50	5.00	5.00	0.06	2.44
3.00	6.00	6.00	0.07	2.93
3.50	7.00	7.00	0.08	3.42
4.00	8.00	8.00	0.09	3.91
4.50	9.00	9.00	0.10	4.40
5.00	10.00	10.00	0.11	4.89
5.50	11.00	11.00	0.12	5.38
6.00	12.00	12.00	0.13	5.87
6.50	13.00	13.00	0.14	6.36
7.00	14.00	14.00	0.15	6.85
7.50	15.00	15.00	0.16	7.34
8.00	16.00	16.00	0.17	7.83
8.50	17.00	17.00	0.18	8.32
9.00	18.00	18.00	0.19	8.81
9.50	19.00	19.00	0.20	9.30
10.00	20.00	20.00	0.21	9.79

The uncertainty of measurement was ± 0.1% (k=2)

\*SP = Zero Point Calibration

\*SP = High and low - constant bias

The reported uncertainty of measurement was based on a reported uncertainty multiplied by a coverage factor k = 2, providing a level of confidence of approximately 95%.

Page 2 of 2

เอกสารไม่ควบคุม  
# 1237425



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## Certificate of Calibration

Certificate No.: 02797  
Page: 1 of 1

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Model:	12.00000000	Custom Pressure Measurement
Serial No.:	12.00000000	Custom Pressure Measurement
Location:	12.00000000	Custom Pressure Measurement
Calibration Date:	12.00000000	Custom Pressure Measurement
Calibration Interval:	12.00000000	Custom Pressure Measurement
Calibration Method:	12.00000000	Custom Pressure Measurement
Calibration Results:	12.00000000	Custom Pressure Measurement
Calibration Uncertainty:	12.00000000	Custom Pressure Measurement
Calibration Status:	12.00000000	Custom Pressure Measurement

Pressure Measurement: The calibration was performed by NIST personnel. The results are valid for the use of the equipment for the purpose of the calibration.

### Statement of Calibration

Indication	Result	Uncertainty	Calibration No.	Due Date
1. Pressure Measurement	12.00000000	± 0.00000000	02797	12.00000000
2. The result of calibration was used to adjust the pressure measurement.				
3. The result of calibration was used to adjust the pressure measurement.				
4. The result of calibration was used to adjust the pressure measurement.				
5. The result of calibration was used to adjust the pressure measurement.				
6. The result of calibration was used to adjust the pressure measurement.				
7. The result of calibration was used to adjust the pressure measurement.				
8. The result of calibration was used to adjust the pressure measurement.				
9. The result of calibration was used to adjust the pressure measurement.				
10. The result of calibration was used to adjust the pressure measurement.				

Calibration by: NIST Personnel  
Approved Signature: [Signature]  
Approved Date: 12.00000000

เอกสารไม่ควบคุม  
# 1237425































## REPORT OF CALIBRATION

FOR

INSTRUMENT : VERIFICATION SYSTEM  
 MANUFACTURER : BENTON  
 MODEL / TYPE : 100000000000  
 SERIAL NO. : 000000000000  
 DATE OF CALIBRATION : 11 May 2022

### UNSYMMETRICAL CORRECTIONS

Temperature : 23.5 °C Relative Humidity : 65% ± 5%

### PROCEDURE USED :

The measurement was performed using procedure No. 1.1.1 (2018) of ISO 9001:2015. The measurement was performed using the following equipment: High Resolution Programmable Power Supply, Precision Resistor, Calibration Certificate, and Calibration Certificate.

### REFERENCE STANDARDS

1. High Resolution Programmable Power Supply, Model No. 100000000000
2. Precision Resistor, Model No. 100000000000
3. Calibration Certificate, Model No. 100000000000

### UNCERTAINTY

1. The measurement uncertainty is determined by the standard deviation of the measurement results.
2. The measurement uncertainty is determined by the standard deviation of the measurement results.
3. The measurement uncertainty is determined by the standard deviation of the measurement results.
4. The measurement uncertainty is determined by the standard deviation of the measurement results.

### CONCLUSIONS

1. The measurement results are within the specified tolerance limits.
2. The measurement results are within the specified tolerance limits.
3. The measurement results are within the specified tolerance limits.

Calibration No. 00000000

0000000000

เอกสารไม่ควบคุม



## CERTIFICATE OF CALIBRATION

MEASUREMENT RESULTS : 1.1.1 (2018) of ISO 9001:2015

CALIBRATION NO. 00000000

### 1. MEASUREMENT RESULTS

Parameter	Unit	2018 Reading	2019 Reading	Correction	Uncertainty
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1

### 2. MEASUREMENT RESULTS

Parameter	Unit	2018 Reading	2019 Reading	Correction	Uncertainty
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1

Calibration No. 00000000

0000000000

เอกสารไม่ควบคุม



## CALIBRATION DATA

### 1. MEASUREMENT RESULTS

Parameter	Unit	2018 Reading	2019 Reading	Correction	Uncertainty
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1
1.1.1 (2018) of ISO 9001:2015	1.1.1	1.1.1	1.1.1	1.1.1	1.1.1

The measurement results are within the specified tolerance limits.

Calibration No. 00000000

เอกสารไม่ควบคุม

0000000000

Calibration No. 00000000

0000000000

เอกสารไม่ควบคุม



## CERTIFICATE OF CALIBRATION

FOR

INSTRUMENT : VERIFICATION SYSTEM  
 MANUFACTURER : BENTON  
 MODEL / TYPE : 100000000000  
 SERIAL NO. : 000000000000  
 DATE OF CALIBRATION : 11 May 2022

ISSUED BY : ENGINEERING AND ENGINEERING TECHNOLOGY, LTD.  
 11 May 2022

Calibration No. 00000000

0000000000

เอกสารไม่ควบคุม

Calibrated By :

From Phrasitong  
 Calibration Engineer

Approved By :

Mongkol Yimnont  
 Authorized Signature  
 11 June 2022



The calibration is performed in accordance with the specified tolerance limits, which are within the specified tolerance limits.

Calibration No. 00000000

0000000000

เอกสารไม่ควบคุม

























ขอบคุณ

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## REPORT OF CALIBRATION

### FOR

MODEL / TYPE : VIBRATION METER  
 MANUFACTURER : IMVANT  
 MODEL / TYPE : 712200712300  
 SERIAL NO. : 007000070700  
 DATE OF CALIBRATION : 27 Jan 2021

#### ENVIRONMENT CONDITIONS

Temperature : (22.5 °C) Relative Humidity : 40% (at 20°C)

#### PROCEDURE USED

The measurement calibration was performed by JCG 10002-01 version 001 (2000-01) as calibration practice.  
 The calibration is certified by using Digital Test System, High Resolution Frequency Standard,  
 and Portable Vibration Calibrator from National Institute of Standards and Technology, USA.

#### REFERENCE STANDARDS USED

1. Japan Electronic Standard Model JEC-101 (2010)
2. High Accuracy Frequency Standard Model JEC-1000A (2010)
3. Portable Vibration Calibrator Model Model JEC-101 (2010)

#### DECLARATION

1. The measurement results are traceable to International System (SI) through International Scale of Standard Unit Calibration, JCG 10002-01, version 001 (2000-01).
2. The measurement results are traceable to International System of Standard Unit Calibration, JCG 10002-01, version 001 (2000-01).
3. The measurement results are traceable to International System of Standard Unit Calibration, JCG 10002-01, version 001 (2000-01).

#### UNCERTAINTY

The expanded uncertainty of measurement is stated as the measurement uncertainty of measurement result.  
 The coverage factor is 2, which corresponds to a confidence level of approximately 95%.  
 The uncertainty is according to the "Guide to the Expression of Uncertainty in Measurement" (GUM 1995).

Calibration by

004040000-02

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เอกสารไม่ควบคุม



## CERTIFICATE OF CALIBRATION

MEASUREMENT RESULTS : 1.1 (Amplitude) : 1.1 (Amplitude)

### CALIBRATION DATA

#### 1. ACCELERATION MEASUREMENT

Frequency	Unit	2010 Reading	2011 Reading	Correction	Uncertainty
1.1 (Amplitude)		1.1	1.1	0.0	0.1
1.2 (Amplitude)		1.2	1.2	0.0	0.1
1.3 (Amplitude)		1.3	1.3	0.0	0.1
1.4 (Amplitude)		1.4	1.4	0.0	0.1
1.5 (Amplitude)		1.5	1.5	0.0	0.1
1.6 (Amplitude)		1.6	1.6	0.0	0.1
1.7 (Amplitude)		1.7	1.7	0.0	0.1
1.8 (Amplitude)		1.8	1.8	0.0	0.1
1.9 (Amplitude)		1.9	1.9	0.0	0.1
2.0 (Amplitude)		2.0	2.0	0.0	0.1
2.1 (Amplitude)		2.1	2.1	0.0	0.1
2.2 (Amplitude)		2.2	2.2	0.0	0.1
2.3 (Amplitude)		2.3	2.3	0.0	0.1
2.4 (Amplitude)		2.4	2.4	0.0	0.1

#### 2. VIBRATION MEASUREMENT

Frequency	Unit	2010 Reading	2011 Reading	Correction	Uncertainty
1.1 (Amplitude)		1.1	1.1	0.0	0.1
1.2 (Amplitude)		1.2	1.2	0.0	0.1
1.3 (Amplitude)		1.3	1.3	0.0	0.1
1.4 (Amplitude)		1.4	1.4	0.0	0.1
1.5 (Amplitude)		1.5	1.5	0.0	0.1
1.6 (Amplitude)		1.6	1.6	0.0	0.1
1.7 (Amplitude)		1.7	1.7	0.0	0.1
1.8 (Amplitude)		1.8	1.8	0.0	0.1
1.9 (Amplitude)		1.9	1.9	0.0	0.1
2.0 (Amplitude)		2.0	2.0	0.0	0.1
2.1 (Amplitude)		2.1	2.1	0.0	0.1
2.2 (Amplitude)		2.2	2.2	0.0	0.1
2.3 (Amplitude)		2.3	2.3	0.0	0.1
2.4 (Amplitude)		2.4	2.4	0.0	0.1

Calibration by

004040000-02

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เอกสารไม่ควบคุม



### CALIBRATION DATA

#### 1. ACCELERATION MEASUREMENT

Frequency	Unit	2010 Reading	2011 Reading	Correction	Uncertainty
1.1 (Amplitude)		1.1	1.1	0.0	0.1
1.2 (Amplitude)		1.2	1.2	0.0	0.1
1.3 (Amplitude)		1.3	1.3	0.0	0.1
1.4 (Amplitude)		1.4	1.4	0.0	0.1
1.5 (Amplitude)		1.5	1.5	0.0	0.1
1.6 (Amplitude)		1.6	1.6	0.0	0.1
1.7 (Amplitude)		1.7	1.7	0.0	0.1
1.8 (Amplitude)		1.8	1.8	0.0	0.1
1.9 (Amplitude)		1.9	1.9	0.0	0.1
2.0 (Amplitude)		2.0	2.0	0.0	0.1
2.1 (Amplitude)		2.1	2.1	0.0	0.1
2.2 (Amplitude)		2.2	2.2	0.0	0.1
2.3 (Amplitude)		2.3	2.3	0.0	0.1
2.4 (Amplitude)		2.4	2.4	0.0	0.1

Note: 1. The measurement results are traceable to International System (SI) through International Scale of Standard Unit Calibration, JCG 10002-01, version 001 (2000-01).

Measurement is performed by using Digital Test System, High Resolution Frequency Standard, and Portable Vibration Calibrator from National Institute of Standards and Technology, USA.

This report is valid for the measurement period only.

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Calibration by

004040000-02

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## CERTIFICATE OF CALIBRATION

### FOR

MODEL / TYPE : VIBRATION METER  
 MANUFACTURER : IMVANT  
 MODEL / TYPE : 712200712300  
 SERIAL NO. : 007000070700  
 DATE OF CALIBRATION : 27 Jan 2021

Calibration by : 004040000-02  
 Measurement is performed by using Digital Test System, High Resolution Frequency Standard, and Portable Vibration Calibrator from National Institute of Standards and Technology, USA.

Calibration by : 004040000-02

Page 1 of 1

Measurement is performed by using Digital Test System, High Resolution Frequency Standard, and Portable Vibration Calibrator from National Institute of Standards and Technology, USA.

Calibration by

004040000-02

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เอกสารไม่ควบคุม





## เอกสารไม่ควบคุม









Continuation of Calibration Certificate

Cert. No. : SC22004  
Job No. : 1325473044  
Page : 3 of 5

Calibration Procedure : OPA-02

Calibration Method:

Subsampler was calibrated by hand on 20-11-2019. 100.00 grams of the standard were used. The 10.00 test mass of the standard and 1 standard digital scale of frequency weighting were used to determine Standard Deviation.  
The performance of each item was tested by comparison of each item against digital scale and 10.00 test mass.

Results of this round of calibration:

1. Reference Standard Instruments:

Instrument	Model	Serial No.	Cert. No.	Exp. Date
Reference Standard	101-004	8010401709	SC-0012-01	01-04-21
Reference Standard	101-010	8010100702	SC-0010-01	01-04-21
Digital Scale	1040-0	MYN020006	SC-0010-01	01-04-21
Digital Scale	1040-0	MYN020006	SC-0010-01	01-04-21
Digital Scale	1040-0	MYN020006	SC-0010-01	01-04-21
Digital Scale	1040-0	MYN020006	SC-0010-01	01-04-21
Frequency Weighting	9917-1000	42100714	1000-007100	01-04-21
Frequency Weighting	4000	2017004	SC-0008-01	01-04-21
Frequency Weighting	801-02004	80100000	SC-0008-01	01-04-21

2. The result of calibration was found to be in accordance with the requirements of the standard, ISO 9001:2015 clause 8.5.1.  
3. The certificate is available in the instrument's manual and in the laboratory's database.  
3.1 National Institute of Standards and Technology (NIST)  
3.2 National Institute of Standards and Technology (NIST)

เอกสารไม่ควบคุม

เอกสารไม่ควบคุม

Continuation of Calibration Certificate

Cert. No. : SC22004  
Job No. : 1325473044  
Page : 3 of 5

Summary of Measurement Results:

Expects	Pre	Post	Uncertainty (95%)	Maximum permitted uncertainty of measurement (MPE)
1. Standard weights	✓	✓	0.01	0.01
2. Self-generated noise	✓	✓	0.01	0.01
3. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
4. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
5. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
6. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
7. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
8. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
9. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
10. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
11. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
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89. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
90. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
91. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
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96. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
97. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
98. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
99. Standard digital scale of frequency weighting	✓	✓	0.01	0.01
100. Standard digital scale of frequency weighting	✓	✓	0.01	0.01

เอกสารไม่ควบคุม

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Continuation of Calibration Certificate

Cert. No. : SC22004  
Job No. : 1325473044  
Page : 4 of 5

Result of calibration:

1. Standard weights

Reference Standard Weight	Mass	Dimension	Uncertainty
100.00 g	100.00 g	100.00 g	0.01 g

2. Self-generated noise

Measured Value
0.01 g

3. The uncertainty of the measured value was calculated by standard digital scale.

Frequency	Measured Value
100 Hz	0.01 g
1000 Hz	0.01 g
10000 Hz	0.01 g

3. Standard digital scale of frequency weighting

Frequency (Hz)	Dimension	Mass	Frequency weighting response value (dB)
100	100	100	+0.01
1000	1000	1000	+0.01
10000	10000	10000	+0.01



Continuation of Calibration Certificate

Case No. : 673.2388  
Job No. : 17050403946  
Page : 1 of 5

6. Kinematic viscosity of frequency weighting

Weighting network consists with tolerance  $\pm 1\%$

Frequency (Hz)	Measured Value	Desired Value	Acceptance Tolerance
10	0.0	0.0	$\pm 0.2$
120	0.0	0.0	$\pm 0.2$
250	0.0	0.0	$\pm 0.2$
500	0.0	0.0	$\pm 0.2$
1000	0.0	0.0	$\pm 0.2$
2000	0.0	0.0	$\pm 0.2$
4000	0.0	0.0	$\pm 0.2$
8000	0.0	0.0	$\pm 0.2$
10000	0.1	0.1	$\pm 0.2 \pm 0.05$

7. Frequency and time weighting at 1 kHz

7.1 Frequency weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Desired Value (dB)	Acceptance Tolerance
A-weight	90.0	90	$\pm 0.2$
C-weight	86.0	86	$\pm 0.2$
Flat	88.0	88	$\pm 0.2$

7.2 Time-weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Desired Value (dB)	Acceptance Tolerance
Fast	88.0	88	$\pm 0.2$
Slow	88.0	88	$\pm 0.2$
Imp	88.0	88	$\pm 0.2$

8. Long-term stability

Frequency Weighting	ISO 17025 as valid (dB)	ISO 17025 as valid (dB)	Desired Value (dB)	Acceptance Tolerance
A-weight	90.0	90.0	90	$\pm 0.2$

Signature/Signature

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T. Ruk

Continuation of Calibration Certificate

Case No. : 673.2388  
Job No. : 17050403946  
Page : 2 of 5

7. Level stability on Random noise range

Measured Value (dB)	Measured Value (dB)	Desired Value (dB)	Acceptance Tolerance
120.0	120.0	120	$\pm 0.2$
110.0	110.0	110	$\pm 0.2$
100.0	100.0	100	$\pm 0.2$
90.0	90.0	90	$\pm 0.2$
80.0	80.0	80	$\pm 0.2$
70.0	70.0	70	$\pm 0.2$
60.0	60.0	60	$\pm 0.2$
50.0	50.0	50	$\pm 0.2$
40.0	40.0	40	$\pm 0.2$
30.0	30.0	30	$\pm 0.2$
20.0	20.0	20	$\pm 0.2$
10.0	10.0	10	$\pm 0.2$
0.0	0.0	0	$\pm 0.2$
-10.0	-10.0	-10	$\pm 0.2$
-20.0	-20.0	-20	$\pm 0.2$
-30.0	-30.0	-30	$\pm 0.2$
-40.0	-40.0	-40	$\pm 0.2$
-50.0	-50.0	-50	$\pm 0.2$
-60.0	-60.0	-60	$\pm 0.2$
-70.0	-70.0	-70	$\pm 0.2$
-80.0	-80.0	-80	$\pm 0.2$
-90.0	-90.0	-90	$\pm 0.2$
-100.0	-100.0	-100	$\pm 0.2$

เอกสารไม่ควบคุม

T. Ruk

Continuation of Calibration Certificate

Case No. : 673.2388  
Job No. : 17050403946  
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8. Level stability including the level range control

Range	Measured Value (dB)	Measured Value (dB)	Desired Value (dB)	Acceptance Tolerance
100	94.0	94.0	90	$\pm 0.2$

9. Bias level response

Time	Time level seconds (s)	Gain	Measured Value (dB)	Measured Value (dB)	Desired Value (dB)	Acceptance Tolerance (dB)
Bias	0.5	1	98.0	98.0	90	$\pm 0.2 \pm 0.0$
	1	3	117.0	116.7	90	$\pm 0.2 \pm 0.0$
	100	300	104.0	103.0	90	$\pm 0.2$
Bias	1	4	100.0	100.0	90	$\pm 0.2 \pm 0.0$
	100	300	107.0	106.0	90	$\pm 0.2$
	0.5	1	98.0	97.9	90	$\pm 0.2 \pm 0.0$
Bias	1	3	99.0	99.0	90	$\pm 0.2 \pm 0.0$
	100	300	99.0	99.0	90	$\pm 0.2$

10. Peak Level level

Number of level in set-up	Measured Value (dB)	Measured Value (dB)	Desired Value (dB)	Acceptance Tolerance (dB)
Continuous	113.0	113.0	90	$\pm 0.2$
Flat	100.0	100.0	90	$\pm 0.2$

Number of level in set-up	Measured Value (dB)	Measured Value (dB)	Desired Value (dB)	Acceptance Tolerance (dB)
Continuous	113.0	113.0	90	$\pm 0.2$
Peaking 100 cycles	113.0	113.0	90	$\pm 0.2$
Peaking 1000 cycles	113.0	113.0	90	$\pm 0.2$

เอกสารไม่ควบคุม

T. Ruk

11. Method selection

Measured value (dB)	Desired Value (dB)	Acceptance Tolerance
100	94.0	$\pm 0.2$

12. High level stability

Frequency Weighting	ISO 17025 as valid (dB)	ISO 17025 as valid (dB)	Desired Value (dB)	Acceptance Tolerance
A-weight	120.0	120.0	120	$\pm 0.2$

The measured accuracy is based on a measured accuracy multiplied by coverage factor  $k = 2$   
accuracy value following calibration providing a level of confidence of approximately 95%

End of Calibration Certificate

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T. Ruk





## Calibration Certificate

Equipment :	60000 LEVEL METER
Manufacturer :	CONCRETE-TEST
Model :	1412 - Magnesium CHROM - Concrete PRISM - CTR
Serial No.:	00020 - 01211 - 00000
ID No.:	

Examining the Effect of

**Custodian:** (b)(7)(C) does not apply because (1) there is no information that would be withheld from the public under FOIA; (2) the information is not exempt from disclosure under FOIA; (3) the information is not exempt from disclosure under FOIA; (4) the information is not exempt from disclosure under FOIA; (5) the information is not exempt from disclosure under FOIA.

Location :	-	-
Substrate Temperature :	1 (20.0 ± 0.2)	°C
Pressure :	1 (10.0 ± 0.2)	MPa
Relative Humidity :	1 (50.0 ± 0.2)	%

Received Date :	18 November 2012
Revised Date :	26 November 2012
Date of Issue :	26 November 2012

#### Definition 4.4

### Installing the Software

## Appendix 1

*T. R. R. R.*

This article has been accepted for inclusion in a future issue of this journal. Content is final as presented, with the exception of corrections to authored text.

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## เอกสารไม่ควบคุม

## เอกสารไม่ควบคุม

## Continuation of California Certificate

Report No. : A632280  
 Job No. : VC00000000  
 Page : 1 of 8

Collection Procedure: 10/26/02

### Cytotoxic Method

The SIH has been a successful and influential agent in the development of the American, Canadian and European Standards community.

High-level monitoring of *Salmonella* levels was made by the development of a 100% sensitivity program that could detect 100% of the *Salmonella* in the water.

↓ results of the tests of culture

**Abstract**

Instrument	Model	Serial No.	Cash No.	Exp Date
Acoustic Guitar	330106	3973407070	37499323	05-Feb-02
Acoustic Guitar	330109	3973407082	37499324	05-Feb-02
Digital Multimeter	334415	3973329104	322346100000	05-Feb-02
Digital Multimeter	334416	3973329105	322346100000	05-Feb-02
Digital Multimeter	334416	3973329107	371000000000	05-Feb-02
Programmable Amplifier	33011070	42000104	3660000000	05-Feb-02
Condenser Microphone	4160	39734082	4200000000	05-Feb-02
Microphone Amplifier	33011070	42000000	4200000000	05-Feb-02

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2. The condition is necessary in the operational system of administration, as

### 3.2. Statistical Analysis of the Results (Thellier)

6.1 The total number of scientists per technological domain (total)

### Continuation of Calibration Certificate

Case No. : 14/1/2000  
Date Recd. : 11/05/2000  
Page : 3 of 3

#### Summary of Theoretical Results

Dynamic	Pre	Post	Correlation ( $\Delta H$ )	Stochastic gradient accuracy of measurement (dB)
1. Overall accuracy	0.7	0.7	0.2	0.3
2. Self-generated noise	0.7	0.7	0.2	0.3
3. Spectral signals of frequency components				
100 Hz	0.7	0.7	0.1	0.6
1000 Hz	0.7	0.7	0.1	0.6
10000 Hz	0.7	0.7	0.1	0.7
4. Time-domain signals of frequency components				
For 100 Hz - 1 kHz	0.7	0.7	0.1	0.6
For 1 - 10 kHz - 10 MHz	0.7	0.7	0.1	0.7
For 10 MHz - 10 GHz	0.7	0.7	0.1	0.8
5. Frequency and time weights of $\Delta H$	0.7	0.7	0.1	0.7
6. Long-term stability	0.7	0.7	0.1	0.7
7. Local stability at the minimum delay stage	0.7	0.7	0.1	0.8
8. Local stability during the frequency offset	0.7	0.7	0.1	0.6
9. Time delay response	0.7	0.7	0.1	0.7
10. Peak-to-peak ratio	0.7	0.7	0.1	0.7
11. Frequency response	0.7	0.7	0.1	0.7
12. Peak-to-peak ratio	0.7	0.7	0.1	0.7

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11. Orignal Indication

Measured Value (mm)		Deviation	Acceptance
Reading	Reference Value		
0.0000	0.0000	0.000	0.000
0.0000	0.0000	0.000	0.000

12. High level stability

Parameter	SLD Output at 100%	SLD Output at 50%	SLD Output at 10%	Acceptance Tolerance
Stability	0.001	0.001	0.001	0.001
Stability	0.001	0.001	0.001	0.001

The reported uncertainty is based on a standard uncertainty of 0.001 mm, which is based on a standard uncertainty of 0.001 mm, which is based on a standard uncertainty of 0.001 mm.

Original Calibration Certificate

เอกสารไม่ควบคุม

13. Details of Calibration

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The reported uncertainty is based on a standard uncertainty of 0.001 mm, which is based on a standard uncertainty of 0.001 mm, which is based on a standard uncertainty of 0.001 mm.

Signature of  
The Head of Calibration

Signature of  
The Head of Calibration

เอกสารไม่ควบคุม

เอกสารไม่ควบคุม

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เอกสารไม่ควบคุม

เอกสารไม่ควบคุม















Category	Sub-category	Value	Unit
Total	Category 1	1000	1000
	Category 2	2000	2000
	Category 3	3000	3000
	Category 4	4000	4000
	Category 5	5000	5000

[illegible]

Table 1. Summary of the data used in the study						
Study	Year	Sample size	Outcome			Prevalence
			Yes	No	Total	
Study 1	2010	100	50	50	100	50%
Study 2	2011	150	75	75	150	50%
Study 3	2012	200	100	100	200	50%
Study 4	2013	250	125	125	250	50%
Study 5	2014	300	150	150	300	50%

2014 Rating	2013	2012	2011		2010	2009	2008
			2010	2009			
100	100	100	100	100	100	100	100
90	90	90	90	90	90	90	90
80	80	80	80	80	80	80	80
70	70	70	70	70	70	70	70
60	60	60	60	60	60	60	60
50	50	50	50	50	50	50	50
40	40	40	40	40	40	40	40
30	30	30	30	30	30	30	30
20	20	20	20	20	20	20	20
10	10	10	10	10	10	10	10
0	0	0	0	0	0	0	0

[illegible]

Modul	Waktu	Penyediaan	Penyediaan
Modul 1	100	100	100
Modul 2	100	100	100
Modul 3	100	100	100
Modul 4	100	100	100
Modul 5	100	100	100
Modul 6	100	100	100
Modul 7	100	100	100
Modul 8	100	100	100
Modul 9	100	100	100
Modul 10	100	100	100
Modul 11	100	100	100
Modul 12	100	100	100
Modul 13	100	100	100
Modul 14	100	100	100
Modul 15	100	100	100
Modul 16	100	100	100
Modul 17	100	100	100
Modul 18	100	100	100
Modul 19	100	100	100
Modul 20	100	100	100
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Modul 89	100	100	100
Modul 90	100	100	100

[illegible]

**Final comments**

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Editor	Dr. G. van der Meer, Department of Psychology, University of Amsterdam, The Netherlands	Accepted by: 1 April 2007

Parameter	Value	Standard Error
Intercept	-0.0000	0.0000
Age	0.0000	0.0000
Gender	0.0000	0.0000
R-squared	0.0000	0.0000

[illegible]

Business Segment	Revenue	Profit	EBIT	Depreciation	Capital Ex.
Manufacturing	\$100	\$10	\$10	\$5	\$10
Marketing & Sales	\$10	\$1	\$1	\$0.5	\$0.5
Research & Development	\$10	\$1	\$1	\$0.5	\$0.5
General & Administrative	\$10	\$1	\$1	\$0.5	\$0.5

Fig. 1

Category	PC
1. General Information	
2. Research Design	
3. Data Collection	
4. Data Analysis	
5. Results	
6. Discussion	
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1. **Introduction**  
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 217. **Figure 208**











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Variable	Unit	2010		2011		2010-2011	2011-2012
		2010	2011	2010	2011		
2010-2011		2010	2011	2010	2011	2010-2011	2011-2012
2011-2012		2011	2012	2011	2012	2011-2012	2012-2013

1998-1999

Category	2019	2018	2017	2016	2015	2014
Operating Income	100	100	100	100	100	100
Operating Expenses	(20)	(20)	(20)	(20)	(20)	(20)
Operating Profit	80	80	80	80	80	80
Non-Operating Income	10	10	10	10	10	10
Non-Operating Expenses	(5)	(5)	(5)	(5)	(5)	(5)
Pre-tax Income	85	85	85	85	85	85
Income Tax Expense	(17)	(17)	(17)	(17)	(17)	(17)
Net Income	68	68	68	68	68	68
Other Comprehensive Income	2	2	2	2	2	2
Other Comprehensive Expenses	(1)	(1)	(1)	(1)	(1)	(1)
Total Comprehensive Income	69	69	69	69	69	69

[illegible]

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Accession	2005-01-01	Accession	2005-01-01
Access	2005-01-01	Access	2005-01-01
Access	2005-01-01	Access	2005-01-01
Access	2005-01-01	Access	2005-01-01

## Cellulose Acetate Membranes 1033

Database:	Microsoft
Product:	Microsoft SQL Server
Database Name:	msdb
Database Size:	107360000
Database File:	msdb.mdf
Database Path:	C:\Program Files\Microsoft SQL Server\MSSQL\DATA\msdb.mdf
Database Owner:	sa

Age

Approved by: \_\_\_\_\_  
 Mr. Dean, Supervisor  
 Communications Department  
 Date: \_\_\_\_\_

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## เอกสารไม่ควบคุม



Document No.: ANAB-001  
 Report No.: ANAB-001

### 3. Evaluation of the Accredited Unit's Performance

Unit Name	Overall	Sub-Category	Score	Weight	Score	Weight	Score
Unit A	100	100	100	100	100	100	100
Unit B	100	100	100	100	100	100	100
Unit C	100	100	100	100	100	100	100

Report No.: ANAB-001

### 4. Self-assessment of the Accredited Unit's Performance

Unit Name	Overall	Sub-Category	Score	Weight	Score	Weight	Score
Unit A	100	100	100	100	100	100	100
Unit B	100	100	100	100	100	100	100
Unit C	100	100	100	100	100	100	100

### 5. Self-assessment of the Accredited Unit's Performance

Unit Name	Overall	Sub-Category	Score	Weight	Score	Weight	Score
Unit A	100	100	100	100	100	100	100
Unit B	100	100	100	100	100	100	100
Unit C	100	100	100	100	100	100	100

### 6. Self-assessment of the Accredited Unit's Performance

Unit Name	Overall	Sub-Category	Score	Weight	Score	Weight	Score
Unit A	100	100	100	100	100	100	100
Unit B	100	100	100	100	100	100	100
Unit C	100	100	100	100	100	100	100

Report No.: ANAB-001

เอกสารไม่ควบคุม

Document No.: ANAB-001  
 Report No.: ANAB-001

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Unit Name	Overall	Sub-Category	Score	Weight	Score	Weight	Score
Unit A	100	100	100	100	100	100	100
Unit B	100	100	100	100	100	100	100
Unit C	100	100	100	100	100	100	100

### 4. Self-assessment of the Accredited Unit's Performance

Unit Name	Overall	Sub-Category	Score	Weight	Score	Weight	Score
Unit A	100	100	100	100	100	100	100
Unit B	100	100	100	100	100	100	100
Unit C	100	100	100	100	100	100	100

Unit Name	Overall	Sub-Category	Score	Weight	Score	Weight	Score
Unit A	100	100	100	100	100	100	100
Unit B	100	100	100	100	100	100	100
Unit C	100	100	100	100	100	100	100

Report No.: ANAB-001

เอกสารไม่ควบคุม

Document No.: ANAB-001  
 Report No.: ANAB-001

### 3. Evaluation of the Accredited Unit's Performance

Unit Name	Overall	Sub-Category	Score	Weight	Score	Weight	Score
Unit A	100	100	100	100	100	100	100
Unit B	100	100	100	100	100	100	100
Unit C	100	100	100	100	100	100	100

### 4. Self-assessment of the Accredited Unit's Performance

Unit Name	Overall	Sub-Category	Score	Weight	Score	Weight	Score
Unit A	100	100	100	100	100	100	100
Unit B	100	100	100	100	100	100	100
Unit C	100	100	100	100	100	100	100

Report No.: ANAB-001

เอกสารไม่ควบคุม

Document No.: ANAB-001  
 Report No.: ANAB-001

### 3. Evaluation of the Accredited Unit's Performance

Unit Name	Overall	Sub-Category	Score	Weight	Score	Weight	Score
Unit A	100	100	100	100	100	100	100
Unit B	100	100	100	100	100	100	100
Unit C	100	100	100	100	100	100	100

### 4. Self-assessment of the Accredited Unit's Performance

Unit Name	Overall	Sub-Category	Score	Weight	Score	Weight	Score
Unit A	100	100	100	100	100	100	100
Unit B	100	100	100	100	100	100	100
Unit C	100	100	100	100	100	100	100

### 5. Self-assessment of the Accredited Unit's Performance

Unit Name	Overall	Sub-Category	Score	Weight	Score	Weight	Score
Unit A	100	100	100	100	100	100	100
Unit B	100	100	100	100	100	100	100
Unit C	100	100	100	100	100	100	100

Report No.: ANAB-001

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Downloaded from <http://www.jstor.org/stable/2346092>

Source: <http://www.fishbase.org>

1. Drinking Water Quality

Category	Sub-category	Value	Unit
Total	1990-1995	100	100%
	1996-2000	100	100%
	2001-2005	100	100%
	2006-2010	100	100%
Sub-category	1990-1995	100	100%
	1996-2000	100	100%
	2001-2005	100	100%
	2006-2010	100	100%

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111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200

## เอกสารไม่ควบคุม

Group B 204510

**Keywords:** child sexual abuse; disclosure; self-blame

\* *See* *International Encyclopedia of the Social Sciences*, 1998.

Variable	Unit	Regression			R-squared	F-statistic
		Constant	Variable	Variable		
Variable	Unit	Constant	Variable	Variable	R-squared	F-statistic
Variable	Unit	Constant	Variable	Variable	R-squared	F-statistic

Use hand-held calculator

[illegible]

24. Answer: D—The word "because" indicates that the reason for the

Variable	Response			Overall mean	p-value
	0.00	0.01	0.02		
Overall mean	0.00	0.01	0.02	0.01	0.00
Overall mean	0.00	0.01	0.02	0.01	0.00
Overall mean	0.00	0.01	0.02	0.01	0.00
Overall mean	0.00	0.01	0.02	0.01	0.00
Overall mean	0.00	0.01	0.02	0.01	0.00

เอกสารไม่ควบคุม

Downloaded from <http://ajph.org/>

Source: *Author's calculations*.

1. Identifying the Problem

[illegible]

2009-2010

110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300
110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300

### Abstract Experimentation

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Author	Journal of Management Education	Volume	34(1)
Year	2010	Issue	1
Pages	1-10	Page Count	10

Life-Span Information Available		
Maximum survival	more than 100 years	Maximum age: 1
Maximum	100	Maximum age: 100
Mean	50-60	Maximum age: 100
Adult survival	More than 100 years	Maximum age: 100
Life	100 years or more	Maximum age: 100
Maximum	100	Maximum age: 100

[illegible]

Variable	Mean	SD	N	Minimum	Maximum
Age (years)	23.2	4.2	202	18 years	30
Education (years)	24.5	2.8	202	18 years	32
Income (€)	1,200	300	202	800	1,800

10. *Journal of the American Medical Association*, 1997; 278: 1023-1028.

**Category:** \_\_\_\_\_

Approved by \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

เอกสารไม่ควบคุม











## Continuation of Calibration Certificate

Cert. No. : SC22000  
Lab. No. : TC014C0040  
Page : 4 of 6

## Result of calibration:

## 1. Absolute calibration:

Balance Nominal Value (g)	Measured Value (g)	Difference (g)	Acceptance Limit (g)
1.00	1.001	0.001	±0.01
0.00000000	0.00	0.0	±0.2

## 2. Self-generated noise

## 2.1 Internal test

Measured Value (g)
0.2

## 2.2 The acceptance of the small load factor was replaced by standard input signal device

Frequency Weighting	Measured value (dB)
A-weight	22.4
C-weight	24.8
Flat	24.2

## 3. Accepted signal from frequency weighting

Measured value is accepted as a total of 0.34 dB

Frequency (Hz)	Standard deviation frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limit
100	11.1	0.1	0.1	±1.1
1000	0.1	0.0	0.0	±1.0
10000	0.0	0.2	0.1	±1.2

Signature of technician

เอกสารไม่ควบคุม

T. R. R.

## Continuation of Calibration Certificate

Cert. No. : SC22000  
Lab. No. : TC014C0040  
Page : 5 of 6

## 7. Level Results of the reference level range

Accepted Value (dB)	Measured Value (dB)	Difference Value (dB)	Acceptance Limit (dB)
125.0	125.1	0.1	±0.1
127.0	127.0	0.0	±0.1
128.0	128.0	0.0	±0.1
129.0	129.0	0.0	±0.1
130.0	130.0	0.0	±0.1
131.0	131.0	0.0	±0.1
132.0	132.0	0.0	±0.1
133.0	133.0	0.0	±0.1
134.0	134.0	0.0	±0.1
135.0	135.0	0.0	±0.1
136.0	136.0	0.0	±0.1
137.0	137.0	0.0	±0.1
138.0	138.0	0.0	±0.1
139.0	139.0	0.0	±0.1
140.0	140.0	0.0	±0.1
141.0	141.0	0.0	±0.1
142.0	142.0	0.0	±0.1
143.0	143.0	0.0	±0.1
144.0	144.0	0.0	±0.1
145.0	145.0	0.0	±0.1
146.0	146.0	0.0	±0.1
147.0	147.0	0.0	±0.1
148.0	148.0	0.0	±0.1
149.0	149.0	0.0	±0.1
150.0	150.0	0.0	±0.1
151.0	151.0	0.0	±0.1
152.0	152.0	0.0	±0.1
153.0	153.0	0.0	±0.1
154.0	154.0	0.0	±0.1
155.0	155.0	0.0	±0.1
156.0	156.0	0.0	±0.1
157.0	157.0	0.0	±0.1
158.0	158.0	0.0	±0.1
159.0	159.0	0.0	±0.1
160.0	160.0	0.0	±0.1
161.0	161.0	0.0	±0.1
162.0	162.0	0.0	±0.1
163.0	163.0	0.0	±0.1
164.0	164.0	0.0	±0.1
165.0	165.0	0.0	±0.1
166.0	166.0	0.0	±0.1
167.0	167.0	0.0	±0.1
168.0	168.0	0.0	±0.1
169.0	169.0	0.0	±0.1
170.0	170.0	0.0	±0.1
171.0	171.0	0.0	±0.1
172.0	172.0	0.0	±0.1
173.0	173.0	0.0	±0.1
174.0	174.0	0.0	±0.1
175.0	175.0	0.0	±0.1
176.0	176.0	0.0	±0.1
177.0	177.0	0.0	±0.1
178.0	178.0	0.0	±0.1
179.0	179.0	0.0	±0.1
180.0	180.0	0.0	±0.1
181.0	181.0	0.0	±0.1
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196.0	196.0	0.0	±0.1
197.0	197.0	0.0	±0.1
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202.0	202.0	0.0	±0.1
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403.0	403.0	0.0	±0.1
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406.0	406.0	0.0	±0.1
407.0	407.0	0.0	±0.1
408.0	408.0	0.0	±0.1
409.0	409.0	0.0	±0.1
410.0	410.0	0.0	±0.1
411.0	411.0	0.0	±0.1
412.0	412.0	0.0	±0.1
413.0	413.0	0.0	±0.1
414.0	414.0	0.0	±0.1
415.0	415.0	0.0	±0.1
416.0	416.0	0.0	±0.1
417.0	417.0	0.0	±0.1
418.0	418.0	0.0	±0.1
419.0	419.0	0.0	±0.1
420.0	420.0	0.0	±0.1
421.0	421.0	0.0	±0.1
422.0	422.0	0.0	±0.1
423.0	423.0	0.0	±0.1
424.0	424.0	0.0	±0.1
425.0	425.0	0.0	±0.1
426.0	426.0	0	



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11 April 1997

**E. Absolute credit (AA)**

Reference element, $\lambda$ (Å)	Observed $\lambda$ (Å)	Theoretical $\lambda$ (Å)	Assignment
1.881	1.881	1.881	1.881
812.0 (He I)	812.0	812.0	812.0

**EU government action**

2000

Maximum Value
1.00

2.2 The importance of the world food system is emphasized by increasing global food demand

Program Sample	Response rate (%)
A - high	77.9
B - high	76.9
C - low	77.9

### 3. Assessment of digital health of Singaporean adolescents

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Frequency (Hz)	Normalized force amplitudes (percentage of body weight)			
	Flac	C-weight	A-weight	Unweighted
120	-4.2	0.1	0.1	-0.2
150	-1.1	-0.2	-0.1	-0.2
200	-0.7	-0.3	-0.7	(-1.1)

### 5. Local Learning on the reference belief frame

Actual	Forecast	Forecast	Forecast
Value	Value	Value	Value
1997	1997	1997	1997
177.0	177.0	177	177
178.0	178.0	178	178
179.0	179.0	179	179
180.0	180.0	180	180
181.0	181.0	181	181
182.0	182.0	182	182
183.0	183.0	183	183
184.0	184.0	184	184
185.0	185.0	185	185
186.0	186.0	186	186
187.0	187.0	187	187
188.0	188.0	188	188
189.0	189.0	189	189
190.0	190.0	190	190
191.0	191.0	191	191
192.0	192.0	192	192
193.0	193.0	193	193
194.0	194.0	194	194
195.0	195.0	195	195
196.0	196.0	196	196
197.0	197.0	197	197
198.0	198.0	198	198
199.0	199.0	199	199
200.0	200.0	200	200
201.0	201.0	201	201
202.0	202.0	202	202
203.0	203.0	203	203
204.0	204.0	204	204
205.0	205.0	205	205
206.0	206.0	206	206
207.0	207.0	207	207
208.0	208.0	208	208
209.0	209.0	209	209
210.0	210.0	210	210
211.0	211.0	211	211
212.0	212.0	212	212
213.0	213.0	213	213
214.0	214.0	214	214
215.0	215.0	215	215
216.0	216.0	216	216
217.0	217.0	217	217
218.0	218.0	218	218
219.0	219.0	219	219
220.0	220.0	220	220
221.0	221.0	221	221
222.0	222.0	222	222
223.0	223.0	223	223
224.0	224.0	224	224
225.0	225.0	225	225
226.0	226.0	226	226
227.0	227.0	227	227
228.0	228.0	228	228
229.0	229.0	229	229
230.0	230.0	230	230
231.0	231.0	231	231
232.0	232.0	232	232
233.0	233.0	233	233
234.0	234.0	234	234
235.0	235.0	235	235
236.0	236.0	236	236
237.0	237.0	237	237
238.0	238.0	238	238
239.0	239.0	239	239
240.0	240.0	240	240
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243.0	243.0	243	243
244.0	244.0	244	244
245.0	245.0	245	245
246.0	246.0	246	246
247.0	247.0	247	247
248.0	248.0	248	248
249.0	249.0	249	249
250.0	250.0	250	250
251.0	251.0	251	251
252.0	252.0	252	252
253.0	253.0	253	253
254.0	254.0	254	254
255.0	255.0	255	255
256.0	256.0	256	256
257.0	257.0	257	257
258.0	258.0	258	258
259.0	259.0	259	259
260.0	260.0	260	260
261.0	261.0	261	261
262.0	262.0	262	262
263.0	263.0	263	263
264.0	264.0	264	264
265.0	265.0	265	265
266.0	266.0	266	266
267.0	267.0	267	267
268.0	268.0	268	268
269.0	269.0	269	269
270.0	270.0	270	270
271.0	271.0	271	271
272.0	272.0	272	272
273.0	273.0	273	273

#### 4. Statistical significance of frequency weighting

Weighting scheme: average with equal weights

Frequency (Hz)	Displacement versus Frequency (resonance curve, 2012)			
	Y1	Y2 (weight)	Y3 (weight)	Resonance Graph
50	0.1	0.1	0.1	0.10
100	0.1	0.1	0.1	0.10
150	0.2	0.2	0.2	0.10
200	0.4	0.4	0.4	0.10
250	0.5	0.5	0.5	0.10
300	0.5	0.5	0.5	0.10
350	0.4	0.4	0.4	0.10
400	0.3	0.3	0.3	0.10
450	0.2	0.2	0.2	0.10

#### 5. Frequency and low-rankings of TFRs

5.4 *Temperature-weighted (TWT)*

Frequency Weighting	Flamant (dB)	Therion (dB)	Comparison (dB)
$A_w$ weights	94.0	93.0	
C = 64.0%	94.0	93.0	1.82
Star	94.0	93.0	0.82

### 3.2. Range mapping in 1D cells

Segment/ Weighting	Unimodal Index	Unimodal Index	Asymptotic Length
	(2.11)	(2.11)	(2.11)
Flow	98.0	9.0	
Flow	99.0	9.0	4.40
Cost	98.0	20.0	0.83

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	RTM-Uphol	RTM-Dynaflo	Actual	Assessment
Frequency	0.0000	0.0000	0.000	0.0000
Weighting	1.000	1.000	1.000	1.000
$\Delta$ - result	0.000	0.000	0.000	-0.000

<sup>5</sup> I am thankful to Alexander H. J. van der Vaart for his help in writing this paper.

Category	Assigned Value (100)	Measured Value (40)	Desired Value (100)	Assignment (100)
Index	96.0	96.0	100	111

#### 4. Water Quality Improvement

Time	Year built (months, %)	Age	Adjusted value	Unadjusted value	Discount value	Percentage change
Weighted	(400)	1	108.8	107.9	8.5	7.8, 9.8
Firm	1	0	117.8	117.8	8.0	6.8, 9.2
	200	200	116.8	116.1	8.5	7.0
State	1	0	119.8	119.8	8.8	7.2, 10.0
	200	200	127.8	127.8	8.8	7.0
NFL	1	0	98.0	98.8	8.5	6.7, 10.0
	200	200	128.8	128.1	8.5	6.8

16. [Study 1: \*Wages and Health\*](#)

Therapeutic agent	Adult dose (g)	PK parameter	Half-life (h)	Excretion
As	500 mg	1.2 h	1.2 h	90%
Amphotericin B	500 mg	1.2 h	1.2 h	90%
Fluconazole	500 mg	1.2 h	1.2 h	90%
Fluorouracil	500 mg	1.2 h	1.2 h	90%
Fluorouracil	500 mg	1.2 h	1.2 h	90%

Variable (t-value)	Student's t	F-distribution	F-distribution	Non-symmetry
Q	Statistic	Statistic	Statistic	Statistic
Asymmetry	1.000 (1)	1.000 (1)	1.000 (1)	1.000 (1)
Q distribution	0.112 (2)	0.022 (2)	0.022 (2)	0.022 (2)
Exponential distribution	0.112 (2)	0.022 (2)	0.022 (2)	0.022 (2)
Student's t distribution	0.046 (2)	0.011 (2)	0.011 (2)	0.011 (2)



10. Checked calibration

Measured value (mm)	Reference Value (mm)	Acceptance Limit (mm)
0.000	0.000	±0.001

11. High level stability

Parameter	Stability (mm)	Acceptance Limit (mm)
Weighting	0.001	±0.001

The reported uncertainty is based on standard uncertainty evaluated by coverage factor  $k = 2$  as per table following procedure providing a level of confidence of approximately 95 %

End of Calibration Certificate

เอกสารไม่ควบคุม

T. Pich

Calibration Procedure : SI-C-011

Calibration Method :

This equipment was calibrated by using SI-C-011 (SI-C-011) Standard (SI-C-011) and SI-C-011. The SI-C-011 was used to calibrate and SI-C-011 was used to calibrate SI-C-011. The SI-C-011 was used to calibrate SI-C-011. The SI-C-011 was used to calibrate SI-C-011.

Condition of this result of calibration :

1. Reference Standard Information

Location	Model	Serial No.	Cert. No.	Exp. Date
Standard Calibration	SI-C-011	SI-C-011-01	SI-C-011-01	SI-C-011-01
Standard Calibration	SI-C-011	SI-C-011-02	SI-C-011-02	SI-C-011-02
Digital Multimeter	SI-C-011	SI-C-011-03	SI-C-011-03	SI-C-011-03
Digital Multimeter	SI-C-011	SI-C-011-04	SI-C-011-04	SI-C-011-04
Digital Multimeter	SI-C-011	SI-C-011-05	SI-C-011-05	SI-C-011-05
Programmable Transducer	SI-C-011	SI-C-011-06	SI-C-011-06	SI-C-011-06
Standard Calibration	SI-C-011	SI-C-011-07	SI-C-011-07	SI-C-011-07
Standard Calibration	SI-C-011	SI-C-011-08	SI-C-011-08	SI-C-011-08

2. The result of calibration was based on the standard uncertainty evaluated by coverage factor  $k = 2$  as per table following procedure providing a level of confidence of approximately 95 %

3. The certificate is issued in the International System of Units (SI) and is valid for 12 months.

4. The certificate is issued in the International System of Units (SI) and is valid for 12 months.

5. The certificate is issued in the International System of Units (SI) and is valid for 12 months.

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T. Pich

Calibration Certificate

Equipment : SI-C-011  
Manufacturer : SI-C-011  
Model : SI-C-011  
Serial No. : SI-C-011  
Exp. Date : SI-C-011

Condition of this result of calibration :

1. The certificate is issued in the International System of Units (SI) and is valid for 12 months. The certificate is issued in the International System of Units (SI) and is valid for 12 months. The certificate is issued in the International System of Units (SI) and is valid for 12 months.

2. The certificate is issued in the International System of Units (SI) and is valid for 12 months. The certificate is issued in the International System of Units (SI) and is valid for 12 months. The certificate is issued in the International System of Units (SI) and is valid for 12 months.

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5. The certificate is issued in the International System of Units (SI) and is valid for 12 months. The certificate is issued in the International System of Units (SI) and is valid for 12 months. The certificate is issued in the International System of Units (SI) and is valid for 12 months.

6. The certificate is issued in the International System of Units (SI) and is valid for 12 months. The certificate is issued in the International System of Units (SI) and is valid for 12 months. The certificate is issued in the International System of Units (SI) and is valid for 12 months.

7. The certificate is issued in the International System of Units (SI) and is valid for 12 months. The certificate is issued in the International System of Units (SI) and is valid for 12 months. The certificate is issued in the International System of Units (SI) and is valid for 12 months.

8. The certificate is issued in the International System of Units (SI) and is valid for 12 months. The certificate is issued in the International System of Units (SI) and is valid for 12 months. The certificate is issued in the International System of Units (SI) and is valid for 12 months.

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Summary of Measurement Results

Parameter	Pre	Post	Uncertainty (mm)	Measurement period (months)
1. Standard Calibration	SI-C-011	SI-C-011	SI-C-011	SI-C-011
2. SI-C-011	SI-C-011	SI-C-011	SI-C-011	SI-C-011
3. SI-C-011	SI-C-011	SI-C-011	SI-C-011	SI-C-011
4. SI-C-011	SI-C-011	SI-C-011	SI-C-011	SI-C-011
5. SI-C-011	SI-C-011	SI-C-011	SI-C-011	SI-C-011
6. SI-C-011	SI-C-011	SI-C-011	SI-C-011	SI-C-011
7. SI-C-011	SI-C-011	SI-C-011	SI-C-011	SI-C-011
8. SI-C-011	SI-C-011	SI-C-011	SI-C-011	SI-C-011
9. SI-C-011	SI-C-011	SI-C-011	SI-C-011	SI-C-011
10. SI-C-011	SI-C-011	SI-C-011	SI-C-011	SI-C-011
11. SI-C-011	SI-C-011	SI-C-011	SI-C-011	SI-C-011
12. SI-C-011	SI-C-011	SI-C-011	SI-C-011	SI-C-011

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T. Pich



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## Based on calibration :

## 1. Absolute condition

Reference Surface Depth	Measured Value	Dimension Tolerance	Acceptance Limits
1.00 (	1.001	±0.01	±0.01
0.01 (0.005)	0.01	±0.001	±0.001

## 2. Self-generated value

1.1 Measured value

Measured Value (g)
12.2

1.2 The acceptance of the measured value was applied by identical input and output

Property Weighting	Measured value (g)
A-weight	12.0
C-weight	10.7
D-weight	24.0

## 3. Reciprocal input test of frequency weighting

Note: The calibration was applied to a load of 30.0g

Frequency (Hz)	Dimension from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
100	0.0	0.2	0.2	±0.2
1100	-0.1	-0.1	-0.1	±0.1
2000	-0.0	-0.0	-0.0	±0.0

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Job No. : YC05AC0840  
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## 4. Reciprocal input test of frequency weighting

Weighting function response with values at 1 kHz

Frequency (Hz)	Dimension from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
100	0.0	0.0	0.0	±0.0
110	0.0	0.0	0.0	±0.0
120	0.0	0.0	0.0	±0.0
130	0.0	0.0	0.0	±0.0
140	0.0	0.0	0.0	±0.0
150	0.0	0.0	0.0	±0.0
160	0.0	0.0	0.0	±0.0
170	0.0	0.0	0.0	±0.0
180	0.0	0.0	0.0	±0.0
190	0.0	0.0	0.0	±0.0
200	0.0	0.0	0.0	±0.0

## 5. Frequency and line weighting at 1 kHz

5.1 Frequency weighting (1 kHz)

Frequency Weighting	Measured Value (dB)	Dimension Value (dB)	Acceptance Limits
A-weight	96.0	0.0	±0.0
C-weight	96.0	0.0	±0.0
D-weight	96.0	0.0	±0.0

5.2 Line weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Dimension Value (dB)	Acceptance Limits
Flat	96.0	0.0	±0.0
D-weight	96.0	0.0	±0.0
L24	96.0	0.0	±0.0

## 6. Long-term stability

Frequency Weighting	ECM Display value (dB)	ECM Display value (dB)	Dimension Value (dB)	Acceptance Limits
A-weight	96.0	96.0	0.0	±0.0

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## 7. Load function on the reference weight range

Application Value	Measured Value	Dimension Tolerance	Acceptance Limits
0.007	0.007	±0.001	±0.001
0.008	0.008	±0.001	±0.001
0.009	0.009	±0.001	±0.001
0.010	0.010	±0.001	±0.001
0.011	0.011	±0.001	±0.001
0.012	0.012	±0.001	±0.001
0.013	0.013	±0.001	±0.001
0.014	0.014	±0.001	±0.001
0.015	0.015	±0.001	±0.001
0.016	0.016	±0.001	±0.001
0.017	0.017	±0.001	±0.001
0.018	0.018	±0.001	±0.001
0.019	0.019	±0.001	±0.001
0.020	0.020	±0.001	±0.001
0.021	0.021	±0.001	±0.001
0.022	0.022	±0.001	±0.001
0.023	0.023	±0.001	±0.001
0.024	0.024	±0.001	±0.001
0.025	0.025	±0.001	±0.001
0.026	0.026	±0.001	±0.001
0.027	0.027	±0.001	±0.001
0.028	0.028	±0.001	±0.001
0.029	0.029	±0.001	±0.001
0.030	0.030	±0.001	±0.001
0.031	0.031	±0.001	±0.001
0.032	0.032	±0.001	±0.001
0.033	0.033	±0.001	±0.001
0.034	0.034	±0.001	±0.001
0.035	0.035	±0.001	±0.001
0.036	0.036	±0.001	±0.001
0.037	0.037	±0.001	±0.001
0.038	0.038	±0.001	±0.001
0.039	0.039	±0.001	±0.001
0.040	0.040	±0.001	±0.001
0.041	0.041	±0.001	±0.001
0.042	0.042	±0.001	±0.001
0.043	0.043	±0.001	±0.001
0.044	0.044	±0.001	±0.001
0.045	0.045	±0.001	±0.001
0.046	0.046	±0.001	±0.001
0.047	0.047	±0.001	±0.001
0.048	0.048	±0.001	±0.001
0.049	0.049	±0.001	±0.001
0.050	0.050	±0.001	±0.001
0.051	0.051	±0.001	±0.001
0.052	0.052	±0.001	±0.001
0.053	0.053	±0.001	±0.001
0.054	0.054	±0.001	±0.001
0.055	0.055	±0.001	±0.001
0.056	0.056	±0.001	±0.001
0.057	0.057	±0.001	±0.001
0.058	0.058	±0.001	±0.001
0.059	0.059	±0.001	±0.001
0.060	0.060	±0.001	±0.001
0.061	0.061	±0.001	±0.001
0.062	0.062	±0.001	±0.001
0.063	0.063	±0.001	±0.001
0.064	0.064	±0.001	±0.001
0.065	0.065	±0.001	±0.001
0.066	0.066	±0.001	±0.001
0.067	0.067	±0.001	±0.001
0.068	0.068	±0.001	±0.001
0.069	0.069	±0.001	±0.001
0.070	0.070	±0.001	±0.001
0.071	0.071	±0.001	±0.001
0.072	0.072	±0.001	±0.001
0.073	0.073	±0.001	±0.001
0.074	0.074	±0.001	±0.001
0.075	0.075	±0.001	±0.001
0.076	0.076	±0.001	±0.001
0.077	0.077	±0.001	±0.001
0.078	0.078	±0.001	±0.001
0.079	0.079	±0.001	±0.001
0.080	0.080	±0.001	±0.001
0.081	0.081	±0.001	±0.001
0.082	0.082	±0.001	±0.001
0.083	0.083	±0.001	±0.001
0.084	0.084	±0.001	±0.001
0.085	0.085	±0.001	±0.001
0.086	0.086	±0.001	±0.001
0.087	0.087	±0.001	±0.001
0.088	0.088	±0.001	±0.001
0.089	0.089	±0.001	±0.001
0.090	0.090	±0.001	±0.001
0.091	0.091	±0.001	±0.001
0.092	0.092	±0.001	±0.001
0.093	0.093	±0.001	±0.001
0.094	0.094	±0.001	±0.001
0.095	0.095	±0.001	±0.001
0.096	0.096	±0.001	±0.001
0.097	0.097	±0.001	±0.001
0.098	0.098	±0.001	±0.001
0.099	0.099	±0.001	±0.001
0.100	0.100	±0.001	±0.001
0.101	0.101	±0.001	±0.001
0.102	0.102	±0.001	±0.001
0.103	0.103	±0.001	±0.001
0.104	0.104	±0.001	±0.001
0.105	0.105	±0.001	±0.001
0.106	0.106	±0.001	±0.001
0.107	0.107	±0.001	±0.001
0.108	0.108	±0.001	±0.001
0.109	0.109	±0.001	±0.001
0.110	0.110	±0.001	±0.001
0.111	0.111	±0.001	±0.001
0.112	0.112	±0.001	±0.001
0.113	0.113	±0.001	±0.001
0.114	0.114	±0.001	±0.001
0.115	0.115	±0.001	±0.001
0.116	0.116	±0.001	±0.001
0.117	0.117	±0.001	±0.001
0.118	0.118	±0.001	±0.001
0.119	0.119	±0.001	±0.001
0.120	0.120	±0.001	±0.001
0.121	0.121	±0.001	±0.001
0.122	0.122	±0.001	±0.001
0.123	0.123	±0.001	±0.001
0.124	0.124	±0.001	±0.001
0.125	0.125	±0.001	±0.001
0.126	0.126	±0.001	±0.001
0.127	0.127	±0.001	±0.001
0.128	0.128	±0.001	±0.001
0.129	0.129	±0.001	±0.001
0.130	0.130	±0.001	±0.001
0.131	0.131	±0.001	±0.001
0.132	0.132	±0.001	±0.001
0.133	0.133	±0.001	±0.001
0.134	0.134	±0.001	±0.001
0.135	0.135	±0.001	±0.001
0.136	0.136	±0.001	±0.001
0.137	0.137	±0.001	±0.001
0.138	0.138	±0.001	±0.001
0.139	0.139	±0.001	±0.001
0.140	0.140	±0.001	±0.001
0.141	0.141	±0.001	±0.001
0.142	0.142	±0.001	±0.001
0.143	0.143	±0.001	±0.001
0.144	0.144	±0.001	±0.001
0.145	0.145	±0.001	±0.001
0.146	0.146	±0.001	±0.001
0.147	0.147	±0.001	±0.001
0.148	0.148	±0.001	±0.001
0.149	0.149	±0.001	±0.001
0.150	0.150	±0.001	±0.001
0.151	0.151	±0.001	±0.001
0.152	0.152	±0.001	±0.001
0.153	0.153	±0.001	±0.001
0.154	0.154	±0.001	±0.001
0.155	0.155	±0.001	±0.001
0.156	0.156	±0.001	±0.001
0.157	0.157	±0.001	±0.001
0.158	0.158	±0.001	±0.001
0.159	0.159	±0.001	±0.001
0.160	0.160	±0.001	±0.001
0.161	0.161	±0.001	±0.001
0.162	0.162	±0.001	±0.001
0.163	0.163	±0.001	±0.001
0.164	0.164	±0.001	±0.001
0.165	0.165	±0.001	±0.001
0.166	0.166	±0.001	±0.001
0.167	0.167	±0.001	±0.001
0.168	0.168	±0.001	±0.001
0.169	0.169	±0.001	±0.001
0.170	0.170	±0.001	±0.001
0.171	0.171	±0.001	±0.001
0.172	0.172	±0.001	±0.001
0.173	0.173	±0.001	±0.001
0.174	0.174	±0.001	±0.001
0.175	0.175	±0.001	±0.001
0.176	0.176	±0.001	±0.001
0.177	0.177	±0.001	±0.001
0.178	0.178	±0.001	±0.001
0.179	0.179	±0.001	±0.001
0.180	0.180	±0.001	±0.001
0.181	0.181	±0.001	±0.001
0.182	0.182	±0.001	±0.001
0.183	0.183	±0.001	±0.001
0.184	0.184	±0.001	±0.001
0.185	0.185	±0.001	±0.001
0.186	0.186	±0.001	±0.001
0.187	0.187	±0.001	±0.001
0.188	0.188	±0.001	±0.001
0.189	0.189	±0.001	±0.001
0.190	0.190	±0.001	±0.001
0.191	0.191	±0.001	±0.001
0.192	0.192	±0.001	±0.001
0.193	0.193	±0.001	±0.001
0.194	0.194	±0.001	±0.001
0.195	0.195	±0.001	±0.001
0.196	0.196	±0.001	±0.001
0.197	0.197	±0.001	±0.001
0.198	0.198	±0.001	±0.001
0.199	0.199	±0.001	±0.001
0.200	0.200	±0.001	±0.001
0.201	0.201	±0.001	±0.001
0.202	0.202	±0.001	±0.001
0.203	0.203	±0.001	±0.001
0.204	0.204	±0.001	±0.001
0.205	0.205	±0.001	±0.001
0.206	0.206	±0.001	±0.001
0.207	0.207	±0.001	±0.001
0.208	0.208	±0.001	±0.001
0.209	0.209	±0.001	±0.001
0.210	0.210	±0.001	±0.001
0.211	0.211	±0.001	±0.001
0.212	0.212	±0.001	±0.001
0.213	0.213	±0.001	±0.001
0.214	0.214	±0.001	±0.001
0.215	0.215	±0.001	±0.001
0.216	0.216	±0.001	±0.001
0.217	0.217	±0.001	±0.001
0.218	0.218	±0.001	±0.001
0.219	0.219	±0.001	±0.001
0.220	0.220	±0.001	±0.001
0.221	0.221	±0.001	±0.001
0.222	0.222	±0.001	±0.001
0.223	0.223	±0.001	±0.001
0.224	0.224	±0.001	±0.001
0.225	0.225	±0.001	±0.001
0.226	0.226	±0.001	±0.001
0.227	0.227	±0.001	±0.001
0.228	0.228	±0.001	±0.001
0.229	0.229	±0.001	±0.001
0.230	0.230	±0.001	±0.001
0.231	0.231	±0.001	±0.001
0.232	0.232	±0.001	±0.001
0.233	0.233	±0.001	±0.001
0.234	0.234	±0.001	±0.001
0.235	0.235	±0.001	±0.001
0.236	0.236	±0.001	±0.001
0.237	0.237	±0.001	±0.001
0.238	0.238	±0.001	±0.001
0.239	0.239	±0.001	±0.001
0.240	0.240	±0.001	±0.001
0.241	0.241	±0.001	±0.001
0.242	0.242	±0.001	±0.001
0.243	0.243	±0.001	±0.001
0.244	0.244	±0.001	±0.001
0.245	0.245	±0.001	±0.001
0.246	0.246	±0.001	±0.001
0.247	0.247	±0.001	±0.001
0.248	0.248	±0.001	±0.001
0.249	0.249	±0.001	±0.001
0.250	0.250	±0.001	±0.001
0.251	0.251	±0.001	±0.001
0.252	0.252	±0.001	±0.001
0.253	0.253	±0.001	±0.001
0.254	0.254	±0.001	±0.001
0.255	0.255	±0.001	±0.001
0.256	0.256	±0.001	±0.001
0.257	0.257	±0.001	±0.001
0.258	0.258	±0.001	±0.001
0.259	0.259	±0.001	±0.001
0.260	0.260	±0.001	±0.001
0.261	0.261	±0.001	±0.001
0.262	0.262	±0.001	±0.001
0.263	0.263	±0.001	±0.001
0.264	0.264	±0.001	±0.001
0.265	0.265	±0.001	±0.001
0.266	0.266	±0.001	±0.001
0.267	0.267	±0.001	±0.001
0.268	0.268	±0.001	±0.001
0.269	0.269	±0.001	±0.001
0.270	0.270	±0.001	±0.001
0.271	0.271	±0.001	±0.001
0.272	0.272	±0.001	±0.001
0.273	0.273	±0.001	±0.001
0.274	0.274	±0.001	±0.001
0.275			



11. Thermal stability

Measured value (20 °C)		Standard Value	Acceptance Tolerance
Positive	Negative	1.001	±0.01
measured value	measured value		
0.07	-0.2	0.1	±0.2

12. High precision

Parameter	SLM (single)	SLM (single)	Expanded Value	Acceptance Tolerance
Weighting	1.001	1.001	1.001	±0.01
4 - single	0.02	0.02	0.0	±0.2

The reported uncertainty is based on standard uncertainty multiplied by coverage factor k = 2, as per table following procedure providing a level of confidence of approximately 95 %

End of Calibration Certificate

02-10-2024/04/00000

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T. Khe

Calibration Procedure : 173-001-02

Calibration Method :

This equipment was calibrated based on ISO 9001:2015 (ISO 9001) Standard for quality management system (QMS). The SLM test device is calibrated and checked against traceability of frequency weighting with National Institute of Standards and Technology (NIST) Standard.

For your records of each item, with details by observation at each frequency display and also with SLM's display.

Evaluation of this result of calibration :

1. Reference Standard Information

Reference	Model	Serial No.	Cert. No.	Exp. Date
Reference Standard	1110A	3014001001	01-001001	2024-01-01
Reference Standard	1110B	3014001002	01-001002	2024-01-01
Digital Multimeter	1110C	3014001003	01-001003	2024-01-01
Digital Multimeter	1110D	3014001004	01-001004	2024-01-01
Digital Multimeter	1110E	3014001005	01-001005	2024-01-01
Frequency Analyzer	1110F	4014001006	01-001006	2024-01-01
Reference Standard	1110G	3014001007	01-001007	2024-01-01
Reference Standard	1110H	3014001008	01-001008	2024-01-01

2. The result of calibration was found to be within the range of the calibration for this calibration only.

3. This certificate is valid only in the scope and terms of the calibration at

- 1.1 National Institute of Standards and Technology (NIST)
- 1.2 National Institute of Standards and Technology (NIST)

02-10-2024/04/00000

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T. Khe



Calibration Certificate

Equipment : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
Manufacturer : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
Model : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
Serial No. : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
ID No. : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H

Condition in Field : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H

Customer : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H

Location : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
Ambient Temperature : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
Pressure : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
Relative Humidity : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H

Required Date : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
Calibration Date : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
Date of Issue : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H

Calibrated to : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H

Approved by : 1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H  
1110A, 1110B, 1110C, 1110D, 1110E, 1110F, 1110G, 1110H

This certificate is valid only in the scope and terms of the calibration for this calibration only. The certificate is valid only in the scope and terms of the calibration for this calibration only.

02-10-2024/04/00000

เอกสารไม่ควบคุม

Summary of Measurement Result

Parameter	Exp.	Std.	Expanded (k=2)	Measurement uncertainty (k=2)
1. Thermal stability	✓	0.1	0.2	0.1
2. High precision	✓	0.1	0.2	0.1
3. Accuracy (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
4. Thermal stability of frequency weighting	✓	0.1	0.2	0.1
5. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
6. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
7. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
8. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
9. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
10. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
11. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
12. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
13. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
14. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
15. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
16. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
17. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
18. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
19. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1
20. Frequency weighting (against National Institute of Standards and Technology (NIST) Standard)	✓	0.1	0.2	0.1

02-10-2024/04/00000

เอกสารไม่ควบคุม

T. Khe







11. Physical Realization

Measured value (SI)	Provided	Accepted
Resistance	100.0	100.0
Resistance	100.0	100.0
100.0	100.0	100.0

12. High level stability

Parameter	Actual Value	Target Value	Measured Value	Accepted Value
Resistance	100.0	100.0	100.0	100.0
Stability	100.0	100.0	100.0	100.0

The equipment is used to measure resistance in a range of 1 to 1000 Ohms. The equipment is used to measure resistance in a range of 1 to 1000 Ohms.

Valid Calibration Certificate

เอกสารไม่ควบคุม

T. Pich

Calibration Procedure : CH-001

Calibration Method :

This equipment is used to measure resistance in a range of 1 to 1000 Ohms. The equipment is used to measure resistance in a range of 1 to 1000 Ohms.

Symbol of this result of calibration :

1. Reference Material Information

Material	Model	Serial No.	Exp. No.	Exp. Date
Resistance	100.0	100.0	100.0	100.0
Resistance	100.0	100.0	100.0	100.0
Digital Multimeter	100.0	100.0	100.0	100.0
Digital Multimeter	100.0	100.0	100.0	100.0
Digital Multimeter	100.0	100.0	100.0	100.0
Programmable Resistance	100.0	100.0	100.0	100.0
Calibration Certificate	100.0	100.0	100.0	100.0
Calibration Certificate	100.0	100.0	100.0	100.0

2. The result of calibration is based on the result of the calibration of the equipment used.

3. The calibration is valid for the period of validity of the equipment used.

3.1 The result of calibration is based on the result of the calibration of the equipment used.

3.2 The result of calibration is based on the result of the calibration of the equipment used.

เอกสารไม่ควบคุม

T. Pich



Calibration Certificate

Equipment : 100.0  
Manufacturer : 100.0  
Model : 100.0  
Serial No. : 100.0  
ID No. : 100.0

Condition At Found : 100.0

Customer : 100.0  
100.0  
100.0  
100.0  
100.0  
100.0

Location : 100.0  
Ambient Temperature : 100.0  
Pressure : 100.0  
Relative Humidity : 100.0

Received Date : 100.0  
Calibration Date : 100.0  
Date of Issue : 100.0

Calibrated by : 100.0

Approved by : 100.0  
T. Pich

The result of calibration is based on the result of the calibration of the equipment used.

เอกสารไม่ควบคุม

Summary of Measurement Results

Parameter	Per	Std	Uncertainty (k=2)	Measurement Uncertainty (k=2)
1. Resistance	100.0	100.0	0.1	0.1
2. Resistance	100.0	100.0	0.1	0.1
3. Resistance	100.0	100.0	0.1	0.1
4. Resistance	100.0	100.0	0.1	0.1
5. Resistance	100.0	100.0	0.1	0.1
6. Resistance	100.0	100.0	0.1	0.1
7. Resistance	100.0	100.0	0.1	0.1
8. Resistance	100.0	100.0	0.1	0.1
9. Resistance	100.0	100.0	0.1	0.1
10. Resistance	100.0	100.0	0.1	0.1
11. Resistance	100.0	100.0	0.1	0.1
12. Resistance	100.0	100.0	0.1	0.1
13. Resistance	100.0	100.0	0.1	0.1

เอกสารไม่ควบคุม

T. Pich











[illegible]

U.S. Sales	Revenue	Profit	Assets
1997	100	10	100
1998	110	11	110
1999	120	12	120
2000	130	13	130
2001	140	14	140

4. [www.ck12.org](http://www.ck12.org)

[illegible]

## เอกสารไม่ควบคุม

4. *Interpret the results of the test.* The test results are interpreted by comparing the test results to the critical value. If the test results are greater than the critical value, the null hypothesis is rejected. If the test results are less than the critical value, the null hypothesis is not rejected.[illegible]

**Abstract**—The purpose of this study was to determine the effect of a 12-week training program on the heart rate (HR) and heart rate reserve (HRR) of sedentary middle-aged men. The study was conducted in a laboratory setting. The subjects were 15 sedentary middle-aged men (mean age 45.8 ± 3.2 years, mean weight 78.5 ± 10.5 kg, mean height 178.5 ± 5.5 cm). The subjects were divided into two groups: a control group (n = 7) and a training group (n = 8). The control group performed no exercise, while the training group performed a 12-week training program consisting of three sessions per week of 30 minutes of moderate-intensity aerobic exercise. The HR and HRR were measured at rest and during maximal exercise at baseline and at the end of the 12-week training program. The results showed that the training group had a significant decrease in HR at rest and during maximal exercise, and a significant increase in HRR at rest and during maximal exercise, compared to the control group. The control group had no significant changes in HR and HRR. The results suggest that a 12-week training program can improve the cardiovascular fitness of sedentary middle-aged men.

[illegible]

ALPHA CHEMISTRY

Variable	Pre-intervention			Post-intervention			p-value
	Mean	SD	Range	Mean	SD	Range	
Age (years)	30.5	3.2	20-45	30.8	3.1	20-45	0.85
Gender (male/female)	15/15			15/15			0.92
Education level (years)	12.5	1.5	10-15	12.8	1.4	10-15	0.78
Occupation (student/worker)	10/5			10/5			0.95
Family size (members)	4.2	1.1	2-6	4.1	1.0	2-6	0.91
Marital status (single/married)	12/3			12/3			0.88
Religious affiliation (Islam/Other)	18/0			18/0			0.99

## เอกสารไม่ควบคุม

Stefano M. Mazzanti

Category	Sub-category	Value	Unit
Total	1990-1995	100	100%
	1996-2000	100	100%
Total	1990-1995	100	100%
	1996-2000	100	100%
Total	1990-1995	100	100%
	1996-2000	100	100%
Total	1990-1995	100	100%
	1996-2000	100	100%

## CONCLUSIONS

Category	Sub-category	Value	Unit
Total	1990-1995	100	100
	1996-2000	100	100
Total	1990-1995	100	100
	1996-2000	100	100
Total	1990-1995	100	100
	1996-2000	100	100

**Keywords:** child sexual abuse; disclosure; self-blame

## เอกสารไม่ควบคุม

1. 臺灣省議會秘書長劉松藩致函各縣市長，請其協助辦理。

Author	David M. Foray, <i>University of California, San Diego</i>	Corresponding author
Editor	Dr. J. B. Whitham, <i>University of California, San Diego</i>	
Editorial board	Dr. J. B. Whitham, <i>University of California, San Diego</i>	

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Parameter	Bayesian estimate	Maximum likelihood
Intercept	0.00000000	0.00000000
Age	0.00000000	0.00000000
Age <sup>2</sup>	0.00000000	0.00000000
Age <sup>3</sup>	0.00000000	0.00000000
Age <sup>4</sup>	0.00000000	0.00000000
Age <sup>5</sup>	0.00000000	0.00000000
Age <sup>6</sup>	0.00000000	0.00000000
Age <sup>7</sup>	0.00000000	0.00000000
Age <sup>8</sup>	0.00000000	0.00000000
Age <sup>9</sup>	0.00000000	0.00000000
Age <sup>10</sup>	0.00000000	0.00000000
Age <sup>11</sup>	0.00000000	0.00000000
Age <sup>12</sup>	0.00000000	0.00000000
Age <sup>13</sup>	0.00000000	0.00000000
Age <sup>14</sup>	0.00000000	0.00000000
Age <sup>15</sup>	0.00000000	0.00000000
Age <sup>16</sup>	0.00000000	0.00000000
Age <sup>17</sup>	0.00000000	0.00000000
Age <sup>18</sup>	0.00000000	0.00000000
Age <sup>19</sup>	0.00000000	0.00000000
Age <sup>20</sup>	0.00000000	0.00000000
Age <sup>21</sup>	0.00000000	0.00000000
Age <sup>22</sup>	0.00000000	0.00000000
Age <sup>23</sup>	0.00000000	0.00000000
Age <sup>24</sup>	0.00000000	0.00000000
Age <sup>25</sup>	0.00000000	0.00000000
Age <sup>26</sup>	0.00000000	0.00000000
Age <sup>27</sup>	0.00000000	0.00000000
Age <sup>28</sup>	0.00000000	0.00000000
Age <sup>29</sup>	0.00000000	0.00000000
Age <sup>30</sup>	0.00000000	0.00000000
Age <sup>31</sup>	0.00000000	0.00000000
Age <sup>32</sup>	0.00000000	0.00000000
Age <sup>33</sup>	0.00000000	0.00000000
Age <sup>34</sup>	0.00000000	0.00000000
Age <sup>35</sup>	0.00000000	0.00000000
Age <sup>36</sup>	0.00000000	0.00000000
Age <sup>37</sup>	0.00000000	0.00000000
Age <sup>38</sup>	0.00000000	0.00000000
Age <sup>39</sup>	0.00000000	0.00000000
Age <sup>40</sup>	0.00000000	0.00000000
Age <sup>41</sup>	0.00000000	0.00000000
Age <sup>42</sup>	0.00000000	0.00000000
Age <sup>43</sup>	0.00000000	0.00000000
Age <sup>44</sup>	0.00000000	0.00000000
Age <sup>45</sup>	0.00000000	0.00000000
Age <sup>46</sup>	0.00000000	0.00000000
Age <sup>47</sup>	0.00000000	0.00000000
Age <sup>48</sup>	0.00000000	0.00000000
Age <sup>49</sup>	0.00000000	0.00000000
Age <sup>50</sup>	0.00000000	0.00000000
Age <sup>51</sup>	0.00000000	0.00000000
Age <sup>52</sup>	0.00000000	0.00000000
Age <sup>53</sup>	0.00000000	0.00000000
Age <sup>54</sup>	0.00000000	0.00000000
Age <sup>55</sup>	0.00000000	0.00000000
Age <sup>56</sup>	0.00000000	0.00000000
Age <sup>57</sup>	0.00000000	0.00000000
Age <sup>58</sup>	0.00000000	0.00000000
Age <sup>59</sup>	0.00000000	0.00000000
Age <sup>60</sup>	0.00000000	0.00000000
Age <sup>61</sup>	0.00000000	0.00000000
Age <sup>62</sup>	0.00000000	0.00000000
Age <sup>63</sup>	0.00000000	0.00000000
Age <sup>64</sup>	0.00000000	0.00000000
Age <sup>65</sup>	0.00000000	0.00000000
Age <sup>66</sup>	0.00000000	0.00000000
Age <sup>67</sup>	0.00000000	0.00000000
Age <sup>68</sup>	0.00000000	0.00000000
Age <sup>69</sup>	0.00000000	0.00000000
Age <sup>70</sup>	0.00000000	0.00000000
Age <sup>71</sup>	0.00000000	0.00000000
Age <sup>72</sup>	0.00000000	0.00000000
Age <sup>73</sup>	0.00000000	0.00000000
Age <sup>74</sup>	0.00000000	0.00000000
Age <sup>75</sup>	0.00000000	0.00000000
Age <sup>76</sup>	0.00000000	0.00000

[illegible]

Temperature	20°C, 30°C
Intensity	100, 200, 300, 400
Exposure Time	10, 20, 30, 40, 50
Resolution	25, 50, 100
Wavelength	400, 500, 600

100

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100

Company	Year	Value	Unit	Percentage	Category
General Electric	2014	\$1.2	USD	1.2%	Other
Boeing	2014	\$1.2	USD	1.2%	Other
Boeing	2014	\$1.2	USD	1.2%	Other
Boeing	2014	\$1.2	USD	1.2%	Other

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## เอกสารไม่ควบคุม



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 84

| 2014 Building | Ownership | Office (sq. ft.) |        | Retail |        | Total (sq. ft.) | Percentage |
|---------------|-----------|------------------|--------|--------|--------|-----------------|------------|
|               |           | Owned            | Leased | Owned  | Leased |                 |            |
| 2014-2015     | 100%      | 0                | 0      | 0      | 0      | 0               | 0%         |
| 2015-2016     | 100%      | 0                | 0      | 0      | 0      | 0               | 0%         |
| 2016-2017     | 100%      | 0                | 0      | 0      | 0      | 0               | 0%         |

[illegible][illegible]

|             |      |      |
|-------------|------|------|
| 100% (100%) | 100% | 100% |
| 100% (100%) | 100% | 100% |
| 100% (100%) | 100% | 100% |
| 100% (100%) | 100% | 100% |

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| Year | Number of cases | Number of deaths |
|------|-----------------|------------------|
| 1990 | 100             | 10               |
| 1991 | 120             | 12               |
| 1992 | 150             | 15               |
| 1993 | 180             | 18               |
| 1994 | 200             | 20               |
| 1995 | 220             | 22               |
| 1996 | 250             | 25               |
| 1997 | 280             | 28               |
| 1998 | 300             | 30               |
| 1999 | 320             | 32               |
| 2000 | 350             | 35               |
| 2001 | 380             | 38               |
| 2002 | 400             | 40               |
| 2003 | 420             | 42               |
| 2004 | 450             | 45               |
| 2005 | 480             | 48               |
| 2006 | 500             | 50               |
| 2007 | 520             | 52               |
| 2008 | 550             | 55               |
| 2009 | 580             | 58               |
| 2010 | 600             | 60               |
| 2011 | 620             | 62               |
| 2012 | 650             | 65               |
| 2013 | 680             | 68               |
| 2014 | 700             | 70               |
| 2015 | 720             | 72               |
| 2016 | 750             | 75               |
| 2017 | 780             | 78               |
| 2018 | 800             | 80               |
| 2019 | 820             | 82               |
| 2020 | 850             | 85               |
| 2021 | 880             | 88               |
| 2022 | 900             | 90               |
| 2023 | 920             | 92               |
| 2024 | 950             | 95               |
| 2025 | 980             | 98               |
| 2026 | 1000            | 100              |
| 2027 | 1020            | 102              |
| 2028 | 1050            | 105              |
| 2029 | 1080            | 108              |
| 2030 | 1100            | 110              |

4. Signature of the child or the child's legal representative \_\_\_\_\_ Date \_\_\_\_\_

| No. & Rating | Description: New upland rice varieties |      |      | Yield (kg/ha) | Remarks |
|--------------|--|------|------|---------------|---------|
|              | Maturity: Intermediate                 |      |      |               |         |
|              | 19                                     | 20   | 21   |               |         |
| 1999-2000    | 1999                                   | 1999 | 1999 | 1999          | 1999    |
| 2000-01      | 2000                                   | 2000 | 2000 | 2000          | 2000    |
| 2001-02      | 2001                                   | 2001 | 2001 | 2001          | 2001    |
| 2002-03      | 2002                                   | 2002 | 2002 | 2002          | 2002    |
| 2003-04      | 2003                                   | 2003 | 2003 | 2003          | 2003    |
| 2004-05      | 2004                                   | 2004 | 2004 | 2004          | 2004    |

**เอกสารไม่ควบคุม**

<sup>a</sup> Values are percentages of the total population. Significant differences were noted with respect to 1999.

| 2012 Ending | 2012-2013 Ending: 12 Months |      |      | 2013 Ending | 2014 Ending |
|-------------|-----------------------------|------|------|-------------|-------------|
| 2013 Ending | 2013-2014 Ending: 12 Months |      |      |             |             |
| 2014 Ending | 2014                        | 2015 | 2016 | 2017        | 2018        |
| 2015        | 100                         | 100  | 100  | 100         | 100         |
| 2016        | 100                         | 100  | 100  | 100         | 100         |
| 2017        | 100                         | 100  | 100  | 100         | 100         |
| 2018        | 100                         | 100  | 100  | 100         | 100         |
| 2019        | 100                         | 100  | 100  | 100         | 100         |
| 2020        | 100                         | 100  | 100  | 100         | 100         |
| 2021        | 100                         | 100  | 100  | 100         | 100         |
| 2022        | 100                         | 100  | 100  | 100         | 100         |
| 2023        | 100                         | 100  | 100  | 100         | 100         |
| 2024        | 100                         | 100  | 100  | 100         | 100         |
| 2025        | 100                         | 100  | 100  | 100         | 100         |
| 2026        | 100                         | 100  | 100  | 100         | 100         |
| 2027        | 100                         | 100  | 100  | 100         | 100         |
| 2028        | 100                         | 100  | 100  | 100         | 100         |
| 2029        | 100                         | 100  | 100  | 100         | 100         |
| 2030        | 100                         | 100  | 100  | 100         | 100         |
| 2031        | 100                         | 100  | 100  | 100         | 100         |
| 2032        | 100                         | 100  | 100  | 100         | 100         |
| 2033        | 100                         | 100  | 100  | 100         | 100         |
| 2034        | 100                         | 100  | 100  | 100         | 100         |
| 2035        | 100                         | 100  | 100  | 100         | 100         |
| 2036        | 100                         | 100  | 100  | 100         | 100         |
| 2037        | 100                         | 100  | 100  | 100         | 100         |
| 2038        | 100                         | 100  | 100  | 100         | 100         |
| 2039        | 100                         | 100  | 100  | 100         | 100         |
| 2040        | 100                         | 100  | 100  | 100         | 100         |
| 2041        | 100                         | 100  | 100  | 100         | 100         |
| 2042        | 100                         | 100  | 100  | 100         | 100         |
| 2043        | 100                         | 100  | 100  | 100         | 100         |
| 2044        | 100                         | 100  | 100  | 100         | 100         |
| 2045        | 100                         | 100  | 100  | 100         | 100         |
| 2046        | 100                         | 100  | 100  | 100         | 100         |
| 2047        | 100                         | 100  | 100  | 100         | 100         |
| 2048        | 100                         | 100  | 100  | 100         | 100         |
| 2049        | 100                         | 100  | 100  | 100         | 100         |
| 2050        | 100                         | 100  | 100  | 100         | 100         |
| 2051        | 100                         | 100  | 100  | 100         | 100         |
| 2052        | 100                         | 100  | 100  | 100         | 100         |
| 2053        | 100                         | 100  | 100  | 100         | 100         |
| 2054        | 100                         | 100  | 100  | 100         | 100         |
| 2055        | 100                         | 100  | 100  | 100         | 100         |
| 2056        | 100                         | 100  | 100  | 100         | 100         |
| 2057        | 100                         | 100  | 100  | 100         | 100         |
| 2058        | 100                         | 100  | 100  | 100         | 100         |
| 2059        | 100                         | 100  | 100  | 100         | 100         |
| 2060        | 100                         | 100  | 100  | 100         | 100         |
| 2061        | 100                         | 100  | 100  | 100         | 100         |
| 2062        | 100                         | 100  | 100  | 100         | 100         |
| 2063        | 100                         | 100  | 100  | 100         | 100         |
| 2064        | 100                         | 100  | 100  | 100         | 100         |
| 2065        | 100                         | 100  | 100  | 100         | 100         |
| 2066        | 100                         | 100  | 100  | 100         | 100         |
| 2067        | 100                         | 100  | 100  | 100         | 100         |
| 2068        | 100                         | 100  | 100  | 100         | 100         |
| 2069        | 100                         | 100  | 100  | 100         | 100         |
| 2070        | 100                         | 100  | 100  | 100         | 100         |
| 2071        | 100                         | 100  | 100  | 100         | 100         |
| 2072        | 100                         | 100  | 100  | 100         | 100         |
| 2073        | 100                         | 100  | 100  | 100         | 100         |
| 2074        | 100                         | 100  | 100  | 100         | 100         |
| 2075        | 100                         | 100  | 100  | 100         | 100         |
| 2076        | 100                         | 100  | 100  | 100         | 100         |
| 2077        | 100                         | 100  | 100  | 100         | 100         |
| 2078        | 100                         | 100  | 100  | 100         | 100         |
| 2079        | 100                         | 100  | 100  | 100         | 100         |
| 2080        | 100                         | 100  | 100  | 100         | 100         |
| 2081        | 100                         | 100  | 100  | 100         | 100         |
| 2082        | 100                         | 100  | 100  | 100         | 100         |
| 2083        | 100                         | 100  | 100  | 100         | 100         |
| 2084        | 100                         | 100  | 100  | 100         | 100         |
| 2085        | 100                         | 100  | 100  | 100         | 100         |
| 2086        | 100                         | 100  | 100  | 100         | 100         |
| 2087        | 100                         | 100  | 100  | 100         | 100         |
| 2088        | 100                         | 100  | 100  | 100         | 100         |
| 2089        | 100                         | 100  | 100  | 100         | 100         |
| 2090        | 100                         | 100  | 100  | 100         | 100         |
| 2091        | 100                         | 100  | 100  | 100         | 100         |
| 2092        | 100                         | 100  | 100  | 100         | 100         |
| 2093        | 100                         | 100  | 100  | 100         | 100         |
| 2094        | 100                         | 100  | 100  | 100         | 100         |
| 2095        | 100                         | 100  | 100  | 100         | 100         |
| 2096        | 100                         | 100  | 100  | 100         | 100         |
| 2097        | 100                         | 100  | 100  | 100         | 100         |
| 2098        | 100                         | 100  | 100  | 100         | 100         |
| 2099        | 100                         | 100  | 100  | 100         | 100         |
| 2100        | 100                         | 100  | 100  | 100         | 100         |

4. The number of units sold in the first 10 days of the month is 100.

[illegible]

|     |     |
|-----|-----|
| 100 | 100 |
|-----|-----|

[illegible]

**เอกสารไม่ควบคุม**

1. *Introduction*

| Item         | Quantity | Unit Price | Total Price   |
|--------------|----------|------------|---------------|
| 1. Labor     | 100      | 1.00       | 100.00        |
| 2. Material  | 50       | 2.00       | 100.00        |
| 3. Transport | 10       | 10.00      | 100.00        |
| 4. Other     | 10       | 10.00      | 100.00        |
| <b>Total</b> |          |            | <b>400.00</b> |

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[illegible]

เอกสารไม่ควบคุม

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| Variable          | Model 1 |         |         | Model 2 | Model 3 |
|-------------------|---------|---------|---------|---------|---------|
|                   | Model 1 | Model 2 | Model 3 |         |         |
| Control variables | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| Control variables | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| Control variables | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| Control variables | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |
| Control variables | 0.00    | 0.00    | 0.00    | 0.00    | 0.00    |

1. 目的

[illegible]

12. What is the purpose of the study?

[illegible]

เอกสารไม่ควบคุม







| Category | Sub-category | Value | Unit |
|----------|--------------|-------|------|
| Total    | Category 1   | 1000  | 1000 |
|          | Category 2   | 2000  | 2000 |
|          | Category 3   | 3000  | 3000 |
|          | Category 4   | 4000  | 4000 |
|          | Category 5   | 5000  | 5000 |

[illegible]

| Table 1. Summary of the data used in the study |             |          |       |           |           |
|--|-------------|----------|-------|-----------|-----------|
| Variable                                       | Unit        | Observed |       |           | Simulated |
|  |             | Mean     | SD    | Range     |           |
| Age  | Years       | 35.5     | 10.5  | 18-65     | 35.5      |
| Gender   | Male/Female | 50/50    | 50/50 | 50/50     | 50/50     |
| Education                                      | Years       | 12.5     | 1.5   | 10-15     | 12.5      |
| Income   | \$/month    | 1500     | 500   | 1000-2500 | 1500      |

[illegible][illegible]

| Modul    | Waktu | Penyediaan | Penyediaan |
|----------|-------|------------|------------|
| Modul 1  | 100   | 100        | 100        |
| Modul 2  | 100   | 100        | 100        |
| Modul 3  | 100   | 100        | 100        |
| Modul 4  | 100   | 100        | 100        |
| Modul 5  | 100   | 100        | 100        |
| Modul 6  | 100   | 100        | 100        |
| Modul 7  | 100   | 100        | 100        |
| Modul 8  | 100   | 100        | 100        |
| Modul 9  | 100   | 100        | 100        |
| Modul 10 | 100   | 100        | 100        |
| Modul 11 | 100   | 100        | 100        |
| Modul 12 | 100   | 100        | 100        |
| Modul 13 | 100   | 100        | 100        |
| Modul 14 | 100   | 100        | 100        |
| Modul 15 | 100   | 100        | 100        |
| Modul 16 | 100   | 100        | 100        |
| Modul 17 | 100   | 100        | 100        |
| Modul 18 | 100   | 100        | 100        |
| Modul 19 | 100   | 100        | 100        |
| Modul 20 | 100   | 100        | 100        |
| Modul 21 | 100   | 100        | 100        |
| Modul 22 | 100   | 100        | 100        |
| Modul 23 | 100   | 100        | 100        |
| Modul 24 | 100   | 100        | 100        |
| Modul 25 | 100   | 100        | 100        |
| Modul 26 | 100   | 100        | 100        |
| Modul 27 | 100   | 100        | 100        |
| Modul 28 | 100   | 100        | 100        |
| Modul 29 | 100   | 100        | 100        |
| Modul 30 | 100   | 100        | 100        |
| Modul 31 | 100   | 100        | 100        |
| Modul 32 | 100   | 100        | 100        |
| Modul 33 | 100   | 100        | 100        |
| Modul 34 | 100   | 100        | 100        |
| Modul 35 | 100   | 100        | 100        |
| Modul 36 | 100   | 100        | 100        |
| Modul 37 | 100   | 100        | 100        |
| Modul 38 | 100   | 100        | 100        |
| Modul 39 | 100   | 100        | 100        |
| Modul 40 | 100   | 100        | 100        |
| Modul 41 | 100   | 100        | 100        |
| Modul 42 | 100   | 100        | 100        |
| Modul 43 | 100   | 100        | 100        |
| Modul 44 | 100   | 100        | 100        |
| Modul 45 | 100   | 100        | 100        |
| Modul 46 | 100   | 100        | 100        |
| Modul 47 | 100   | 100        | 100        |
| Modul 48 | 100   | 100        | 100        |
| Modul 49 | 100   | 100        | 100        |
| Modul 50 | 100   | 100        | 100        |
| Modul 51 | 100   | 100        | 100        |
| Modul 52 | 100   | 100        | 100        |
| Modul 53 | 100   | 100        | 100        |
| Modul 54 | 100   | 100        | 100        |
| Modul 55 | 100   | 100        | 100        |
| Modul 56 | 100   | 100        | 100        |
| Modul 57 | 100   | 100        | 100        |
| Modul 58 | 100   | 100        | 100        |
| Modul 59 | 100   | 100        | 100        |
| Modul 60 | 100   | 100        | 100        |
| Modul 61 | 100   | 100        | 100        |
| Modul 62 | 100   | 100        | 100        |
| Modul 63 | 100   | 100        | 100        |
| Modul 64 | 100   | 100        | 100        |
| Modul 65 | 100   | 100        | 100        |
| Modul 66 | 100   | 100        | 100        |
| Modul 67 | 100   | 100        | 100        |
| Modul 68 | 100   | 100        | 100        |
| Modul 69 | 100   | 100        | 100        |
| Modul 70 | 100   | 100        | 100        |
| Modul 71 | 100   | 100        | 100        |
| Modul 72 | 100   | 100        | 100        |
| Modul 73 | 100   | 100        | 100        |
| Modul 74 | 100   | 100        | 100        |
| Modul 75 | 100   | 100        | 100        |
| Modul 76 | 100   | 100        | 100        |
| Modul 77 | 100   | 100        | 100        |
| Modul 78 | 100   | 100        | 100        |
| Modul 79 | 100   | 100        | 100        |
| Modul 80 | 100   | 100        | 100        |
| Modul 81 | 100   | 100        | 100        |
| Modul 82 | 100   | 100        | 100        |
| Modul 83 | 100   | 100        | 100        |
| Modul 84 | 100   | 100        | 100        |
| Modul 85 | 100   | 100        | 100        |
| Modul 86 | 100   | 100        | 100        |
| Modul 87 | 100   | 100        | 100        |
| Modul 88 | 100   | 100        | 100        |
| Modul 89 | 100   | 100        | 100        |
| Modul 90 | 100   | 100        | 100        |

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|       |           |           |
|-------|-----------|-----------|
| Year  | 2010-2011 | 2011-2012 |
| Value | 10.00     | 10.00     |

| Parameter | Value | Unit           |
|-----------|-------|----------------|
| Mass      | 1.0   | kg             |
| Length    | 1.0   | m              |
| Width     | 1.0   | m              |
| Height    | 1.0   | m              |
| Area      | 1.0   | m <sup>2</sup> |
| Volume    | 1.0   | m <sup>3</sup> |
| Mass      | 1.0   | kg             |
| Length    | 1.0   | m              |
| Width     | 1.0   | m              |
| Height    | 1.0   | m              |
| Area      | 1.0   | m <sup>2</sup> |
| Volume    | 1.0   | m <sup>3</sup> |

|                   |                                     |
|-------------------|-------------------------------------|
| Dimensions        | 30 x 30 x 5                         |
| Capacity          | 300 plates (10 x 10 cm)             |
| Maximum Weight    | 100 kg (220 lb)                     |
| Depth (cm)        | 27 (10.6 in)                        |
| Width (cm)        | 30 (11.8 in)                        |
| Adjustable Height | 40 cm (15.7 in) to 100 cm (39.4 in) |
| Load Capacity     | 1,000 kg (2,200 lb)                 |

| Item                         | Asset | Liability | Equity | Debit | Credit |
|------------------------------|-------|-----------|--------|-------|--------|
| Investment in Equity         | 1000  | 0         | 1000   | 1000  | 0      |
| Investment in Debt           | 1000  | 0         | 1000   | 1000  | 0      |
| Investment in Real Estate    | 1000  | 0         | 1000   | 1000  | 0      |
| Investment in Commodities    | 1000  | 0         | 1000   | 1000  | 0      |
| Investment in Cryptocurrency | 1000  | 0         | 1000   | 1000  | 0      |

File

| Category    | PS  |
|-------------|-----|
| 1. General  | 100 |
| 2. Specific | 100 |
| 3. Total    | 100 |

**Abstract**











**CONTACT:** \_\_\_\_\_

Figure 1

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[illegible]

1998-1999

| Category | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|----------|------|------|------|------|------|------|
| Q1 2018  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q2 2018  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q3 2018  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q4 2018  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q1 2019  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q2 2019  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q3 2019  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q4 2019  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q1 2020  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q2 2020  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q3 2020  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q4 2020  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q1 2021  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q2 2021  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q3 2021  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q4 2021  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q1 2022  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q2 2022  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q3 2022  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q4 2022  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q1 2023  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q2 2023  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q3 2023  | 100  | 100  | 100  | 100  | 100  | 100  |
| Q4 2023  | 100  | 100  | 100  | 100  | 100  | 100  |

<sup>a</sup>See text for details on the construction of the composite score.

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— 1997 —

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4. *Confidentiality of Information*

|        |                      |                      |
|--------|----------------------|----------------------|
| Age    | 1980-1990 (10 years) | 2 weeks (10-15 days) |
| Gender | Male (100%)          | Male (100%)          |

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[illegible]

**Week of 4 months**

|                  |                        |
|------------------|------------------------|
| Dimensions       | 21 x 11 x 11           |
| Material         | 400 gsm 100% cotton    |
| Available Colors | 100% grey or 100% blue |
| Available Sizes  | 100% grey or 100% blue |
| Customization    | 100% grey or 100% blue |
| Minimum Order    | 100% grey or 100% blue |
| Lead Time        | 100% grey or 100% blue |

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Figure 10

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**Abstract**

**လေ့ကျင့်ခန်း**

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Table 4-4

| Item   | Value | Unit | Value |
|--------|-------|------|-------|
| Item 1 | 1000  | 1000 | 1000  |
| Item 2 | 1000  | 1000 | 1000  |
| Item 3 | 1000  | 1000 | 1000  |
| Item 4 | 1000  | 1000 | 1000  |
| Item 5 | 1000  | 1000 | 1000  |

Table 4-5

| Item   | Value | Unit | Value |
|--------|-------|------|-------|
| Item 1 | 1000  | 1000 | 1000  |
| Item 2 | 1000  | 1000 | 1000  |
| Item 3 | 1000  | 1000 | 1000  |
| Item 4 | 1000  | 1000 | 1000  |
| Item 5 | 1000  | 1000 | 1000  |

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เอกสารไม่ควบคุม



Certificate of Instrument for Environment Quality Analysis.

| No.   | Instrument/Equipment                      | Parameter  | Manufacturer         | Model/Serial No.                            | Calibrator                               | Certification No.                | Date of Calibration | Due date of Calibration* | Remark     |
|---|---|--|----------------------|---|--|----------------------------------|---------------------|--------------------------|------------|
| เครื่องมือสำหรับวิเคราะห์คุณภาพดินและตะกอนดิน |   |  |                      |   |  |                                  |                     |                          |            |
| 1   | Atomic Absorption Spectrophotometer (AAS) | Chromium Hexavalent<br>Chromium Trivalent<br>Arsenic, Copper, Mercury, | Agilent Technologies | System ID:G8432A<br>AA240FS /<br>MY13160001 | Agilent Technologies (Thailand) Co.,Ltd. | Preventive Maintenance Checklist | 30 Jan 23           | 29 Jan 24                | -<br><br>- |

Due Date of Calibration\* : Based on the annual calibration plan. At least 1 time per year.



## Agilent 55-240 SBD Series Atomic Absorption Spectroscopy System

### Preventive Maintenance Checklist

Agilent Preventive Maintenance services include facility recommendations for your selected system to keep it in excellent condition for the entirety of your life span.

Agilent's highly experienced service engineers using genuine Agilent parts and supplies, Agilent Preventive Maintenance provides everything you need to reduce unplanned downtime and keep your systems working at their peak. This checklist will be completed at the end of the service and provided to you as proof of the completion.

**NOTE:** While no current production Agilent system or component is made in China, it is noted specifically in this document for compliance as a disclosure.

For more information about Agilent Technology services please visit our web site at <http://www.agilent.com/service>

Document ID: 5990-0000

#### Customer Information

- Customer's phone number will be used to contact the service engineer in the event of the engineer.
- A customer representative should be available to the service engineer while performing the preventive maintenance operations.
- Any parts not included in the Preventive Maintenance service are not included in the price of the service.
- If a system requires the use of spare or special provisions and/or parts for the maintenance, repair, then there must be a signed statement and approval by a person who may incur additional costs.

Document ID: 5990-0000

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#### Important Customer Web Links

- Agilent's Information about Agilent Technology services, please visit <http://www.agilent.com/service> for the following URL: <http://www.agilent.com/service/atomicabsorption>
- To access Agilent's website, visit <http://www.agilent.com> and click on the link about training options, which include online, classroom and on-site training.
- Agilent's website includes a link to the Agilent website, which includes information on maintenance, repair and replacement of the system, and the Agilent website. Check out the Resource Page here: <http://www.agilent.com/service/atomicabsorption>
- Need technical support? Call Agilent's support team at 1-800-891-4633 or visit <http://www.agilent.com/service/atomicabsorption>
- For more information about Agilent Technology services, please visit <http://www.agilent.com/service>

#### Service Engineer's Responsibilities

- Confirm the customer's statement that all necessary support is available before the preventive maintenance visit.
- Confirm the ability of the system to deliver consistent and reliable results as specified by the Agilent ADI and specifications for the system. Refer directly to the Agilent 55-240 SBD Preventive Maintenance Service of Work to make this decision.
- Inspect the system's performance and the system's support being received.
- Complete any tasks with the system's performance.
- Complete the system's maintenance in the system using either a "2" or "3" or "4" or "5" or "6" or "7" or "8" or "9" or "10" or "11" or "12" or "13" or "14" or "15" or "16" or "17" or "18" or "19" or "20" or "21" or "22" or "23" or "24" or "25" or "26" or "27" or "28" or "29" or "30" or "31" or "32" or "33" or "34" or "35" or "36" or "37" or "38" or "39" or "40" or "41" or "42" or "43" or "44" or "45" or "46" or "47" or "48" or "49" or "50" or "51" or "52" or "53" or "54" or "55" or "56" or "57" or "58" or "59" or "60" or "61" or "62" or "63" or "64" or "65" or "66" or "67" or "68" or "69" or "70" or "71" or "72" or "73" or "74" or "75" or "76" or "77" or "78" or "79" or "80" or "81" or "82" or "83" or "84" or "85" or "86" or "87" or "88" or "89" or "90" or "91" or "92" or "93" or "94" or "95" or "96" or "97" or "98" or "99" or "100" or "101" or "102" or "103" or "104" or "105" or "106" or "107" or "108" or "109" or "110" or "111" or "112" or "113" or "114" or "115" or "116" or "117" 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"1705" or "1706" or "1707" or "1708" or "17











Service Engineer Comments (optional)

Service Engineer Comments (optional)

#### Service Completion

Service Technician: Agilent Service Engineer: Agilent  
 Agilent Model: Agilent Service Model: Agilent  
 Technician's Signature: Agilent

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เอกสารไม่ควบคุม

#### Power Supply:

Averaging Period: 30.0  
 Data Point Count: 30

|              | Lower Limit (V) | Actual (V) | Upper Limit (V) | Result: |
|--------------|-----------------|------------|-----------------|---------|
| 12.80V Rail  | 10.00           | 11.17      | 15.00           | Passed  |
| -12.00V Rail | -10.00          | -11.58     | -10.00          | Passed  |
| 5.00V Rail   | 4.00            | 5.49       | 5.00            | Passed  |
| 310.00V Rail | 275.00          | 288.00     | 340.00          | Passed  |

เอกสารไม่ควบคุม

## SVD Results Report

Report ID: Agilent Test File 20170504 10:00:00 Report ID: Agilent Test File 20170504 10:00:00  
 Customer: Agilent Test File 20170504 10:00:00 Service Name: Agilent Test File 20170504 10:00:00  
 Address: Agilent Test File 20170504 10:00:00 Order Date: 2017-05-04

#### Instrument Configuration

##### Configuration:

Serial Number: 11111111 Tunnel Type: Automatic  
 Instrument Model: Model AA 11111111 Number Of Lamps: 1  
 Flame Instrument: True Mono Type: Automatic  
 Purge Instrument: True Gasflow Type: 1" Gas Flow  
 Zeeman Purge: True Auto Burner Adjustment: True  
 Internal Zeeman: True Meas Frequency: 50  
 Internal IthAA: True Firmware Version: 2.01  
 Optics Type: Scatter Beam Photomultiplier Type: Hamamatsu  
 O2 RG Correction Filter: True PWB Version: 40  
 Best Block Version:

#### EEPROM Data:

Instrument Run Hours: 1000.00 O2 Run Hours: 1000.00  
 Zero Wavelength Offset: 0.00 O2 Serial Number: 11111111  
 Wave Correction: 1.00 O2 Model Date: 2017/11/10  
 Flame Hours: 2000.00 O2 Original Intensity: 1.00  
 O2 Last Intensity: 4.00

#### Frequency:

Averaging Period: 30.0  
 Data Point Count: 30  
 Upper Limit: 50.00 Average Frequency: 50.00 Highest Measured Frequency: 50.00  
 Lower Limit: 50.00 Lowest Measured Frequency: 50.00

Result: **Passed**

Report Generated At: 2017/05/04 10:00:00

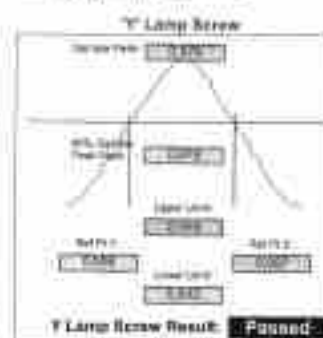
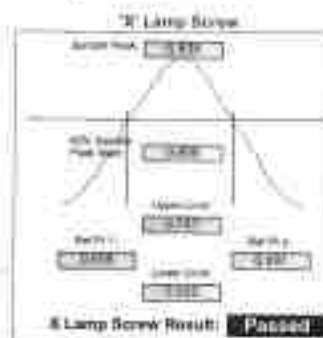
เอกสารไม่ควบคุม

#### Optics

##### Beam Balance:

Lamp Type: 11111111  
 Lamp Socket Used: 11111111

Peak Selected: 11111111  
 Lamp Alignment: 11111111



#### Grating Squareness:

Lamp Element(s): Coated Quartz Optics  
 Lamp Tunnel Position: 1  
 Lamp Current(mA): 10.00  
 slit Width(mm): 0.2  
 1st Order Wavelength(nm): 324.75  
 Lamp Alignment: 11111111

|              | Lower Limit (nm) | Actual (nm) | Upper Limit (nm) | Result |
|--------------|------------------|-------------|------------------|--------|
| Zero Order   | -0.00            | 0.00        | 0.00             | Passed |
| First Order  | 324.40           | 324.75      | 325.10           | Passed |
| Second Order | 648.80           | 649.50      | 650.10           | Passed |

เอกสารไม่ควบคุม



**Result:** Passed

|    | Lower Limit | Actual | Upper Limit | Result |
|----|-------------|--------|-------------|--------|
| Q1 | 114         | 261    | 220         | Passed |
| Q3 | 158         | 364    | 181         | Passed |
| Q2 | 171         | 296    | 220         | Passed |
| Q3 | 619         | 567    | 579         | Passed |
| Q4 | 625         | 517    | 585         | Passed |
| Q5 | 1418        | 1555   | 1759        | Passed |
| Q6 | 2436        | 2198   | 2681        | Passed |
| Q7 | 4047        | 4109   | 4019        | Passed |

|                              |                                     |                     |                                     |
|------------------------------|-------------------------------------|---------------------|-------------------------------------|
| Burner Fitted                | <input checked="" type="checkbox"/> | Flame Detect        | <input checked="" type="checkbox"/> |
| N2D Burner Fitted            | <input checked="" type="checkbox"/> | OCU Active          | <input checked="" type="checkbox"/> |
| Flame Shield Closed          | <input checked="" type="checkbox"/> | Oxidant Pressure    | <input checked="" type="checkbox"/> |
| Gas Control Fitted           | <input checked="" type="checkbox"/> | Oxidant Changerover | <input checked="" type="checkbox"/> |
| Pressure between Boog Fitted | <input checked="" type="checkbox"/> | Ignition            | <input checked="" type="checkbox"/> |
| Liquid Trap Fitted           | <input checked="" type="checkbox"/> |                     |                                     |

|          |          |
|----------|----------|
| Homework | Homework |
|----------|----------|

Not Performed

Signature \_\_\_\_\_

CONTRIBUTORS: JAMES H. HARRIS, JR., and JAMES H. HARRIS, JR.

**Keywords:**

|                 |  |
|-----------------|--|
| Analysis:       |  |
| Site Address:   | 1000 University Ave, Suite 1000, 1000 University Ave, Suite 1000 |
| Workgroup:      | City of Seattle, Department of Public Works                      |
| Client Name:    | City of Seattle  |
| Manager:        | City of Seattle  |
| Project Name:   | City of Seattle  |
| Project Number: | 1000 University Ave, Suite 1000                                  |

Downloaded At: 11:53 11 September 2009

| Year | 2000  | 2001  | 2002  | 2003  |
|------|-------|-------|-------|-------|
| 2000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2001 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2002 | 0.000 | 0.000 | 0.000 | 0.000 |
| 2003 | 0.000 | 0.000 | 0.000 | 0.000 |



|                          |  |                     |        |        |       |
|--------------------------|--|---------------------|--------|--------|-------|
| Requested by User report |  | 2015/03/23 11:05 AM |        | SpamAA |       |
|                          |  | Page 1 of 1         |        |        |       |
| Analyst                  |  |                     |        |        |       |
| Date Started             | 2015/03/23 11:05 AM (GMT+08:00) +08:00 |                     |        |        |       |
| Workday                  | Sat 03/23/2015 01:00                   |                     |        |        |       |
| Comment                  |  |                     |        |        |       |
| Message                  | N/A                                    |                     |        |        |       |
| Computer name            | N/A                                    |                     |        |        |       |
| Serial Number            | N/A                                    |                     |        |        |       |
| Malware Log (Items)      |  |                     |        |        |       |
|                          |  |                     |        |        |       |
| Source ID                | Score                                  | Log                 | Time   |        |       |
| (1) 2244444444444444     | 100%                                   | 0.0                 | 0.0000 |        |       |
| Summary                  |  |                     |        |        |       |
| 2.2.2.2                  | 0.000                                  | 0.000               | 0.000  | 0.000  | 0.000 |
| 0.0.0.0                  | 0.000                                  | 0.000               | 0.000  | 0.000  | 0.000 |

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|                          |  |                     |       |        |       |
|--------------------------|--|---------------------|-------|--------|-------|
| Requested by User report |  | 2015/03/23 12:41 PM |       | SpamAA |       |
|                          |  | Page 1 of 1         |       |        |       |
| <hr/>                    |  |                     |       |        |       |
| Analyst                  |  |                     |       |        |       |
| Date Started             | 2015/03/23 12:41 PM (GMT+08:00) +08:00 |                     |       |        |       |
| Workday                  | Fri                                    |                     |       |        |       |
| Comment                  |  |                     |       |        |       |
| Message                  | N/A                                    |                     |       |        |       |
| Computer name            | N/A                                    |                     |       |        |       |
| Serial Number            | N/A                                    |                     |       |        |       |
| Malware Log (Items)      |  |                     |       |        |       |
| <hr/>                    |  |                     |       |        |       |
| Source ID                | Score                                  | Log                 | Time  |        |       |
| log 77777                | 100%                                   | 0.0                 | 0.000 |        |       |
| Summary                  |  |                     |       |        |       |
| 0.0.0.0                  | 0.000                                  | 0.000               | 0.000 | 0.000  | 0.000 |

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| No.                             | Instrument/Equipment                           | Parameter   | Manufacturer         | Model/Serial No.   | Calibrator  | Certification No.                         | Date of Calibration | Due date of Calibration* | Remark |
|---------------------------------|--|---|----------------------|--|---|---|---------------------|--------------------------|--------|
| Laboratory Instrument/Equipment |  |   |                      |  |   |   |                     |                          |        |
| 20                              | COD Reactor (Heating Block)                    | Chemical Oxygen Demand  | Hanna                | H839902-02 / H0185001  | Hanna Instruments (Thailand) Ltd                        | HIT-2312-0342                             | 10 Mar 23           | 9 Mar 24                 | -      |
| 21                              | Digestor Unit                                  | Total Kjeldahl Nitrogen (TKN)   | FOSS                 | 2520auto / 91794469  | National Food Institute, Ministry of Industry, Thailand | 250X13-001-01                             | 30 Mar 23           | 28 Mar 24                | -      |
| 22                              | Potillation Unit (Friedland Method)            | Ammonia-Nitrogen  | FOSS                 | K78100 / 91889052  | FOSS South East Asia                                    | 6623                                      | 25 Jul 22           | 24 Jul 23                | -      |
| 23                              | Sax Chromatography (GC)                        | Organochlorine Pesticides, Total Kjeldahl Nitrogen (TKN)  | Agilent Technologies | System BDCN110211007 7890 / CUI11221007                          | Agilent Technologies (Thailand) Co.,Ltd.                | Certificate of System Qualification GC-QC | 23 Feb 23           | 22 Feb 24                | -      |
| 24                              | Gas Chromatography (GC)                        | PCBs, Perchlorophenol, Atrazine   | Agilent Technologies | System BDCN13113001 7890 / CNI11313001                           | Agilent Technologies (Thailand) Co.,Ltd.                | Certificate of System Qualification GC-QC | 19 Apr 23           | 17 Apr 24                | -      |
| 25                              | Sax Chromatography / Mass Spectrometry (GC-MS) | Benzene, Carbon Tetrachloride, 1,2-Dichloroethane, Styrene, 1,1-Dichloroethylene, Toluene, cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, Dichloromethane, Total Xylenes, Ethylbenzene, Tetrachloroethylene, Trichloroethylene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane | Agilent Technologies | System BD-52009M637 8890 (G3242A) / CN1850066 5977B / 152009M637 | Agilent Technologies (Thailand) Co.,Ltd.                | Preventive Maintenance Checklist          | 13 Jun 22           | 12 Jun 23                | -      |

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| No.  | Instrument/Equipment | Parameter | Manufacturer | Model/Serial No.   | Calibrator  | Certification No. | Date of Calibration | Due date of Calibration* | Remark |
|--|----------------------|-----------|--------------|--------------------|---|-------------------|---------------------|--------------------------|--------|
| Laboratory Instrument/Equipment  |                      |           |              |                    |   |                   |                     |                          |        |
| 26   | Turbidity Meter      | Turbidity | Qalton       | 1100R / 1120501017 | Technology Promotion Association (Thailand-Japan) | 22C-11384         | 5 Sep 22            | 4 Sep 23                 | -      |
| Due Date of Calibration* : Based on the annual calibration plan. At least 1 time per year. |                      |           |              |                    |   |                   |                     |                          |        |

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| No.                             | Instrument/Equipment                     | Parameter  | Manufacturer     | Model/Serial No.              | Calibrator  | Certification No. | Date of Calibration | Due date of Calibration* | Remark |
|---------------------------------|--|--|------------------|-------------------------------|---|-------------------|---------------------|--------------------------|--------|
| Laboratory Instrument/Equipment |  |  |                  |                               |   |                   |                     |                          |        |
| 1                               | pH Meter                                 | pH Temperature                                   | Mettler-Toledo   | Seven Easy S20 / 123025212    | National Food Institute, Ministry of Industry, Thailand | 2302181-001-01    | 24 Mar 23           | 22 Mar 24                | -      |
| 2                               | pH Meter                                 |  | Hanna Instrument | H4029-02 / C0031107           | National Food Institute, Ministry of Industry, Thailand | 2203135-001-01    | 8 Jun 22            | 7 Jun 23                 | -      |
| 3                               | Conductivity Meter                       | Electrical Conductivity                          | SI Analytics     | LabP55 / 16303356             | DGSH Technology (Limited)                               | C34230059         | 16 Mar 23           | 14 Mar 24                | -      |
| 4                               | Analytical Balance (Readability 0.01 mg) | Total Solids Total Dissolved Solids              | Mettler-Toledo   | XS2050DU / C009071872         | Technology Promotion Association (Thailand-Japan)       | 22M14210          | 26 Apr 22           | 25 Apr 23                | -      |
| 5                               | Hot Air Oven                             | Total Suspended Solids                           | Memmert          | UF55 / B216 1666              | Technology Promotion Association (Thailand-Japan)       | 227M1490          | 19 Oct 22           | 18 Oct 23                | -      |
| 6                               | BOD Incubator                            | Biological Oxygen Demand                         | Arco             | UC4-1320 / (UAE)M40.015(2561) | Technology Promotion Association (Thailand-Japan)       | 237M249           | 15 Feb 23           | 14 Feb 24                | -      |
| 7                               | BOD Incubator                            |  | Arco             | UR-1320 / (UAE)M40.018(2551)  | Technology Promotion Association (Thailand-Japan)       | 237M375           | 12 Apr 23           | 10 Apr 24                | -      |
| 8                               | Analytical Balance (Readability 0.1 mg)  | Fat Oil And Grease                               | Mettler-Toledo   | AB-2045/FACT / 1129361010     | National Food Institute, Ministry of Industry, Thailand | 2203120-001-01    | 1 Jun 22            | 31 May 23                | -      |
| 9                               | Incubator                                | Total Coliform Bacteria Faecal Coliform Bacteria | Memmert          | PP 260 / V615.01.87           | Technology Promotion Association (Thailand-Japan)       | 237M3378          | 12 Apr 23           | 10 Apr 24                | -      |
| 10                              | Incubator                                |  | Memmert          | PP 260 / V618.0033            | Technology Promotion Association (Thailand-Japan)       | 227M1503          | 3 May 22            | 2 May 23                 | -      |

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| No.                             | Instrument/Equipment                      | Parameter  | Manufacturer         | Model/Serial No.                     | Calibrator  | Certification No.                | Date of Calibration | Due date of Calibration* | Remark |
|---------------------------------|---|--|----------------------|--------------------------------------|---|----------------------------------|---------------------|--------------------------|--------|
| Laboratory Instrument/Equipment |   |  |                      |                                      |   |                                  |                     |                          |        |
| 11                              | Water Bath                                |  | Memmert              | WNE 14 / L416.0606                   | Technology Promotion Association (Thailand-Japan)                   | 237M193                          | 15 Feb 23           | 14 Feb 24                | -      |
| 12                              | Water Bath                                | Total Coliform Bacteria Faecal Coliform Bacteria   | Memmert              | WNE 14 / L416.0612                   | Technology Promotion Association (Thailand-Japan)                   | 237M194                          | 15 Feb 23           | 14 Feb 24                | -      |
| 13                              | Analytical Balance                        |  | OHAUS                | P9623 / C286754745                   | DGSH (Thailand) Ltd.  | C01223732                        | 9 Dec 22            | 8 Dec 23                 | -      |
| 14                              | Auto Clave                                |  | ALP                  | CL-40L / 810010                      | SPC Calibration Center  | CL1220112                        | 17 Jun 22           | 16 Jun 23                | -      |
| 15                              | Atomic Absorption Spectrophotometer (AAS) | Iron, Titanium, Manganese, Chromium, Copper, Barium, Lead, Mercury, Nickel, Selenium, Chromium Trivalent, Chromium Hexavalent, Zinc Titanium, Chromium | Agilent Technologies | System Bds9432A A4200FS / MY13160001 | Thailand Institute of Scientific and Technological Research (TISTR) | MTCACI.No. 387/66                | 2 Feb 23            | 1 Feb 24                 | -      |
| 16                              | Inductively Coupled Plasma (ICP)          |  | Agilent Technologies | System Bds8015A G8015A4 / MY18030001 | Agilent Technologies (Thailand) Co.,Ltd.                            | Preventive Maintenance Checklist | 30 Nov 22           | 29 Nov 23                | -      |
| 17                              | UV-VIS Spectrophotometer                  | Phosphate, Ammonia-Nitrogen  | Agilent Technologies | Cary60 G6600A / MY15410009           | DOE Services Co.,Ltd.   | SP22-016                         | 31 May 22           | 30 May 23                | -      |
| 18                              | UV-VIS Spectrophotometer                  | Sulphate, Cyanide Nitrate Nitrogen, Phenols, Colour, Chromium Hexavalent, Total Nitrogen   | Hach                 | U-1900 / 2021-064                    | DOE Services Co.,Ltd.   | SP23-007                         | 6 Jun 23            | 5 Jun 24                 | -      |
| 19                              | UV-VIS Spectrophotometer                  | Chemical Oxygen Demand Formaldehyde, Cyanide As HCN  | Hach                 | U-2900 / 21E22-009                   | DOE Services Co.,Ltd.   | SP23-008                         | 6 Jun 23            | 5 Jun 24                 | -      |















## Calibration Report

|  |  |
|--|--|
| <p> <input type="checkbox"/> <b>Public</b><br/> <input type="checkbox"/> <b>Private</b> </p> | <p> <input type="checkbox"/> <b>Public</b><br/> <input type="checkbox"/> <b>Private</b> </p> |
|--|--|

|                   |  |
|-------------------|--|
| Location          | Germany (University of Duisburg-Essen) |
| Enrollment (2016) | Actual (Planned) = 115 (112)           |
| Experiment(s)     | 1 (Pre- and 1 Post)                    |

Departments of the University of Guelph:

- Collection:** *Open* *10.2554/ol.2012.00001*  
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| Information                 | Source | Source No. | Classification No. | Accession   | Page(s) |
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| Inventory of the collection | 1997   | 101-102    | 101-102-103        | 101-102-103 | 101-102 |

[illegible]

- g. The problems are limited only to the classroom as situations.
- h. The student is encouraged to have the ability to draw a simple illustration of situations.
- i. Location of classroom: \_\_\_\_\_ Date: \_\_\_\_\_
- j. Age of students: \_\_\_\_\_ When completed: \_\_\_\_\_

DOI: 10.1002/for

## Calibration Report

[illegible]

|                   |                   |
|-------------------|-------------------|
| Expensive (cost)  | Very difficult to |
| Valuable (reward) |                   |

<sup>44</sup> *Journal of the American Medical Association*, 282 (2002), 1933–1934.

[illegible]

| Year | Value |
|------|-------|
| 1990 | 1.0   |
| 1991 | 1.0   |
| 1992 | 1.0   |
| 1993 | 1.0   |
| 1994 | 1.0   |
| 1995 | 1.0   |
| 1996 | 1.0   |
| 1997 | 1.0   |
| 1998 | 1.0   |
| 1999 | 1.0   |
| 2000 | 1.0   |
| 2001 | 1.0   |
| 2002 | 1.0   |
| 2003 | 1.0   |
| 2004 | 1.0   |
| 2005 | 1.0   |
| 2006 | 1.0   |
| 2007 | 1.0   |
| 2008 | 1.0   |
| 2009 | 1.0   |
| 2010 | 1.0   |
| 2011 | 1.0   |
| 2012 | 1.0   |
| 2013 | 1.0   |
| 2014 | 1.0   |
| 2015 | 1.0   |
| 2016 | 1.0   |
| 2017 | 1.0   |
| 2018 | 1.0   |
| 2019 | 1.0   |
| 2020 | 1.0   |
| 2021 | 1.0   |
| 2022 | 1.0   |
| 2023 | 1.0   |
| 2024 | 1.0   |
| 2025 | 1.0   |
| 2026 | 1.0   |
| 2027 | 1.0   |
| 2028 | 1.0   |
| 2029 | 1.0   |
| 2030 | 1.0   |
| 2031 | 1.0   |
| 2032 | 1.0   |
| 2033 | 1.0   |
| 2034 | 1.0   |
| 2035 | 1.0   |
| 2036 | 1.0   |
| 2037 | 1.0   |
| 2038 | 1.0   |
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| 2068 | 1.0   |
| 2069 | 1.0   |
| 2070 | 1.0   |
| 2071 | 1.0   |
| 2072 | 1.0   |
| 2073 | 1.0   |
| 2074 | 1.0   |
| 2075 | 1.0   |
| 2076 | 1.0   |
| 2077 | 1.0   |
| 2078 | 1.0   |
| 2079 | 1.0   |
| 2080 | 1.0   |
| 2081 | 1.0   |
| 2082 | 1.0   |
| 2083 | 1.0   |
| 2084 | 1.0   |
| 2085 | 1.0   |
| 2086 | 1.0   |
| 2087 | 1.0   |
| 2088 | 1.0   |
| 2089 | 1.0   |
| 2090 | 1.0   |
| 2091 | 1.0   |
| 2092 | 1.0   |
| 2093 | 1.0   |
| 2094 | 1.0   |
| 2095 | 1.0   |
| 2096 | 1.0   |
| 2097 | 1.0   |
| 2098 | 1.0   |
| 2099 | 1.0   |
| 2100 | 1.0   |

| Run Number | Storage Temperature (°C) | Exposure Time (h) | Exposure Time (h) |
|------------|--------------------------|-------------------|-------------------|
| 101        | -100                     | 0.1               | 0.1               |
| 102        | -100                     | 0.1               | 0.1               |
| 103        | -100                     | 0.1               | 0.1               |

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<sup>1</sup> The authors received no financial support for this research.

[illegible]

## Certificate of Calibration

|                       |                    |                |                |
|-----------------------|--------------------|----------------|----------------|
| Equipment:            | COLLECTIVITY METER | Contract No.:  | CD430000       |
| Model:                | LM-902             | Contract Date: | 08 March 2009  |
| Serial No. (if 01):   | 00000000           | Job No.:       | 00000000000000 |
| Manufacturer:         | SI Analytics       | Pages:         | 1 of 2         |
| Electronic Serial No. | 7677067            | Model:         | LM-902         |
| Contract:             | in Condition       | Brand:         | SI Analytics   |

**Customer:** United Asset/et and Engineering Consultants Company Limited  
 23/1 Udonruek 47 Sathumani Road,  
 Bangkok, Pongkarn, Bangkok 10001 Thailand

|                       |             |    |     |    |    |     |
|-----------------------|-------------|----|-----|----|----|-----|
| Environment Condition | Temperature | 25 | 30  | 40 | 50 | 60  |
|                       | Humidity    | 30 | 50% | 60 | 70 | 80% |

**Collection Place:** Environment Laboratory, DKKH Technology (Public)  
2222 Sukhumvit Road, Bangkok,  
Phraekhanong, Bangkok 10250 Thailand

|                   |   |
|-------------------|---|
| Calibration By:   | Mt Active Instrument  |
| Calibration Date: | 19 March 2025   |
| The Method used:  | 6 figure method, CAL/WY46, Issue in ASTM D 1125-14 and D 3218-14  |
| Traceability:     | This certificate is traceable to the SI units maintained by CIPM of NIST/NMI through<br>DIN 1130, Co. Ltd. 201/001, 17304, Certificate No. 000712, 000713, 000719 |

(8) Ajaylal Vigneshwar  
Rangan H. Vasudeva

Author's address:

เอกสารไม่ควบคุม



Certificate No. 120280286 Page 2 of 2

### Calculation Results

### Statistical Adjustment

| Standard<br>Conductivity Solution | Unit Under Calibration |            | Correction       | Temperature Factor<br>( $\pm$ ) | Uncertainty ( $\pm$ ) |
|-----------------------------------|------------------------|------------|------------------|---------------------------------|-----------------------|
|                                   | Resistor               |            |                  |                                 |                       |
| 10,000 $\mu$ S/cm                 | 99.0                   | $\mu$ S/cm | 0.200 $\mu$ S/cm | 0.02                            | 0.21 $\mu$ S/cm       |
| 145.0 $\mu$ S/cm                  | 140.0                  | $\mu$ S/cm | 10.0 $\mu$ S/cm  | 0.05                            | 8.5 $\mu$ S/cm        |
| 111.3 $\mu$ S/cm                  | 108.5                  | $\mu$ S/cm | 2.80 $\mu$ S/cm  | 0.02                            | 2.87 $\mu$ S/cm       |

## After Adjustment: 1 of 1112 Liters

| Standard<br>Conductivity Solution | Unit Weight Collection<br>Reading | Correction       | Coverage Factor<br>( $k$ ) | Uncertainty ( $\pm$ ) |
|-----------------------------------|-----------------------------------|------------------|----------------------------|-----------------------|
| 0.000 $\mu$ S/cm                  | 34.3 $\mu$ g/cm                   | 0.206 $\mu$ g/cm | 1.00                       | 0.21 $\mu$ g/cm       |
| 543.6 $\mu$ S/cm                  | 1415 $\mu$ g/cm                   | 0.0 $\mu$ g/cm   | 1.00                       | 0.0 $\mu$ g/cm        |
| 111.3 $\mu$ S/cm                  | 308.8 $\mu$ g/cm                  | 0.01 $\mu$ g/cm  | 1.00                       | 0.01 $\mu$ g/cm       |

## The End of Empire

[illegible]



ใบตรวจเช็คสภาพเครื่องวัดสิ่งแวดล้อม



| ชนิดของเครื่อง: CONDUCTIVITY METER  |                                     | วันที่ใช้: 18 Mar 2022                         | หมายเลขเครื่อง: 15822338            |          |
|-------------------------------------|-------------------------------------|--|-------------------------------------|----------|
| SI (SI) (SI)                        |                                     | SI (SI) (SI)                                   |                                     | หมายเหตุ |
| SI (SI) (SI)                        |                                     | SI (SI) (SI)                                   |                                     |          |
| SI (SI) (SI)                        | SI (SI) (SI)                        | SI (SI) (SI)                                   | SI (SI) (SI)                        |          |
| General                             |                                     |  |                                     |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 1. ตรวจสอบสายวัด                               | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 2. ตรวจสอบสายวัด (สายวัดไฟฟ้า, สายวัดอุณหภูมิ) | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 3. สายวัด 5m - 10m (5m/10m Cable)              | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 4. สายวัด (Cable)                              | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 5. สายวัด (Display, Screen Control)            | <input checked="" type="checkbox"/> |          |
| Specifications                      |                                     |  |                                     |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 6. ความแม่นยำ (Accuracy) $\pm 0.1\%$           | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 7. ช่วงการวัด (Measuring Range)                | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 8. ความละเอียด (Resolution) $0.01$             | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 9. ความละเอียด (Resolution) $0.01$             | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 10. ความละเอียด (Resolution) $0.01$            | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 11. ความละเอียด (Resolution) $0.01$            | <input checked="" type="checkbox"/> |          |
| Performance                         |                                     |  |                                     |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 12. ความแม่นยำ (Accuracy) $\pm 0.1\%$          | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 13. ความละเอียด (Resolution) $0.01$            | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 14. ความละเอียด (Resolution) $0.01$            | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 15. ความละเอียด (Resolution) $0.01$            | <input checked="" type="checkbox"/> |          |
| Function                            |                                     |  |                                     |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 16. ความแม่นยำ (Accuracy) $\pm 0.1\%$          | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 17. ความละเอียด (Resolution) $0.01$            | <input checked="" type="checkbox"/> |          |
| Automatic                           |                                     |  |                                     |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 18. ความแม่นยำ (Accuracy) $\pm 0.1\%$          | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 19. ความละเอียด (Resolution) $0.01$            | <input checked="" type="checkbox"/> |          |
| <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | 20. ความละเอียด (Resolution) $0.01$            | <input checked="" type="checkbox"/> |          |

หมายเหตุ: Conductivity (EC) at 25 °C, Temperature Compensation: 0.01 °C/°C

At Actual Humidity

Service Engineer

เอกสารไม่ควบคุม



THAI AIRWAYS INTERNATIONAL CO., LTD. (THAI AIRWAYS) IS A MEMBER OF THE THAI AIRWAYS GROUP. THE THAI AIRWAYS GROUP IS A MEMBER OF THE THAI AIRWAYS GROUP. THE THAI AIRWAYS GROUP IS A MEMBER OF THE THAI AIRWAYS GROUP.



Cert No.: 22040715  
Page: 1 of 3

Certificate of Calibration

|                       |   |
|-----------------------|---|
| Equipment:            | Conductivity Meter  |
| Manufacturer:         | Wester Instruments  |
| Model:                | 400000  |
| Serial No.:           | 0000000000  |
| SI No.:               | 0000000000  |
| Submitted by:         | United Analytical & Instrumentation Co., Ltd.<br>220 Chomchong 41, Sukhumvit Road,<br>Bangkok, Thailand<br>Bangkok, 10260 |
| Location:             | Bangkok, Thailand   |
| Received order:       | 24 April 2022   |
| Calibration Date:     | 24 April 2022   |
| Adjusted Temperature: | 15 °C to 25 °C  |
| Relative Humidity:    | 30 % to 90 %  |
| Calibrated by:        | Supat Pongpant  |
| Approved by:          |   |
| 1. Pongpant Pongpant  |   |
| 2. Pongpant Pongpant  |   |
| 3. Pongpant Pongpant  |   |
| Issue Date:           | 24 April 2022   |

The Calibration is for a maximum probability of approximately 95%

Approximate values for the calibration are given in the table below.

เอกสารไม่ควบคุม



Equipment: Conductivity Meter  
Condition: As Received  
Reference: 0000000000

Cert No.: 22040715  
Page: 2 of 3

Calibration was performed using a standard calibration procedure (CP-000) according to the manufacturer's instructions.

Condition of the instrument at calibration

1. Reference standard information:

| Reference    | Model | Serial No. | SI No. | Test Report No. | Use date      |
|--------------|-------|------------|--------|-----------------|---------------|
| 1. Reference | 00000 | 00000      | 00000  | 0000000000      | 24 April 2022 |

2. This certificate is valid only for the instrument model and type of calibration.

3. This certificate is not valid for any other instrument model or type of calibration.

4. This certificate is not valid for any other instrument model or type of calibration.

5. This certificate is not valid for any other instrument model or type of calibration.

Result of calibration: 1. Without Adjustment 2. After Adjustment (Internal Calibration)

| Range/accuracy | 1. Without Adjustment | 2. After Adjustment | Resolution | Repeatability |
|----------------|-----------------------|---------------------|------------|---------------|
| 0.01 to 0.1    | 0.01                  | 0.01                | 0.01       | 0.01          |

Before Adjustment:

| Applied Weight | Balance Reading | Calculated | Measured | Correction |
|----------------|-----------------|------------|----------|------------|
| 10             | 10.0000         | 10.0000    | 10.0000  | 0.0000     |

| Applied Weight | Balance Reading | Calculated | Measured | Correction |
|----------------|-----------------|------------|----------|------------|
| 20             | 20.0000         | 20.0000    | 20.0000  | 0.0000     |

| Applied Weight | Balance Reading | Calculated | Measured | Correction |
|----------------|-----------------|------------|----------|------------|
| 30             | 30.0000         | 30.0000    | 30.0000  | 0.0000     |

| Applied Weight | Balance Reading | Calculated | Measured | Correction |
|----------------|-----------------|------------|----------|------------|
| 40             | 40.0000         | 40.0000    | 40.0000  | 0.0000     |

| Applied Weight | Balance Reading | Calculated | Measured | Correction |
|----------------|-----------------|------------|----------|------------|
| 50             | 50.0000         | 50.0000    | 50.0000  | 0.0000     |

| Applied Weight | Balance Reading | Calculated | Measured | Correction |
|----------------|-----------------|------------|----------|------------|
| 60             | 60.0000         | 60.0000    | 60.0000  | 0.0000     |

| Applied Weight | Balance Reading | Calculated | Measured | Correction |
|----------------|-----------------|------------|----------|------------|
| 70             | 70.0000         | 70.0000    | 70.0000  | 0.0000     |

| Applied Weight | Balance Reading | Calculated | Measured | Correction |
|----------------|-----------------|------------|----------|------------|
| 80             | 80.0000         | 80.0000    | 80.0000  | 0.0000     |

| Applied Weight | Balance Reading | Calculated | Measured | Correction |
|----------------|-----------------|------------|----------|------------|
| 90             | 90.0000         | 90.0000    | 90.0000  | 0.0000     |

| Applied Weight | Balance Reading | Calculated | Measured | Correction |
|----------------|-----------------|------------|----------|------------|
| 100            | 100.0000        | 100.0000   | 100.0000 | 0.0000     |



Equipment: Conductivity Meter  
Condition: As Received  
Reference: 0000000000

Cert No.: 22040715  
Page: 3 of 3

Result of application

1. Effect of off-center loading

A series of 100g weights were placed on the pan of the scale at various positions as shown in the table below.

The weighing results are given in the table below.

| Position 1 | Position 2 | Position 3 | Position 4 | Position 5 | Maximum difference between off-center and central loading |
|------------|------------|------------|------------|------------|---|
| (1)        | (2)        | (3)        | (4)        | (5)        | (6)   |

|      |          |          |          |          |        |
|------|----------|----------|----------|----------|--------|
| 100g | 100.0000 | 100.0000 | 100.0000 | 100.0000 | 0.0000 |
|------|----------|----------|----------|----------|--------|

|      |          |          |          |          |        |
|------|----------|----------|----------|----------|--------|
| 200g | 200.0000 | 200.0000 | 200.0000 | 200.0000 | 0.0000 |
|------|----------|----------|----------|----------|--------|

|      |          |          |          |          |        |
|------|----------|----------|----------|----------|--------|
| 300g | 300.0000 | 300.0000 | 300.0000 | 300.0000 | 0.0000 |
|------|----------|----------|----------|----------|--------|

|      |          |          |          |          |        |
|------|----------|----------|----------|----------|--------|
| 400g | 400.0000 | 400.0000 | 400.0000 | 400.0000 | 0.0000 |
|------|----------|----------|----------|----------|--------|

|      |          |          |          |          |        |
|------|----------|----------|----------|----------|--------|
| 500g | 500.0000 | 500.0000 | 500.0000 | 500.0000 | 0.0000 |
|------|----------|----------|----------|----------|--------|

|      |          |          |          |          |        |
|------|----------|----------|----------|----------|--------|
| 600g | 600.0000 | 600.0000 | 600.0000 | 600.0000 | 0.0000 |
|------|----------|----------|----------|----------|--------|

|      |          |          |          |          |        |
|------|----------|----------|----------|----------|--------|
| 700g | 700.0000 | 700.0000 | 700.0000 | 700.0000 | 0.0000 |
|------|----------|----------|----------|----------|--------|

|      |          |          |          |          |        |
|------|----------|----------|----------|----------|--------|
| 800g | 800.0000 | 800.0000 | 800.0000 | 800.0000 | 0.0000 |
|------|----------|----------|----------|----------|--------|

|      |          |          |          |          |        |
|------|----------|----------|----------|----------|--------|
| 900g | 900.0000 | 900.0000 | 900.0000 | 900.0000 | 0.0000 |
|------|----------|----------|----------|----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 1000g | 1000.0000 | 1000.0000 | 1000.0000 | 1000.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 1100g | 1100.0000 | 1100.0000 | 1100.0000 | 1100.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 1200g | 1200.0000 | 1200.0000 | 1200.0000 | 1200.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 1300g | 1300.0000 | 1300.0000 | 1300.0000 | 1300.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 1400g | 1400.0000 | 1400.0000 | 1400.0000 | 1400.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 1500g | 1500.0000 | 1500.0000 | 1500.0000 | 1500.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 1600g | 1600.0000 | 1600.0000 | 1600.0000 | 1600.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 1700g | 1700.0000 | 1700.0000 | 1700.0000 | 1700.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 1800g | 1800.0000 | 1800.0000 | 1800.0000 | 1800.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 1900g | 1900.0000 | 1900.0000 | 1900.0000 | 1900.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 2000g | 2000.0000 | 2000.0000 | 2000.0000 | 2000.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 2100g | 2100.0000 | 2100.0000 | 2100.0000 | 2100.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 2200g | 2200.0000 | 2200.0000 | 2200.0000 | 2200.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 2300g | 2300.0000 | 2300.0000 | 2300.0000 | 2300.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 2400g | 2400.0000 | 2400.0000 | 2400.0000 | 2400.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 2500g | 2500.0000 | 2500.0000 | 2500.0000 | 2500.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 2600g | 2600.0000 | 2600.0000 | 2600.0000 | 2600.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 2700g | 2700.0000 | 2700.0000 | 2700.0000 | 2700.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 2800g | 2800.0000 | 2800.0000 | 2800.0000 | 2800.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 2900g | 2900.0000 | 2900.0000 | 2900.0000 | 2900.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 3000g | 3000.0000 | 3000.0000 | 3000.0000 | 3000.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 3100g | 3100.0000 | 3100.0000 | 3100.0000 | 3100.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 3200g | 3200.0000 | 3200.0000 | 3200.0000 | 3200.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 3300g | 3300.0000 | 3300.0000 | 3300.0000 | 3300.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 3400g | 3400.0000 | 3400.0000 | 3400.0000 | 3400.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

|       |           |           |           |           |        |
|-------|-----------|-----------|-----------|-----------|--------|
| 3500g | 3500.0000 | 3500.0000 | 3500.0000 | 3500.0000 | 0.0000 |
|-------|-----------|-----------|-----------|-----------|--------|

เอกสารไม่ควบคุม

เอกสารไม่ควบคุม









Equipment : BOD Incubator  
Condition As Received : Used Item  
Reference : 256-020000-0  
Procedure Used : -

Cell No. : 2779313  
Page : 2 of 2

Calibration was conducted using standard procedure (2P-0112) according to direct measurement method with Data Acquisition system connected with Reference Temperature Detector (RTD).

The reference date used was based on RTD.

#### Condition of the result of calibration

1. Maximum standard uncertainty :

Instrument : 1.) Data Acquisition Model : 84701A Serial No. : 84701A Unit No. : 84701A Use Date : 22 Apr 2020

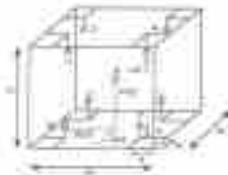
2. The certificate is valid only to the item calibrated on date and place of calibration.

3. This certificate is transferable to the International System of Unit.

Result of Calibration : 1.) Without Adjustment

Number of MUC : Temperature Detector

Break air setting : Not Available



#### Probe Installation Details

|           |           |
|-----------|-----------|
| L x W x H | 3 x 3 x 3 |
| L x W x H | 3 x 3 x 3 |
| L x W x H | 3 x 3 x 3 |
| Capacity  | 0.05 ml   |

| Environment during calibration |     |
|--------------------------------|-----|
| Beginning                      | End |
| Temp. (°C)                     | 20  |
| REL Humidity (%)               | 27  |
| AC Supply (VAC)                | 220 |

| Position | Ref. Std. ID No. |
|----------|------------------|
| 1        | 84701A-01        |
| 2        | 84701A-02        |
| 3        | 84701A-03        |
| 4        | 84701A-04        |
| 5        | 84701A-05        |
| 6        | 84701A-06        |
| 7        | 84701A-07        |
| 8        | 84701A-08        |
| 9 (avg)  | 84701A-09        |

เอกสารไม่ควบคุม



Equipment : BOD Incubator  
Condition As Received : Used Item  
Reference : 256-020000-0  
Procedure Used : 1.) Without Adjustment  
Purpose of MUC : Temperature Detector  
Break air setting : Not Available

Cell No. : 2779313  
Page : 2 of 2

| Calibration Area | Start Setting | End Setting | Temperature stability (°C) | Temperature conformity (°C) | Uncert. Variation (°C) | Accuracy | Capacity Factor |
|------------------|---------------|-------------|----------------------------|-----------------------------|------------------------|----------|-----------------|
| 100              | 20.0          | 20.0        | 0.02                       | 0.02                        | 0.02                   | 0.02     | 0               |

| Environment during calibration |     |
|--------------------------------|-----|
| Beginning                      | End |
| Temp. (°C)                     | 20  |
| REL Humidity (%)               | 27  |
| AC Supply (VAC)                | 220 |

Average : The average of 20 values is used for the probe.

Temperature stability : One half of the greatest maximum difference of measured temperatures at any one probe. Temperature conformity : The maximum difference of measured temperatures at any probe and the measured temperature of the reference detector which are contained within same time or in the same environment and as possible to determine the temperature pattern in the probe, within the maximum under steady-state condition. Quantification : The difference of the maximum and minimum measured temperatures through probe detector MUC. Uncert. Variation : -

Note : The measured uncertainty of measurement has included stability and accuracy conformity.

The measured quantity of measurement was based on a standard uncertainty multiplied by a coverage factor k, resulting in a level of confidence of approximately 95 %.

-0-

เอกสารไม่ควบคุม

1110212



TECHNICAL REQUIREMENTS AND CERTIFICATION, NIST (F49)  
CONFORMITY TO THE REQUIREMENTS OF THE INTERNATIONAL STANDARD  
FOR THE CALIBRATION OF TEMPERATURE DETECTORS, ISO/IEC 17025:2005



Cell No. : 2779313  
Page : 1 of 2

## Certificate of Calibration

Equipment : BOD Incubator  
Manufacturer : AGCO  
Model : JBL-120  
Serial No. : -  
ID No. : JAC-2020-000001  
Submitted by : Janta Asset and Engineering Consultant Co., Ltd.  
3 Set (Address) 41, Sukhumvit Road,  
Bangkok, Thailand  
Region : 0200  
Location : Lab-FRM-2  
Received Date : 17 April 2020  
Calibration Date : 20 April 2020  
Ambient Temperature : (20 ± 1) °C  
Relative Humidity : (50 ± 10) %  
Calibrated by : Pichai Nant  
Approved by : Pichai Nant  
C.1. Performed : Temperature  
C.2. Meas. Subtype : -  
C.3. Good Input : -  
Issue Date : 24 April 2020

The Calibration and Test certificate is valid for a period of approximately 12 months.

The calibration and test certificate is valid for a period of approximately 12 months.

The calibration and test certificate is valid for a period of approximately 12 months.

เอกสารไม่ควบคุม

1110212



Equipment : BOD Incubator  
Condition As Received : Used Item  
Reference : 256-020000-0  
Procedure Used : -

Cell No. : 2779313  
Page : 1 of 2

Calibration was conducted using standard procedure (2P-0112) according to direct measurement method with Data Acquisition system connected with Reference Temperature Detector (RTD).

The reference date used was based on RTD.

#### Condition of the result of calibration

1. Maximum standard uncertainty :

Instrument : 1.) Data Acquisition Model : 84701A Serial No. : 84701A Unit No. : 84701A Use Date : 20 Apr 2020

2. The certificate is valid only to the item calibrated on date and place of calibration.

3. This certificate is transferable to the International System of Unit.

Result of Calibration : 1.) Without Adjustment

Number of MUC : Temperature Detector

Break air setting : Not Available



#### Probe Installation Details

|           |           |
|-----------|-----------|
| L x W x H | 3 x 3 x 3 |
| L x W x H | 3 x 3 x 3 |
| L x W x H | 3 x 3 x 3 |
| Capacity  | 0.05 ml   |

| Environment during calibration |     |
|--------------------------------|-----|
| Beginning                      | End |
| Temp. (°C)                     | 20  |
| REL Humidity (%)               | 27  |
| AC Supply (VAC)                | 220 |

| Position | Ref. Std. ID No. |
|----------|------------------|
| 1        | 84701A-01        |
| 2        | 84701A-02        |
| 3        | 84701A-03        |
| 4        | 84701A-04        |
| 5        | 84701A-05        |
| 6        | 84701A-06        |
| 7        | 84701A-07        |
| 8        | 84701A-08        |
| 9 (avg)  | 84701A-09        |

เอกสารไม่ควบคุม

1110212















## เอกสารไม่ควบคุม

## เอกสารไม่ควบคุม

## เอกสารไม่ควบคุม

## เอกสารไม่ควบคุม









|                   |             |              |            |
|-------------------|-------------|--------------|------------|
| Equipment         | Automatic   | Contract No. | 21-000010  |
| Model             | CL-40       | Saved Date   | 10/24/2022 |
| Serial No. (if 2) | 810010      | Job No.      | ADP0000102 |
| Manufacturer      | ACP         | Page         | 1 of 4     |
| Condition         | A-Condition |              |            |

|                       |             |          |   |          |
|-----------------------|-------------|----------|---|----------|
| Environment Condition | Temperature | 25 °C    | ± | 0.4 °C   |
|                       | Humidity    | 40% RH   | ± | 4.0 %RH  |
|                       | Vibration   | 227 mm/s | ± | 2.3 mm/s |

|                  |  |
|------------------|--|
| Collection By:   | Mr. Anshu Aggarwal   |
| Collection Date: | 17 June 2022   |
| The Method Used: | 4-Store Method, 4FC(0.1), Scale on 100, 2000, Part 5   |
| Transcriber:     | This resource is available in the Eprints maintained by National Institute of Technology (NIT), Thiruvananthapuram Quality Education Co., Ltd.<br>Copyright © 2022, 2020 |

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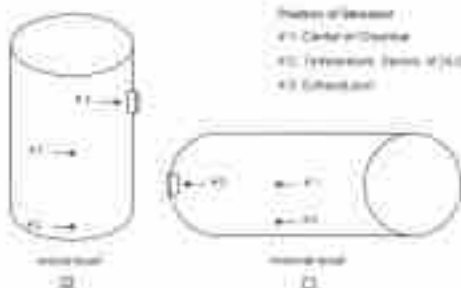
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## เอกสารไม่ควบคุม

## เอกสารไม่ควบคุม

Certificate No. CH200814 Page 2 of 4



## Standard Inventions: Lucidation

|                           |  |
|---------------------------|--|
| Bayes (I) analysis (PI)   | Summary results of the simulation                                    |
| Bayes (II) analysis (PI)  | Estimating from independent parameter $\theta^*(\mathbf{X})$ (see 2) |
| Bayes (III) analysis (PI) | Estimating from Bayes (I) and (II)                                   |

| Factor of 100 | (a) | (b) | (c) |
|---------------|-----|-----|-----|
| Change of 100 | 1   | 2   | 3   |

**Eastfield** [www.eastfield.com](http://www.eastfield.com)

**Industry Temperature:** The average (result of averaging) three values from the voltage part of the waveform.

**Abstract:** The evolution of protein-membrane interfaces of transmembrane  $\alpha$ -helices is an open issue.

**Abstract:** The evolution of protein-membrane interfaces of transmembrane  $\alpha$ -helices is an open issue.

**Abstract:** The evolution of protein-membrane interfaces of transmembrane  $\alpha$ -helices is an open issue.

Page 3 of 4

**Collection:** Herbaria  
without accession

Weissenhof Temperature at Room Location, February 19, 1964 (Degrees: F/10.0 °C)

| Location | Mean soil Temperature (°C) | Concentration of Sulfate (mg/L) | Salinity (dS/m) |
|----------|----------------------------|---------------------------------|-----------------|
| 01       | 110.79                     | 0.76                            | 0.01            |
| 02       | 116.21                     | 0.01                            | 0.06            |
| 03       | 116.22                     | 0.01                            | 0.06            |

**Copyright Clearance Center**

| Temperature |         |               | Pressure | Measured Temperature of Special Location |        |        | Uncertainty |
|-------------|---------|---------------|----------|--|--------|--------|-------------|
| Dewpoint    | Wetbulb | Psychrometric | Wetbulb  | #1                                       | #2     | #3     |             |
| 73          | 73      | 73            | MMHg     | 73                                       | 73     | 73     | ± 0.2°      |
| 119         | 111     | 108.2         | 0.08     | 106.19                                   | 116.23 | 118.33 | 0.36        |

Chapter 1 Introduction

| Accounting Temperature<br>(°C) | Accounting Pressure<br>(MPa) | Measured Density<br>(g/cc) |
|--------------------------------|------------------------------|----------------------------|
| 110.0                          | 0.10                         | 1.52                       |

Note: \* Molecular weight of the each protein

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... 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678,

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| Location | Mean wet<br>temperature<br>(°C) | Diameter at<br>base<br>(mm) | Chromatophore<br>density<br>(mm <sup>-2</sup> ) |
|----------|---------------------------------|-----------------------------|---|
| W        | 22.27                           | 0.22                        | 0.44  |
| B2       | 22.35                           | 0.26                        | 0.56  |
| B3       | 22.54                           | 0.24                        | 0.54  |

### Secondary Distribution

| Temperature |      |          | Pressure | Measured Temperature of Spinal Location |        |        | Uncertainty |
|-------------|------|----------|----------|---|--------|--------|-------------|
| Insert      | Soft | Industry | Industry | #1                                      | #C     | #D     |             |
| °C          | °C   | °C       | MPa      | °C                                      | °C     | °C     |             |
| 122         | 122  | 122.0    | 0.12     | 122.27                                  | 122.53 | 122.36 | ± 0.6°      |

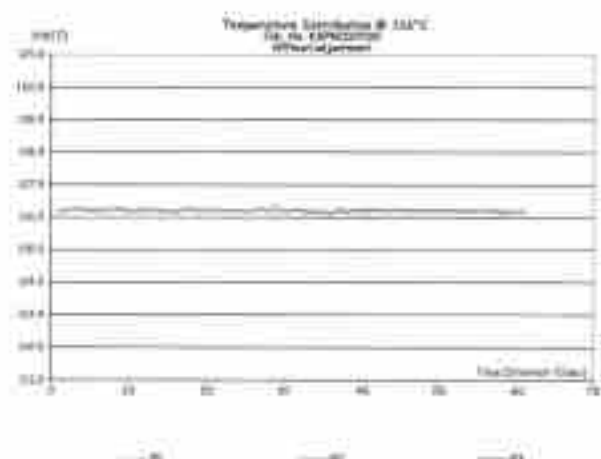
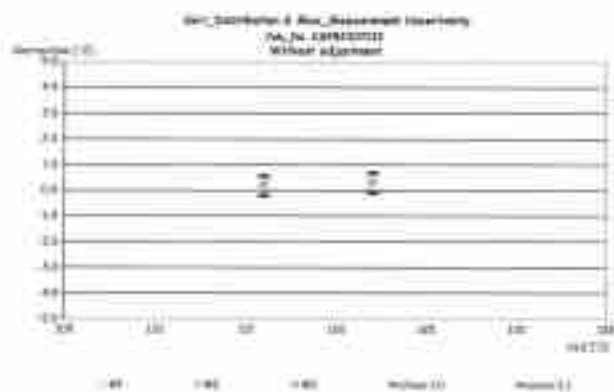
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| Isolating Temperature<br>(°C) | Isolating Pressure<br>(MPa) | Absorbed Dose<br>(Gy) |
|-------------------------------|-----------------------------|-----------------------|
| 120.0                         | 0.10                        | 0.20                  |

Table 7. Maximum intensities of the main peaks

Revised version: To search the entire study, click on the expanded search box.

### The End of Carbonate

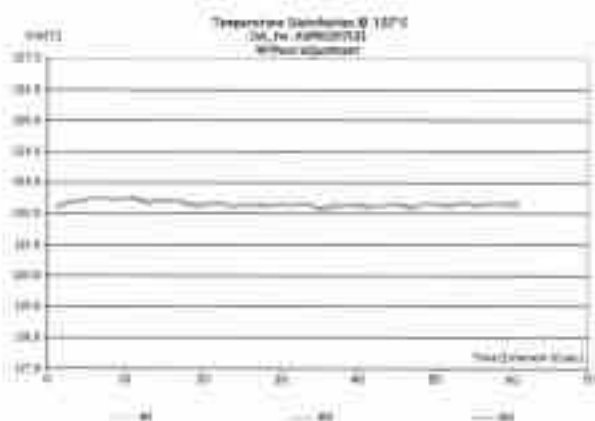


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## เอกสารไม่ควบคุม

SPC Education Center



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**Abstract**

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| QUESTION (Q) |       | parameter                         | ANSWER (A)  |       | REMARKS |
|--------------|-------|-----------------------------------|-------------|-------|---------|
| 17 Jan 2022  |       |                                   | 17 Jan 2022 |       |         |
| QID          | Topic |                                   | QID         | Topic |         |
|              |       | General                           |             |       |         |
| 10           | Q     | 1. Social                         | 10          | A     |         |
| 11           | Q     | 2. Criminals Must Suffer          | 11          | A     |         |
| 12           | Q     | 3. Criminals Subvert Reg.         | 12          | A     |         |
| 13           | Q     | 4. Criminals Monitor & Temperance | 13          | A     |         |
| 14           | Q     | 5. Criminals Suffer               | 14          | A     |         |
| 15           | Q     | 6. Criminals Suffer (SINCE)       | 15          | A     |         |
| 16           | Q     | 7. Social Class                   | 16          | A     |         |
| 17           | Q     | 8. Criminals Suffer               | 17          | A     |         |
| 18           | Q     | 9. Criminals Suffer (SINCE)       | 18          | A     |         |
| 19           | Q     | 10. Criminals Suffer              | 19          | A     |         |
| 20           | Q     | 11. Criminals Suffer              | 20          | A     |         |

—

M. Rachel Hymowitz  
 Senior Engineer

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3.7 Reading on handwriting: About 150 at 252.0 sec

| Element | Standard State at 298 K | Standard State at 298 K | Heat of vaporization   | Heat of sublimation    | Ionization             |
|---------|-------------------------|-------------------------|------------------------|------------------------|------------------------|
|         | ( $\Delta G_f^\circ$ )  | ( $\Delta G_f^\circ$ )  | ( $\Delta G_f^\circ$ ) | ( $\Delta G_f^\circ$ ) | ( $\Delta G_f^\circ$ ) |
| Fe      | 0.000                   | 0.000                   | 0.000                  | 0.000                  | 0.000                  |
|         | 0.000                   | 0.000                   | 0.000                  | 0.000                  | 0.000                  |
|         | 0.000                   | 0.000                   | 0.000                  | 0.000                  | 0.000                  |

5.04 Students will understand the importance of the environment and the impact of human actions on the environment.

| Parameter | Standard value of $\mu_{\text{max}}$ | Meaning | Area of measurement | Time of measurement | Concentration |
|-----------|--------------------------------------|---------|---------------------|---------------------|---------------|
|           | log10                                | log10   | log10               | h                   | log10         |
|           | 0.000                                | 0.000   | 0.000               | 0.00                | 0.0000        |
| Ex        | 0.000                                | 0.000   | 0.000               | 0.00                | 0.0000        |
|           | 0.000                                | 0.000   | 0.000               | 0.00                | 0.0000        |
|           | 0.000                                | 0.000   | 0.000               | 0.00                | 0.0000        |

**Keywords:** Interpersonal communication; social interaction; social support

Calibrated by:  Approved by:   
(Dr. Daniel Goltzberg) (Dr. Daniel Goltzberg)

Received Date: 18 February 2013

End of Certificate

The study was funded by the Department of Health and Human Services.

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Agilent 8410 and 8453 HPL-MS  
Prevention Maintenance Checklist

System Information

Восстановление здоровья при

Revised manuscript accepted 11/10/2011

- | Question number | Question                                | Answer  |
|-----------------|---|---|
| 1               | What is the main purpose of the study?  | To investigate the effect of the new curriculum on the learning outcomes of the students. |
| 2               | What is the research design?            | Quasi-experimental design.  |
| 3               | What is the sample size?                | 100 students.   |
| 4               | What is the data collection instrument? | Questionnaire.  |
| 5               | What is the data analysis technique?    | SPSS.   |
| 6               | What is the conclusion?                 | The new curriculum has a positive effect on the learning outcomes of the students.        |
| 7               | What is the recommendation?             | The new curriculum should be implemented in all schools.                                  |
| 8               | What is the limitation?                 | The study was conducted in a single school.   |
| 9               | What is the strength?                   | The study was conducted in a large sample.  |
| 10              | What is the implication?                | The study has implications for the curriculum development.                                |

---

- [illegible]

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Agilent 1110 und 1100 HPLC-ODS  
Prescritec, Hainburgstr. 1, Straßburg

SEB 3, Anna Sommer

- Ⓐ Shorten HTTP application.
- Ⓑ Process only the minimums and not fully processed information.
- Ⓒ Impact T and Y also not for some (higher is minimum).
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## SEP 4 Arts &amp; Spectator

- [illegible]

#### APPENDIX

- ☐ Section 3071 applicable
- ☐ Supplies value added tax
- ☐ Check fittings for signs of leaks
- ☐ Check tubing for leaking, damaged tubing by water or moisture test
- ☐ Check that flow control for signs of leaks

Journal of Planning Literature 33(1) Summer 2000 1-2  
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Agilent 2100 and 2100 HP HP-4000  
Preventive Maintenance Checklist

- ### ICP-499.5 Status Results Table

### ICP-499.5 Status Results Table

Note: These arrangements do not form part of any specification and are for reference only.

| Measurement                | Standard Units       | Value | Unit                           |
|----------------------------|----------------------|-------|--------------------------------|
| Water Volume               | $500 \text{ g/L}$    | 5.0   | $500 \text{ L}$                |
| Water Pressure             | $1.0 \text{ MPa}$    | 1.0   | $1.0 \text{ MPa}$              |
| Temperature                | $25^\circ \text{C}$  | 25    | $^\circ \text{C}$              |
| Oil Flow Rate (m³/s)       | $10^{-3}$            | 10    | $10^{-3} \text{ m}^3/\text{s}$ |
| Phase Change Temperature   | No measurement       | 70    | $^\circ \text{C}$              |
| Water Flow Direction       | No measurement       | 1.44  | $1.44 \text{ m/s}$             |
| Water Flow Distance        | $1.0 \text{ m}$      | 1.00  | $1.00 \text{ m}$               |
| Water Inlet Temperature    | $25^\circ \text{C}$  | 25    | $^\circ \text{C}$              |
| Water Outlet Temperature   | $25^\circ \text{C}$  | 25.2  | $^\circ \text{C}$              |
| Oil Inlet Temperature      | $-25^\circ \text{C}$ | -25.2 | $^\circ \text{C}$              |
| Oil Outlet Temperature     | $-25^\circ \text{C}$ | -25.2 | $^\circ \text{C}$              |
| Thermal Efficiency         | $10\%$               | 10    | $10\%$                         |
| Input Energy (Joules)      | $475 \text{ J/s}$    | 475   | $475 \text{ J/s}$              |
| Output Energy (Joules)     | $475 \text{ J/s}$    | 475   | $475 \text{ J/s}$              |
| Output (Oil Flow) (Joules) | $475 \text{ J/s}$    | 475   | $475 \text{ J/s}$              |
| Output Flow                | No measurement       | 1.75  | $1.75 \text{ m/s}$             |
| Output Rate (Joules)       | No measurement       | 100   | $100 \text{ J/s}$              |
| Output Rate (Joules)       | No measurement       | 1.50  | $1.50 \text{ J/s}$             |
| Output Rate (Joules)       | No measurement       | 1.50  | $1.50 \text{ J/s}$             |
| Oil Flow                   | No measurement       | 1.50  | $1.50 \text{ m/s}$             |
| Oil Flow Distance          | No measurement       | 1.10  | $1.10 \text{ m/s}$             |
| Oil Flow Volume            | No measurement       | 100   | $100 \text{ J/s}$              |

\* If unit is installed

## \* If unit is installed

\* If unit is installed

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Agilent 8110 und 8100 MPA-MS  
Preventive Maintenance Checklist

Firearm, Explosive, Chemical, Biological

If there are any specific points you wish to raise or put off postponing the material to some time of interest for the treatment, please write it in here.

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|  |              |             |              |
|--|--------------|-------------|--------------|
| Journal: 3 February 2017, Received: 11 | Accepted: 16 | Revised: 17 | Accepted: 17 |
|--|--------------|-------------|--------------|

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| Isotopien Test     | Spekulation | Werte |
|--------------------|-------------|-------|
| Siemens Valsarweg: |             |       |
| Si (14.232 u)      | 9.99        | 6.42  |
| Si (14.003 u)      | 9.97        | 6.40  |
| C (12.011 u)       | 9.95        | 6.38  |
| Ma (203.096 u)     | 9.93        | 6.41  |
| O (16.000 u)       | 9.92        | 6.39  |
| Si (28.085 u)      | 9.90        | 6.37  |
| Fe (55.935 u)      | 9.88        | 6.35  |
| Ca (40.078 u)      | 9.86        | 6.33  |
| Na (22.989 u)      | 9.84        | 6.31  |
| Al (26.981 u)      | 9.82        | 6.29  |
| Si (29.052 u)      | 9.80        | 6.27  |
| Si (28.085 u)      | 9.78        | 6.25  |
| Si (28.085 u)      | 9.76        | 6.23  |
| Si (28.085 u)      | 9.74        | 6.21  |
| Si (28.085 u)      | 9.72        | 6.19  |
| Si (28.085 u)      | 9.70        | 6.17  |
| Si (28.085 u)      | 9.68        | 6.15  |
| Si (28.085 u)      | 9.66        | 6.13  |
| Si (28.085 u)      | 9.64        | 6.11  |
| Si (28.085 u)      | 9.62        | 6.09  |
| Si (28.085 u)      | 9.60        | 6.07  |
| Si (28.085 u)      | 9.58        | 6.05  |
| Si (28.085 u)      | 9.56        | 6.03  |
| Si (28.085 u)      | 9.54        | 6.01  |
| Si (28.085 u)      | 9.52        | 5.99  |
| Si (28.085 u)      | 9.50        | 5.97  |
| Si (28.085 u)      | 9.48        | 5.95  |
| Si (28.085 u)      | 9.46        | 5.93  |
| Si (28.085 u)      | 9.44        | 5.91  |
| Si (28.085 u)      | 9.42        | 5.89  |
| Si (28.085 u)      | 9.40        | 5.87  |
| Si (28.085 u)      | 9.38        | 5.85  |
| Si (28.085 u)      | 9.36        | 5.83  |
| Si (28.085 u)      | 9.34        | 5.81  |
| Si (28.085 u)      | 9.32        | 5.79  |
| Si (28.085 u)      | 9.30        | 5.77  |
| Si (28.085 u)      | 9.28        | 5.75  |
| Si (28.085 u)      | 9.26        | 5.73  |
| Si (28.085 u)      | 9.24        | 5.71  |
| Si (28.085 u)      | 9.22        | 5.69  |
| Si (28.085 u)      | 9.20        | 5.67  |
| Si (28.085 u)      | 9.18        | 5.65  |
| Si (28.085 u)      | 9.16        | 5.63  |
| Si (28.085 u)      | 9.14        | 5.61  |
| Si (28.085 u)      | 9.12        | 5.59  |
| Si (28.085 u)      | 9.10        | 5.57  |
| Si (28.085 u)      | 9.08        | 5.55  |
| Si (28.085 u)      | 9.06        | 5.53  |
| Si (28.085 u)      | 9.04        | 5.51  |
| Si (28.085 u)      | 9.02        | 5.49  |
| Si (28.085 u)      | 9.00        | 5.47  |
| Si (28.085 u)      | 8.98        | 5.45  |
| Si (28.085 u)      | 8.96        | 5.43  |
| Si (28.085 u)      | 8.94        | 5.41  |
| Si (28.085 u)      | 8.92        | 5.39  |
| Si (28.085 u)      | 8.90        | 5.37  |
| Si (28.085 u)      | 8.88        | 5.35  |
| Si (28.085 u)      | 8.86        | 5.33  |
| Si (28.085 u)      | 8.84        | 5.31  |
| Si (28.085 u)      | 8.82        | 5.29  |
| Si (28.085 u)      | 8.80        | 5.27  |
| Si (28.085 u)      | 8.78        | 5.25  |
| Si (28.085 u)      | 8.76        | 5.23  |
| Si (28.085 u)      | 8.74        | 5.21  |
| Si (28.085 u)      | 8.72        | 5.19  |
| Si (28.085 u)      | 8.70        | 5.17  |
| Si (28.085 u)      | 8.68        | 5.15  |
| Si (28.085 u)      | 8.66        | 5.13  |
| Si (28.085 u)      | 8.64        | 5.11  |
| Si (28.085 u)      | 8.62        | 5.09  |
| Si (28.085 u)      | 8.60        | 5.07  |
| Si (28.085 u)      | 8.58        | 5.05  |
| Si (28.085 u)      | 8.56        | 5.03  |
| Si (28.085 u)      | 8.54        | 5.01  |
| Si (28.085 u)      | 8.52        | 4.99  |
| Si (28.085 u)      | 8.50        | 4.97  |
| Si (28.085 u)      | 8.48        | 4.95  |
| Si (28.085 u)      | 8.46        | 4.93  |
| Si (28.085 u)      | 8.44        | 4.91  |
| Si (28.085 u)      | 8.42        | 4.89  |
| Si (28.085 u)      | 8.40        | 4.87  |
| Si (28.085 u)      | 8.38        | 4.85  |
| Si (28.085 u)      | 8.36        | 4.83  |
| Si (28.085 u)      | 8.34        | 4.81  |
| Si (28.085 u)      | 8.32        | 4.79  |
| Si (28.085 u)      | 8.30        | 4.77  |
| Si (28.085 u)      | 8.28        | 4.75  |
| Si (28.085 u)      | 8.26        | 4.73  |
| Si (28.085 u)      | 8.24        | 4.71  |
| Si (28.085 u)      | 8.22        | 4.69  |
| Si (28.085 u)      | 8.20        | 4.67  |
| Si (28.085 u)      | 8.18        | 4.65  |
| Si (28.085 u)      | 8.16        | 4.63  |
| Si (28.085 u)      | 8.14        | 4.61  |
| Si (28.085 u)      | 8.12        | 4.59  |
| Si (28.085 u)      | 8.10        | 4.57  |
| Si (28.085 u)      | 8.08        | 4.55  |
| Si (28.085 u)      | 8.06        | 4.53  |
| Si (28.085 u)      | 8.04        | 4.51  |
| Si (28.085 u)      | 8.02        | 4.49  |
| Si (28.085 u)      | 8.00        | 4.47  |
| Si (28.085 u)      | 7.98        | 4.45  |
| Si (28.085 u)      | 7.96        | 4.43  |
| Si (28.085 u)      | 7.94        | 4.41  |
| Si (28.085 u)      | 7.92        | 4.39  |
| Si (28.085 u)      | 7.90        | 4.37  |

## เอกสารไม่ควบคุม



| Sensitivity Test   |               | Pass     |          |          |        |
|--------------------|---------------|----------|----------|----------|--------|
| Notes              |               |          |          |          |        |
| Element Wavelength | Specification | Measured | Ratio    | Standard | Score  |
| Ag (188.880 nm)    | < 40.0        | 39.68    | 147.3    | 1100.0   | 95.9   |
| Ga (193.298 nm)    | < 45.0        | 34.66    | 111.1    | 1199.0   | 97.7   |
| Zn (213.857 nm)    | < 162.0       | 99.80    | 4709.9   | 31000.0  | 100.0  |
| Hg (225.222 nm)    | < 46.0        | 39.99    | 152.0    | 2800.0   | 100.0  |
| Hg (227.810 nm)    | < 300.0       | 200.0    | 1304.7   | 254100.0 | 100.0  |
| As (228.810 nm)    | < 4.0         | 3.98     | 1.0      | 6040.0   | 100.0  |
| Ga (244.440 nm)    | < 34.0        | 33.95    | 605.4    | 100110.0 | 1000.0 |
| As (253.657 nm)    | < 1.0         | 0.84     | 0.1      | 10000.0  | 1000.0 |
| Auto               |               |          |          |          |        |
| Element Wavelength | Specification | Measured | Ratio    | Standard | Score  |
| Ag (188.880 nm)    | < 350.0       | 350.0    | 234.0    | 3000.0   | 100.0  |
| As (193.298 nm)    | < 100.0       | 99.99    | 214.1    | 3000.0   | 100.0  |
| As (228.810 nm)    | < 204.2       | 99.99    | < 0.00.0 | 10000.0  | 100.0  |
| Zn (213.857 nm)    | < 350.0       | 350.0    | 899.0    | 30000.0  | 100.0  |
| Ga (224.430 nm)    | < 422.0       | 39.99    | 1110.0   | 10000.0  | 100.0  |
| As (228.810 nm)    | < 100.0       | 30.00    | 876.0    | 14000.0  | 100.0  |
| Hg (227.810 nm)    | < 1000.0      | 99.99    | 3562.0   | 101100.0 | 100.0  |
| Ga (227.810 nm)    | < 3000.0      | 3000.0   | 9400.0   | 100100.0 | 100.0  |
| As (228.810 nm)    | < 10.0        | 3.99     | 40.0     | 91400.0  | 100.0  |
| As (228.810 nm)    | < 10.0        | 3.99     | 14.0     | 20040.0  | 1000.0 |
| As (228.810 nm)    | < 10.0        | 3.99     | 18.0     | 100000.0 | 100.0  |
| As (228.810 nm)    | < 10.0        | 3.99     | 18.0     | 100000.0 | 1000.0 |

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เอกสารไม่ควบคุม

| Precision Test     |               | Pass     |             |
|--------------------|---------------|----------|-------------|
| Result             |               |          |             |
| Element Wavelength | Specification | Measured | Value % RSD |
| Ag (188.880 nm)    | < 100.0       | 0.00     |             |
| Ga (193.298 nm)    | < 200.0       | 0.00     |             |
| Zn (213.857 nm)    | < 1.00        | 0.00     |             |
| Hg (225.222 nm)    | < 2.00        | 0.00     |             |
| Hg (227.810 nm)    | < 1.00        | 0.00     |             |
| As (228.810 nm)    | < 0.00        | 0.00     |             |
| As (228.810 nm)    | < 1.00        | 0.00     |             |
| As (228.810 nm)    | < 1.00        | 0.00     |             |
| Auto               |               |          |             |
| Element Wavelength | Specification | Measured | Value % RSD |
| Ag (188.880 nm)    | < 1.00        | 0.00     |             |
| As (193.298 nm)    | < 1.00        | 0.00     |             |
| Zn (213.857 nm)    | < 1.00        | 0.00     |             |
| Zn (213.857 nm)    | < 1.00        | 0.00     |             |
| As (228.810 nm)    | < 1.00        | 0.00     |             |
| Hg (227.810 nm)    | < 1.00        | 0.00     |             |
| As (228.810 nm)    | < 1.00        | 0.00     |             |
| As (228.810 nm)    | < 1.00        | 0.00     |             |
| As (228.810 nm)    | < 1.00        | 0.00     |             |
| As (228.810 nm)    | < 1.00        | 0.00     |             |

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เอกสารไม่ควบคุม

| Report Summary               |                             |
|------------------------------|-----------------------------|
| Instrument Model             | Agilent 5110B FTIR ATR-FTIR |
| Instrument ID                | 000114000000                |
| Instrument Serial Number     | 001000000                   |
| Software Version             | 1.1.1.000                   |
| Firmware Version             | 1.1.1.000                   |
| Tested By                    | 001000000                   |
| Test Completed On            | 11/10/2023 11:40:30 AM      |
| Result Summary               |                             |
| Substrate Communication Test | Pass                        |
| IR Flow Test                 | Pass                        |
| Water Flow Test              | Pass                        |
| Gas Flow Test                | Pass                        |
| AT Generation Test           | Pass                        |
| Camera Test                  | Pass                        |
| Control Test                 | Pass                        |
| Automatic Valve System Test  | Pass                        |
| Heating Test                 | Pass                        |
| Sealing Test                 | Pass                        |
| Pressure Test                | Pass                        |
| Substrate Communication Test |                             |
| Pass                         |                             |
| Air Flow Test                |                             |
| Pass                         |                             |
| 20% Air Flow (measured)      | 20% Air Flow (setpoint)     |
| 10.00                        | 10.00                       |
| Water Flow Test              |                             |
| AT Flow (measured)           | Water Flow (setpoint)       |
| 1.00                         | 1.00                        |

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เอกสารไม่ควบคุม

| Gas Flow Test               |                  | Pass             |                  |                  |                  |
|-----------------------------|------------------|------------------|------------------|------------------|------------------|
| Setpoint                    | Actual Flow      | Setpoint         | Actual Flow      | Setpoint         | Actual Flow      |
| 0.00                        | 0.00             | 100.00           | 100.00           | 1.00             | 1.00             |
| Setpoint                    | Actual Flow      | Setpoint         | Actual Flow      | Setpoint         | Actual Flow      |
| 0.00                        | 0.00             | 100.00           | 100.00           | 1.00             | 1.00             |
| AT Generation Test          |                  | Pass             |                  |                  |                  |
| AT Power Supply Test        | Pass             |                  |                  |                  |                  |
| AT Power Supply (V)         | 141.00           |                  |                  |                  |                  |
| AT Output Test              | Pass             |                  |                  |                  |                  |
| AT Output Frequency (MHz)   | 0.00             |                  |                  |                  |                  |
| AT Output Current (A)       | 0.00             |                  |                  |                  |                  |
| AT Power Supply Current (A) | 1.00             |                  |                  |                  |                  |
| General Test                |                  | Pass             |                  |                  |                  |
| Integration Test            | Integration Test | Integration Test | Integration Test | Integration Test | Integration Test |
| Integration Test            | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| Dark Current Test           | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| AT Test                     | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |
| AT Test                     | 0.00             | 0.00             | 0.00             | 0.00             | 0.00             |

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เอกสารไม่ควบคุม



| Report Summary                |                                |         |
|-------------------------------|--------------------------------|---------|
| Instrument Model              | Agilent 1155/1110 GC/MSD (ESI) |         |
| Instrument ID                 | 060116080106                   |         |
| Instrument Serial Number      | 491000001                      |         |
| Software Version              | 1.1.1.6007                     |         |
| Database Version              | 0442                           |         |
| Created By                    | P63 (Administrator)            |         |
| Test Completed On             | 1/15/2022 12:15:42 PM          |         |
| Result Summary                |                                |         |
| Subsistence/Contaminants Test | Passed                         |         |
| Air Risk Test                 | Passed                         |         |
| Water Pipe Test               | Passed                         |         |
| Hot Water Test                | Passed                         |         |
| Hot Water System Test         | Failed                         |         |
| Cumulative Test               | Passed                         |         |
| Optical Test                  | Pass                           |         |
| Advanced Water System Test    | Passed                         |         |
| Resonance Test                | Pass                           |         |
| Intensity Test                | Pass                           |         |
| Pressure Test                 | Pass                           |         |
|                               |                                |         |
| Quality Test                  |                                | Pass    |
|                               | Result                         | Value   |
| Intensity                     | 557400%                        | 552300% |
| Weighting                     | 737.212                        | 737.272 |

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เอกสารไม่ควบคุม

| Resonance Test    |               |       | Pass |
|-------------------|---------------|-------|------|
| Current Weighting | Specification | Value |      |
| Aa (174.210 mm)   | < 0.40        | 0.75  |      |
| Ab (186.980 mm)   | < 0.20        | 0.00  |      |
| Ac (188.027 mm)   | < 1.00        | 0.00  |      |
| Ad (200.000 mm)   | < 0.20        | 0.00  |      |
| De (200.196 mm)   | < 12.40       | 0.00  |      |
| Df (210.000 mm)   | < 0.70        | 0.00  |      |
| Dg (220.000 mm)   | < 0.50        | 0.00  |      |
| Dh (220.000 mm)   | < 0.20        | 0.00  |      |
| Di (220.000 mm)   | < 0.20        | 0.00  |      |
| Dj (220.000 mm)   | < 0.20        | 0.00  |      |
| Dk (220.000 mm)   | < 0.20        | 0.00  |      |
| El (220.000 mm)   | < 0.20        | 0.00  |      |
| Em (220.000 mm)   | < 0.20        | 0.00  |      |
| En (220.000 mm)   | < 0.20        | 0.00  |      |
| Ep (220.000 mm)   | < 0.20        | 0.00  |      |
| Eq (220.000 mm)   | < 0.20        | 0.00  |      |
| Er (220.000 mm)   | < 0.20        | 0.00  |      |
| Es (220.000 mm)   | < 0.20        | 0.00  |      |
| Et (220.000 mm)   | < 0.20        | 0.00  |      |
| Eu (220.000 mm)   | < 0.20        | 0.00  |      |
| Ev (220.000 mm)   | < 0.20        | 0.00  |      |
| Ex (220.000 mm)   | < 0.20        | 0.00  |      |
| Ey (220.000 mm)   | < 0.20        | 0.00  |      |
| Ez (220.000 mm)   | < 0.20        | 0.00  |      |
| Ex (220.000 mm)   | < 0.20        | 0.00  |      |
| Ey (220.000 mm)   | < 0.20        | 0.00  |      |
| Ez (220.000 mm)   | < 0.20        | 0.00  |      |

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เอกสารไม่ควบคุม

| Resonance Test  |               |       | Pass |
|-----------------|---------------|-------|------|
| Current         | Specification | Value | Unit |
| Aa (174.210 mm) | < 0.40        | 0.75  | mm   |
| Ab (186.980 mm) | < 0.20        | 0.00  | mm   |
| Ac (188.027 mm) | < 1.00        | 0.00  | mm   |
| Ad (200.000 mm) | < 0.20        | 0.00  | mm   |
| De (200.196 mm) | < 12.40       | 0.00  | mm   |
| Df (210.000 mm) | < 0.70        | 0.00  | mm   |
| Dg (220.000 mm) | < 0.50        | 0.00  | mm   |
| Dh (220.000 mm) | < 0.20        | 0.00  | mm   |
| Di (220.000 mm) | < 0.20        | 0.00  | mm   |
| Dj (220.000 mm) | < 0.20        | 0.00  | mm   |
| Dk (220.000 mm) | < 0.20        | 0.00  | mm   |
| El (220.000 mm) | < 0.20        | 0.00  | mm   |
| Em (220.000 mm) | < 0.20        | 0.00  | mm   |
| En (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ep (220.000 mm) | < 0.20        | 0.00  | mm   |
| Eq (220.000 mm) | < 0.20        | 0.00  | mm   |
| Er (220.000 mm) | < 0.20        | 0.00  | mm   |
| Es (220.000 mm) | < 0.20        | 0.00  | mm   |
| Et (220.000 mm) | < 0.20        | 0.00  | mm   |
| Eu (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ev (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ex (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ey (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ez (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ex (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ey (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ez (220.000 mm) | < 0.20        | 0.00  | mm   |

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เอกสารไม่ควบคุม

| Pressure Test   |               |       | Pass |
|-----------------|---------------|-------|------|
| Current         | Specification | Value | Unit |
| Aa (174.210 mm) | < 0.40        | 0.75  | mm   |
| Ab (186.980 mm) | < 0.20        | 0.00  | mm   |
| Ac (188.027 mm) | < 1.00        | 0.00  | mm   |
| Ad (200.000 mm) | < 0.20        | 0.00  | mm   |
| De (200.196 mm) | < 12.40       | 0.00  | mm   |
| Df (210.000 mm) | < 0.70        | 0.00  | mm   |
| Dg (220.000 mm) | < 0.50        | 0.00  | mm   |
| Dh (220.000 mm) | < 0.20        | 0.00  | mm   |
| Di (220.000 mm) | < 0.20        | 0.00  | mm   |
| Dj (220.000 mm) | < 0.20        | 0.00  | mm   |
| Dk (220.000 mm) | < 0.20        | 0.00  | mm   |
| El (220.000 mm) | < 0.20        | 0.00  | mm   |
| Em (220.000 mm) | < 0.20        | 0.00  | mm   |
| En (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ep (220.000 mm) | < 0.20        | 0.00  | mm   |
| Eq (220.000 mm) | < 0.20        | 0.00  | mm   |
| Er (220.000 mm) | < 0.20        | 0.00  | mm   |
| Es (220.000 mm) | < 0.20        | 0.00  | mm   |
| Et (220.000 mm) | < 0.20        | 0.00  | mm   |
| Eu (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ev (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ex (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ey (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ez (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ex (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ey (220.000 mm) | < 0.20        | 0.00  | mm   |
| Ez (220.000 mm) | < 0.20        | 0.00  | mm   |

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เอกสารไม่ควบคุม





# **CERTIFICATE OF CALIBRATION**

Certificate No. : SP23-018

Page 1 of 3

Customer : Grand-Ampac and Engineering Creation Co., Ltd. (Head Office)

Address : 710 Udonrath Rd., Takhonvithi Road, Bangkok, Thailand

Bangkok 10200

Location of Attachment : Laboratory 323

Equipment : UV-Vis Spectrophotometer

Manufacturer : Agilent Technologies

Model : Cary 60

Serial No. : M7141000

ID No. : N/A

Received Date : 11 May 2023

Calibration Date : 27 May 2023

Issue Date : 28 May 2023

Calibration Instrument : Good

Calibrated by :

N. N. N. (Signature)

System Manager

Approved by :

N. N. N. (Signature)

Quality Manager

This certificate is valid only when the equipment is used in accordance with the instructions of the manufacturer.

The equipment used in this calibration is not to be used for any other purpose without the permission of the manufacturer. This certificate is valid only when the equipment is used in accordance with the instructions of the manufacturer.

เอกสารไม่ควบคุม

SP-001-001-001



# **REPORT OF CALIBRATION**

Certificate No. : SP23-018

Page 2 of 3

Calibration Certificate : As Received Temperature 23 ± 0.5 °C

Reference Uncertainty : ± 0.0001

Calibration method : In-house method (P-01) based on NIST 4279-06

Certified Reference Materials :

| Material            | Serial No. | Certificate No. | Due Date        |
|---------------------|------------|-----------------|-----------------|
| Aluminum Acetate    | 22766      | 90001           | 23 October 2023 |
| Aluminum Sulfate    | 22767      | 90002           | 23 October 2023 |
| Wavelength Standard | 22906      | 90003           | 23 October 2023 |
| Wavelength Standard | 22708      | 90004           | 23 October 2023 |

Transmittance : This certificate is available in the International System of Units (SI) as follows :

Institute of Standards and Technology (NIST) through Data Science Center

Spectral Band Width of ETC : 1.2 nm

Scan Speed of ETC : 60 nm/min

Scan Interval of ETC : 0.1 s

Resolution of ETC : Photometric : 0.001 Abs

Wavelength : 6.1 nm

เอกสารไม่ควบคุม

SP-001-001-001



# **REPORT OF CALIBRATION**

Certificate No. : SP23-018

Page 3 of 3

Calibration Results : Wavelength (nm)

Photometric Accuracy :

| Wavelength (nm) | 100% T (Abs) | ETC Reading (Abs) | Correction (Abs) | Uncertainty (Abs) | Correction Factor |
|-----------------|--------------|-------------------|------------------|-------------------|-------------------|
| 200             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 220             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 240             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 260             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 280             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 300             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 320             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 340             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 360             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 380             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 400             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 420             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 440             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 460             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 480             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 500             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 520             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 540             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 560             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 580             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 600             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 620             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 640             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 660             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 680             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 700             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 720             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 740             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 760             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 780             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 800             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 820             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 840             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 860             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 880             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 900             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |

เอกสารไม่ควบคุม

SP-001-001-001



# **REPORT OF CALIBRATION**

Certificate No. : SP23-018

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Photometric Accuracy :

| Wavelength (nm) | 100% T (Abs) | ETC Reading (Abs) | Correction (Abs) | Uncertainty (Abs) | Correction Factor |
|-----------------|--------------|-------------------|------------------|-------------------|-------------------|
| 200             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 220             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 240             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 260             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 280             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 300             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 320             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 340             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 360             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 380             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 400             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 420             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 440             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 460             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 480             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 500             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 520             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 540             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 560             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 580             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 600             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 620             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 640             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 660             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 680             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 700             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 720             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 740             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 760             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 780             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 800             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 820             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 840             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 860             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 880             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |
| 900             | 0.0000       | 0.0000            | 0.0000           | 0.0000            | 2.00              |

เอกสารไม่ควบคุม

SP-001-001-001



SGS Services Co., Ltd.  
 11, 11th Floor, Wing A, 11, Sukhumvit Road, 11, Sukhumvit Road, Bangkok 10110  
 Phone: +66 (0) 231 2341, Email: sgsservice@sgs.com

**REPORT OF CALIBRATION**

Certificate No.: 0122-019 Page: 3 of 3

Measuring instrument:

| CRM Value | UVC Reading | Correction | Uncertainty | Coverage factor |
|-----------|-------------|------------|-------------|-----------------|
| nm        | nm          | nm         | nm          | k               |
| 253.7     | 253.4       | -0.3       | 0.10        | 1.00            |
| 278.0     | 278.1       | +0.1       | 0.10        | 1.00            |
| 285.0     | 285.0       | 0.0        | 0.10        | 1.00            |
| 313.0     | 313.0       | 0.0        | 0.10        | 1.00            |
| 365.0     | 365.0       | 0.0        | 0.10        | 1.00            |
| 405.0     | 405.0       | 0.0        | 0.10        | 1.00            |
| 435.0     | 435.0       | 0.0        | 0.10        | 1.00            |
| 485.0     | 485.0       | 0.0        | 0.10        | 1.00            |
| 545.0     | 545.0       | 0.0        | 0.10        | 1.00            |
| 578.0     | 578.0       | 0.0        | 0.10        | 1.00            |
| 630.0     | 630.0       | 0.0        | 0.10        | 1.00            |
| 680.0     | 680.0       | 0.0        | 0.10        | 1.00            |
| 730.0     | 730.0       | 0.0        | 0.10        | 1.00            |
| 780.0     | 780.0       | 0.0        | 0.10        | 1.00            |
| 830.0     | 830.0       | 0.0        | 0.10        | 1.00            |
| 880.0     | 880.0       | 0.0        | 0.10        | 1.00            |
| 930.0     | 930.0       | 0.0        | 0.10        | 1.00            |
| 980.0     | 980.0       | 0.0        | 0.10        | 1.00            |
| 1030.0    | 1030.0      | 0.0        | 0.10        | 1.00            |
| 1080.0    | 1080.0      | 0.0        | 0.10        | 1.00            |
| 1130.0    | 1130.0      | 0.0        | 0.10        | 1.00            |
| 1180.0    | 1180.0      | 0.0        | 0.10        | 1.00            |
| 1230.0    | 1230.0      | 0.0        | 0.10        | 1.00            |
| 1280.0    | 1280.0      | 0.0        | 0.10        | 1.00            |
| 1330.0    | 1330.0      | 0.0        | 0.10        | 1.00            |
| 1380.0    | 1380.0      | 0.0        | 0.10        | 1.00            |
| 1430.0    | 1430.0      | 0.0        | 0.10        | 1.00            |
| 1480.0    | 1480.0      | 0.0        | 0.10        | 1.00            |
| 1530.0    | 1530.0      | 0.0        | 0.10        | 1.00            |
| 1580.0    | 1580.0      | 0.0        | 0.10        | 1.00            |
| 1630.0    | 1630.0      | 0.0        | 0.10        | 1.00            |
| 1680.0    | 1680.0      | 0.0        | 0.10        | 1.00            |
| 1730.0    | 1730.0      | 0.0        | 0.10        | 1.00            |
| 1780.0    | 1780.0      | 0.0        | 0.10        | 1.00            |
| 1830.0    | 1830.0      | 0.0        | 0.10        | 1.00            |
| 1880.0    | 1880.0      | 0.0        | 0.10        | 1.00            |
| 1930.0    | 1930.0      | 0.0        | 0.10        | 1.00            |
| 1980.0    | 1980.0      | 0.0        | 0.10        | 1.00            |
| 2030.0    | 2030.0      | 0.0        | 0.10        | 1.00            |
| 2080.0    | 2080.0      | 0.0        | 0.10        | 1.00            |
| 2130.0    | 2130.0      | 0.0        | 0.10        | 1.00            |
| 2180.0    | 2180.0      | 0.0        | 0.10        | 1.00            |
| 2230.0    | 2230.0      | 0.0        | 0.10        | 1.00            |
| 2280.0    | 2280.0      | 0.0        | 0.10        | 1.00            |
| 2330.0    | 2330.0      | 0.0        | 0.10        | 1.00            |
| 2380.0    | 2380.0      | 0.0        | 0.10        | 1.00            |
| 2430.0    | 2430.0      | 0.0        | 0.10        | 1.00            |
| 2480.0    | 2480.0      | 0.0        | 0.10        | 1.00            |
| 2530.0    | 2530.0      | 0.0        | 0.10        | 1.00            |
| 2580.0    | 2580.0      | 0.0        | 0.10        | 1.00            |
| 2630.0    | 2630.0      | 0.0        | 0.10        | 1.00            |
| 2680.0    | 2680.0      | 0.0        | 0.10        | 1.00            |
| 2730.0    | 2730.0      | 0.0        | 0.10        | 1.00            |
| 2780.0    | 2780.0      | 0.0        | 0.10        | 1.00            |
| 2830.0    | 2830.0      | 0.0        | 0.10        | 1.00            |
| 2880.0    | 2880.0      | 0.0        | 0.10        | 1.00            |
| 2930.0    | 2930.0      | 0.0        | 0.10        | 1.00            |
| 2980.0    | 2980.0      | 0.0        | 0.10        | 1.00            |
| 3030.0    | 3030.0      | 0.0        | 0.10        | 1.00            |
| 3080.0    | 3080.0      | 0.0        | 0.10        | 1.00            |
| 3130.0    | 3130.0      | 0.0        | 0.10        | 1.00            |
| 3180.0    | 3180.0      | 0.0        | 0.10        | 1.00            |
| 3230.0    | 3230.0      | 0.0        | 0.10        | 1.00            |
| 3280.0    | 3280.0      | 0.0        | 0.10        | 1.00            |
| 3330.0    | 3330.0      | 0.0        | 0.10        | 1.00            |
| 3380.0    | 3380.0      | 0.0        | 0.10        | 1.00            |
| 3430.0    | 3430.0      | 0.0        | 0.10        | 1.00            |
| 3480.0    | 3480.0      | 0.0        | 0.10        | 1.00            |
| 3530.0    | 3530.0      | 0.0        | 0.10        | 1.00            |
| 3580.0    | 3580.0      | 0.0        | 0.10        | 1.00            |
| 3630.0    | 3630.0      | 0.0        | 0.10        | 1.00            |
| 3680.0    | 3680.0      | 0.0        | 0.10        | 1.00            |
| 3730.0    | 3730.0      | 0.0        | 0.10        | 1.00            |
| 3780.0    | 3780.0      | 0.0        | 0.10        | 1.00            |
| 3830.0    | 3830.0      | 0.0        | 0.10        | 1.00            |
| 3880.0    | 3880.0      | 0.0        | 0.10        | 1.00            |
| 3930.0    | 3930.0      | 0.0        | 0.10        | 1.00            |
| 3980.0    | 3980.0      | 0.0        | 0.10        | 1.00            |
| 4030.0    | 4030.0      | 0.0        | 0.10        | 1.00            |
| 4080.0    | 4080.0      | 0.0        | 0.10        | 1.00            |
| 4130.0    | 4130.0      | 0.0        | 0.10        | 1.00            |
| 4180.0    | 4180.0      | 0.0        | 0.10        | 1.00            |
| 4230.0    | 4230.0      | 0.0        | 0.10        | 1.00            |
| 4280.0    | 4280.0      | 0.0        | 0.10        | 1.00            |
| 4330.0    | 4330.0      | 0.0        | 0.10        | 1.00            |
| 4380.0    | 4380.0      | 0.0        | 0.10        | 1.00            |
| 4430.0    | 4430.0      | 0.0        | 0.10        | 1.00            |
| 4480.0    | 4480.0      | 0.0        | 0.10        | 1.00            |
| 4530.0    | 4530.0      | 0.0        | 0.10        | 1.00            |
| 4580.0    | 4580.0      | 0.0        | 0.10        | 1.00            |
| 4630.0    | 4630.0      | 0.0        | 0.10        | 1.00            |
| 4680.0    | 4680.0      | 0.0        | 0.10        | 1.00            |
| 4730.0    | 4730.0      | 0.0        | 0.10        | 1.00            |
| 4780.0    | 4780.0      | 0.0        | 0.10        | 1.00            |
| 4830.0    | 4830.0      | 0.0        | 0.10        | 1.00            |
| 4880.0    | 4880.0      | 0.0        | 0.10        | 1.00            |
| 4930.0    | 4930.0      | 0.0        | 0.10        | 1.00            |
| 4980.0    | 4980.0      | 0.0        | 0.10        | 1.00            |
| 5030.0    | 5030.0      | 0.0        | 0.10        | 1.00            |
| 5080.0    | 5080.0      | 0.0        | 0.10        | 1.00            |
| 5130.0    | 5130.0      | 0.0        | 0.10        | 1.00            |
| 5180.0    | 5180.0      | 0.0        | 0.10        | 1.00            |
| 5230.0    | 5230.0      | 0.0        | 0.10        | 1.00            |
| 5280.0    | 5280.0      | 0.0        | 0.10        | 1.00            |
| 5330.0    | 5330.0      | 0.0        | 0.10        | 1.00            |
| 5380.0    | 5380.0      | 0.0        | 0.10        | 1.00            |
| 5430.0    | 5430.0      | 0.0        | 0.10        | 1.00            |
| 5480.0    | 5480.0      | 0.0        | 0.10        | 1.00            |
| 5530.0    | 5530.0      | 0.0        | 0.10        | 1.00            |
| 5580.0    | 5580.0      | 0.0        | 0.10        | 1.00            |
| 5630.0    | 5630.0      | 0.0        | 0.10        | 1.00            |
| 5680.0    | 5680.0      | 0.0        | 0.10        | 1.00            |
| 5730.0    | 5730.0      | 0.0        | 0.10        | 1.00            |
| 5780.0    | 5780.0      | 0.0        | 0.10        | 1.00            |
| 5830.0    | 5830.0      | 0.0        | 0.10        | 1.00            |
| 5880.0    | 5880.0      | 0.0        | 0.10        | 1.00            |
| 5930.0    | 5930.0      | 0.0        | 0.10        | 1.00            |
| 5980.0    | 5980.0      | 0.0        | 0.10        | 1.00            |
| 6030.0    | 6030.0      | 0.0        | 0.10        | 1.00            |
| 6080.0    | 6080.0      | 0.0        | 0.10        | 1.00            |
| 6130.0    | 6130.0      | 0.0        | 0.10        | 1.00            |
| 6180.0    | 6180.0      | 0.0        | 0.10        | 1.00            |
| 6230.0    | 6230.0      | 0.0        | 0.10        | 1.00            |
| 6280.0    | 6280.0      | 0.0        | 0.10        | 1.00            |
| 6330.0    | 6330.0      | 0.0        | 0.10        | 1.00            |
| 6380.0    | 6380.0      | 0.0        | 0.10        | 1.00            |
| 6430.0    | 6430.0      | 0.0        | 0.10        | 1.00            |
| 6480.0    | 6480.0      | 0.0        | 0.10        | 1.00            |
| 6530.0    | 6530.0      | 0.0        | 0.10        | 1.00            |
| 6580.0    | 6580.0      | 0.0        | 0.10        | 1.00            |
| 6630.0    | 6630.0      | 0.0        | 0.10        | 1.00            |
| 6680.0    | 6680.0      | 0.0        | 0.10        | 1.00            |
| 6730.0    | 6730.0      | 0.0        | 0.10        | 1.00            |
| 6780.0    | 6780.0      | 0.0        | 0.10        | 1.00            |
| 6830.0    | 6830.0      | 0.0        | 0.10        | 1.00            |
| 6880.0    | 6880.0      | 0.0        | 0.10        | 1.00            |
| 6930.0    | 6930.0      | 0.0        | 0.10        | 1.00            |
| 6980.0    | 6980.0      | 0.0        | 0.10        | 1.00            |
| 7030.0    | 7030.0      | 0.0        | 0.10        | 1.00            |
| 7080.0    | 7080.0      | 0.0        | 0.10        | 1.00            |
| 7130.0    | 7130.0      | 0.0        | 0.10        | 1.00            |
| 7180.0    | 7180.0      | 0.0        | 0.10        | 1.00            |
| 7230.0    | 7230.0      | 0.0        | 0.10        | 1.00            |
| 7280.0    | 7280.0      | 0.0        | 0.10        | 1.00            |
| 7330.0    | 7330.0      | 0.0        | 0.10        | 1.00            |
| 7380.0    | 7380.0      | 0.0        | 0.10        | 1.00            |
| 7430.0    | 7430.0      | 0.0        | 0.10        | 1.00            |
| 7480.0    | 7480.0      | 0.0        | 0.10        | 1.00            |
| 7530.0    | 7530.0      | 0.0        | 0.10        | 1.00            |
| 7580.0    | 7580.0      | 0.0        | 0.10        | 1.00            |
| 7630.0    | 7630.0      | 0.0        | 0.10        | 1.00            |
| 7680.0    | 7680.0      | 0.0        | 0.10        | 1.00            |
| 7730.0    | 7730.0      | 0.0        | 0.10        | 1.00            |
| 7780.0    | 7780.0      | 0.0        | 0.10        | 1.00            |
| 7830.0    | 7830.0      | 0.0        | 0.10        | 1.00            |
| 7880.0    | 7880.0      | 0.0        | 0.10        | 1.00            |
| 7930.0    | 7930.0      | 0.0        | 0.10        | 1.00            |
| 7980.0    | 7980.0      | 0.0        | 0.10        | 1.00            |
| 8030.0    | 8030.0      | 0.0        | 0.10        | 1.00            |
| 8080.0    | 8080.0      | 0.0        | 0.10        | 1.00            |
| 8130.0    | 8130.0      | 0.0        | 0.10        | 1.00            |
| 8180.0    | 8180.0      | 0.0        | 0.10        | 1.00            |
| 8230.0    | 8230.0      | 0.0        | 0.10        | 1.00            |
| 8280.0    | 8280.0      | 0.0        | 0.10        | 1.00            |
| 8330.0    | 8330.0      | 0.0        | 0.10        | 1.00            |
| 8380.0    | 8380.0      | 0.0        | 0.10        | 1.00            |
| 8430.0    | 8430.0      | 0.0        | 0.10        | 1.00            |
| 8480.0    | 8480.0      | 0.0        | 0.10        | 1.00            |
| 8530.0    | 8530.0      | 0.0        | 0.10        | 1.00            |
| 8580.0    | 8580.0      | 0.0        | 0.10        | 1.00            |
| 8630.0    | 8630.0      | 0.0        | 0.10        | 1.00            |
| 8680.0    | 8680.0      | 0.0        | 0.10        | 1.00            |
| 8730.0    | 8730.0      | 0.0        | 0.10        | 1.00            |
| 8780.0    | 8780.0      | 0.0        | 0.10        | 1.00            |
| 8830.0    | 8830.0      | 0.0        | 0.10        | 1.00            |
| 8880.0    | 8880.0      | 0.0        | 0.10        | 1.00            |
| 8930.0    | 8930.0      | 0.0        | 0.10        | 1.00            |
| 8980.0    | 8980.0      | 0.0        | 0.10        | 1.00            |
| 9030.0    | 9030.0      | 0.0        | 0.10        | 1.00            |
| 9080.0    | 9080.0      | 0.0        | 0.10        | 1.00            |
| 9130.0    | 9130.0      | 0.0        | 0.10        | 1.00            |
| 9180.0    | 9180.0      | 0.0        | 0.10        | 1.00            |
| 9230.0    | 9230.0      | 0.0        | 0.10        | 1.00            |
| 9280.0    | 9280.0      | 0.0        | 0.10        | 1.00            |
| 9330.0    | 9330.0      | 0.0        | 0.10        | 1.00            |
| 9380.0    | 9380.0      | 0.0        | 0.10        | 1.00            |
| 9430.0    | 9430.0      | 0.0        | 0.10        | 1.00            |
| 9480.0    | 9480.0      | 0.0        | 0.10        | 1.00            |
| 9530.0    | 9530.0      | 0.0        | 0.10        | 1.00            |
| 9580.0    | 9580.0      | 0.0        | 0.10        | 1.00            |
| 9630.0    | 9630.0      | 0.0        | 0.10        | 1.00            |
| 9680.0    | 9680.0      | 0.0        | 0.10        | 1.00            |
| 9730.0    | 9730.0      | 0.0        | 0.10        | 1.00            |
| 9780.0    | 9780.0      | 0.0        | 0.10        | 1.00            |
| 9830.0    | 9830.0      | 0.0        | 0.10        | 1.00            |
| 9880.0    | 9880.0      | 0.0        | 0.10        | 1.00            |
| 9930.0    | 9930.0      | 0.0        | 0.10        | 1.00            |
| 9980.0    | 9980.0      | 0.0        | 0.10        | 1.00            |
| 10030.0   | 10030.0     | 0.0        | 0.10        | 1.00            |
| 10080.0   | 10080.0     | 0.0        | 0.10        | 1.00            |
| 10130.0   | 10130.0     | 0.0        | 0.10        | 1.00            |
| 10180.0   | 10180.0     | 0.0        | 0.10        | 1.00            |
| 10230.0   | 10230.0     | 0.0        | 0.10        | 1.00            |
| 10280.0   | 10280.0     | 0.0        | 0.10        | 1.00            |
| 10330.0   | 10330.0     | 0.0        | 0.10        | 1.00            |
| 10380.0   | 10380.0     | 0.0        | 0.10        | 1.00            |
| 10430.0   | 10430.0     | 0.0        | 0.10        | 1.00            |
| 10480.0   | 10480.0     | 0.0        | 0.10        | 1.00            |
| 10530.0   | 10530.0     | 0.0        | 0.10        | 1.00            |
| 10580.0   | 10580.0     | 0.0        | 0.10        | 1.00            |
| 10630.0   | 10630.0     | 0.0        | 0.10        | 1.00            |
| 10680.0   | 10680.0     | 0.0        | 0.10        | 1.00            |
| 10730.0   | 10730.0     | 0.0        | 0.10        | 1.00            |
| 10780.0   | 10780.0     | 0.0        | 0.10        | 1.00            |
| 10830.0   | 10830.0     | 0.0        | 0.10        | 1.00            |
| 10880.0   | 10880.0     | 0.0        | 0.10        | 1.00            |
| 10930.0   | 10930.0     | 0.0        | 0.10        | 1.00            |
| 10980.0   | 10980.0     | 0.0        | 0.10        | 1.00            |
| 11030.0   | 11030.0     | 0.0        | 0.10        | 1.00            |
| 11080.0   | 11080.0     | 0.0        | 0.10        | 1.00            |
| 11130.0   | 11130.0     | 0.0        | 0.10        | 1.00            |
| 11180.0   | 11180.0     | 0.0        | 0.10        | 1.00            |
| 11230.0   | 11230.0     | 0.0        | 0.10        | 1.00            |
| 11280.0   | 11280.0     | 0.0        | 0.10        | 1.00            |
| 11330.0   | 11330.0     | 0.0        | 0.10        | 1.00            |
| 11380.0   | 11380.0     | 0.0        | 0.10        | 1.00            |
| 11430.0   | 11430.0     | 0.0        | 0.10        | 1.00            |
| 11480.0   | 11480.0     | 0.0        | 0.10        | 1.00            |
| 11530.0</ |             |            |             |                 |



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**Condition of the laboratory used:**

**Reference Standard Instruments:**

| Instrument                 | Model | Serial No. | Certificate No. | Expiry Date |
|----------------------------|-------|------------|-----------------|-------------|
| Digital Analytical Balance | HT104 | HT1040004  | HT1040004       | 30/06/2025  |

**Calibration Result:**

**Measurement Temperature Sensor Accuracy for C100 Reader**

| Capacity (Vial) | Actual Value (°C) | Average Value (°C) | Δ/Tolerance (°C) | Δ/Tolerance of (°C/°C) | Acceptance Criteria |
|-----------------|-------------------|--------------------|------------------|------------------------|---------------------|
| 20 Vial         | 100.0             | 100.0              | 0.0              | 0                      | Pass                |

Figure: Reference Accuracy of the temperature sensor.

|         |         |         |         |         |
|---------|---------|---------|---------|---------|
| 11.0    | 12.0    | 13.0    | 14.0    | 15.0    |
| 100.0°C | 100.0°C | 100.0°C | 100.0°C | 100.0°C |
| 16.0    | 17.0    | 18.0    | 19.0    | 20.0    |
| 100.0°C | 100.0°C | 100.0°C | 100.0°C | 100.0°C |
| 21.0    | 22.0    | 23.0    | 24.0    | 25.0    |
| 100.0°C | 100.0°C | 100.0°C | 100.0°C | 100.0°C |
| 26.0    | 27.0    | 28.0    | 29.0    | 30.0    |
| 100.0°C | 100.0°C | 100.0°C | 100.0°C | 100.0°C |
| 31.0    | 32.0    | 33.0    | 34.0    | 35.0    |
| 100.0°C | 100.0°C | 100.0°C | 100.0°C | 100.0°C |

Remarks: The temperature sensor is the actual value plus or minus the Measurement Uncertainty, and does not show that the Tolerance value of (±0.1) degree is exceeded the pass.

The reported accuracy of measurement was based on standard uncertainty multiplied by a coverage factor k=2, providing a level of confidence of approximately 95%.

\*\*\* End of calibration \*\*\*

เอกสารไม่ควบคุม

**Verification Certificate**

Certificate No.: 20240110-001-01  
Client name: UNITED ANALYST AND ENGINEERING CONSULTANT CO., LTD.  
Address: 230 Udonrath Road, Sukhumvit Road, Bangkok, Thailand 10110

Equipment: HEATING BLOCK DIGESTION  
Manufacturer: HANNA  
Model: 2830  
Serial No.: 97700000  
ID No.: 04E-WAS-011/0100  
Order No.: 20240110  
Operation No.: 20240110-001-01  
Date of Receipt: 24 March 2024  
Date of Calibration: 24 March 2024

Calibrated by: Mr. Nattawat Wongsawat (Specialist)  
Approved by: [Signature]  
Manager, Bureau of Calibration Laboratory  
Responsible for the Technical Management Team

The uncertainties are for a confidence probability of approximately 95%.  
This Certificate is issued to document the results of verification of the laboratory equipment shown which has been found to be in compliance with the requirements of the International Standard ISO 17025:2017. This certificate is not valid for equipment which does not meet the requirements of the International Standard.

เอกสารไม่ควบคุม

**Verification Report**

Certificate No.: 20240110-001-01  
Equipment: HEATING BLOCK DIGESTION  
Model: 2830  
Serial No.: 97700000  
ID No.: 04E-WAS-011/0100  
Order No.: 20240110  
Date of Calibration: 24 March 2024

Location: Laboratory Room, HT104/04, 1000/000000  
Reference Location: Standard Temperature: 25 ± 0.1 °C  
Reference Accuracy: ± 0.1 ± 0.1 °C  
Reference Uncertainty: ± 0.1 ± 0.1 °C

Condition of the results of Calibration:  
1. The equipment was calibrated by using standard instruments type A and B heating block digestion (calibrated by independent laboratory) from reference standard 0.0 degree to 100.0 degree.  
2. The temperature sensor used was tested at 100 °C.  
3. All data show below and the values and the data are in the range of the pass.

| Instrument          | Model | Serial No. | Certificate No. | Due Date   | Through |
|---------------------|-------|------------|-----------------|------------|---------|
| Digital Thermometer | HT104 | HT1040004  | HT1040004       | 30/06/2025 | Pass    |

3. The certificate is issued by the laboratory of the pass.  
4. The certificate was issued only for the instrument was calibrated.  
5. The result of calibration was found to be in compliance with the requirements of the International Standard ISO 17025:2017.  
6. Condition of Calibration: Pass  
7. Result of Calibration: ☒ Without adjustment ☐ With adjustment

เอกสารไม่ควบคุม

**Verification Report**

Certificate No.: 20240110-001-01  
Equipment: HEATING BLOCK DIGESTION  
Model: 2830  
Serial No.: 97700000  
ID No.: 04E-WAS-011/0100  
Order No.: 20240110  
Date of Calibration: 24 March 2024

Location: Laboratory Room, HT104/04, 1000/000000  
Reference Location: Standard Temperature: 25 ± 0.1 °C  
Reference Accuracy: ± 0.1 ± 0.1 °C  
Reference Uncertainty: ± 0.1 ± 0.1 °C

| Block No. | 100°C Heating (°C) | 100°C Heating (°C) | Heating (°C) | Heating (°C) | Uncertainty (°C) |
|-----------|--------------------|--------------------|--------------|--------------|------------------|
| 1         | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 2         | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 3         | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 4         | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 5         | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 6         | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 7         | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 8         | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 9         | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 10        | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 11        | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 12        | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 13        | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 14        | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 15        | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 16        | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 17        | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 18        | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 19        | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |
| 20        | 100.0              | 100.0              | 100.0        | 100.0        | 0.1              |

100°C = 100.0 degree Celsius  
Heating block of standard temperature is 100.0 degree and the result is 100.0 degree.  
Heating block of standard temperature is 100.0 degree and the result is 100.0 degree.

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#### 4 Control of Received Equipment

4.1 Verify that the correct instrument type and accessory kit items are received and in proper condition

The calling list (linked with the comment) specifies the state. The number 201 says that all items are marked as stopped on the parking lot. The 222 (see table) says that no arguments follow on any. If so, stop: "V" is the right column of the table immediately following.

[illegible]

## 5 Installation

5.1 The equipment must be installed in a suitable location with power, water and draining available

Yedigöller and the adjacent localities are noted for myristicaceae plants in the following list. It is noted "Y" in the localities if the plant is recorded in the following.

| Location Requirements              | Acceptance Criteria  | Pass (Y/N) |
|------------------------------------|--|------------|
| Site/entry point for equipment     | 20m away, shielded on  | Y          |
| AC supply available for test power | 200-240 V<br>50/60Hz   | Y          |
| Current                            | 30 A   | Y          |
| CRF water supply available         | 1 litre at 30°C  | Y          |
| Shield                             | For cooling and/or shielding (depending on local waste disposal regulations) | Y          |
| Rad Shield Personnel               | None, NRC  | Y          |
| Rad Shield Facility                | None, 30% exposure   | Y          |
| Primary Types                      | TITLE A/B  | Y          |

5.2 The instrument must be assembled correctly

Verify the distributive property concerning addition. If  $a$ , with  $1^{\circ}$  as the right value of the same base, is the following:

[illegible]

5.3 The instrument should be assembled and powered up

Figure 10. Plotting  $\log_{10}$  the power supply,  $P_{\text{supply}}$ , the rate of photosynthesis, and chlorophyll *a* for the experimental system. A dashed line, with  $\log_{10} 1000$  (right column) of the data, is included.

| Action  | Expected Response  | Page 22/33 |
|---|--|------------|
| Switch on the power   | The red power switch goes up and the off and on led's  | 3          |
|   | The display screen shows the number of wireless headphones (12 power) and the software version (also the version of the instrument software) |            |
|   | After pressing, button 1 is lit and the keypad menu is displayed   | 4          |
| Turn off the cable water tap  | No water flow  | 5          |
| Press the "Manual" icon   | The Manual menu is displayed   | 6          |
| Click the stop with the handle, click the start with the handle and in position. Close the door |  | 7          |
| Press <b>Stop</b> and press <b>Start</b>  | Water is added to Fig 1.6  | 8          |
| Press <b>Audit</b> and press <b>Start</b>   | 40 at 4.4200 to the side   | 9          |
| Press <b>Start</b> and close door   | After heating, door is entering the 1.6  | 10         |
| Press <b>Start</b> and press <b>Start</b>   | The tube is drawn  | 11         |



## 6 Summary of Deviations/Comments

Deviations from above requirements are specified below with any corrective actions are noted.

| Deviation | Action | Comments |
|-----------|--------|----------|
|           |        |          |
|           |        |          |
|           |        |          |
|           |        |          |

## 7 IQ Documentation

Enter name(s) responsible and recording of all deviations above, sign and date this record before it is signed by customer, leave only signature with customer.

If customer's internal procedures require further reporting or witnessing of results, records before completion is required.

Completed By: Parag Dinesh  
 Company: FOSS  
 Customer Name: Genetix Analytical and Engineering  
 Customer: Genetix Analytical and Engineering  
 Date being filled: July 24, 2018

## Kjeltec<sup>®</sup> 6100 Distillation Unit

This OQ applies to Kjeltec 6100 Distillation Unit manufactured by FOSS Analytical. The operation qualification is performed by FOSS In-house service personnel.

### 1 Intended Use

Kjeltec 6100 is intended for laboratory use analyzing parameters as specified in FOS's Analytical Applications Notes.

### 2 Purpose

This procedure is designed to test the function of the equipment according to factory specifications.

- Actual volume
- Distillation Accuracy
- Distillation Speed/Rate

### 3 Identification

| Description  | Serial Number |
|--|---------------|
| Kjeltec 6100 Distillation Unit, 2000-0001-1700000000 | 1711111111    |

### Qualification Acceptance Criteria

|                               |                                |                                |                               |
|-------------------------------|--------------------------------|--------------------------------|-------------------------------|
| Actual Volume: 200 ml         | Distillation Accuracy: 99.99%  | Distillation Speed: 1000 ml/hr | Distillation Rate: 1000 ml/hr |
| Distillation Accuracy: 99.99% | Distillation Speed: 1000 ml/hr | Distillation Rate: 1000 ml/hr  | Distillation Rate: 1000 ml/hr |

## 4 Performance

### 4.1 Verify the dispensed volumes of reagents

Need to verify the dispensed volume of reagents is high but should be close to the desired amount. Then calculate a mean value.

1. Choose "Standard" in the menu (When setting up the instrument program it is loaded).
2. Open the policy door to pouring (New test plate) into the instrument. Close the policy door.

#### Water

1. Pour 100mls into test plate (New test plate) into the instrument.
2. Measure the collected water in a graduated measuring glass and note the result in table 1 below.
3. Check acceptance criteria in the table and make the judgement if passed or not.

Note: If the water volume result is not sufficient, go to KJL Distillation Pump Calibration in the User Manual.

#### Acid

1. Pour 100ml into test plate (New test plate) into the instrument.
2. Measure the collected acid in a graduated measuring glass and note the result in table 1 below.
3. Check acceptance criteria in the table and make the judgement if passed or not.

Table 1: Reagent volume

| Test         | Result   | Expected result | Passed (Y/N) |
|--------------|--|-----------------|--------------|
| Water volume | 99.99 ml<br>99.99 ml<br>99.99 ml<br>Mean: 99.99 ml | 100.00 ml       | Y            |
| Acid volume  | 99.99 ml<br>99.99 ml<br>99.99 ml<br>Mean: 99.99 ml | 100.00 ml       | Y            |

### 4.2 Verify the distillation procedure, accuracy and precision

The distillation principle is to convert ammonia (NH<sub>3</sub>) into ammonium (NH<sub>4</sub><sup>+</sup>) by using an acid (HCl) and then the acid is converted into a precipitate (AgCl) and then the acid is converted into a precipitate (AgCl) and then the acid is converted into a precipitate (AgCl).

The way to perform this test will be described in the following.

#### Chemical Check

The ammonium solution (NH<sub>4</sub><sup>+</sup>) is used to check the accuracy.

100 ml sample = 100.00 g (100.00 g) is used to check the accuracy.

#### Analysis conditions according to AN 300

|                    |                       |
|--------------------|-----------------------|
| Method             | AN 300                |
| Reagent            | 100.00 ml (100.00 ml) |
| Distillation time  | 100.00 min            |
| Distillation rate  | 100.00 ml/hr          |
| Distillation speed | 100.00 ml/hr          |

#### For reagent preparation see Appendix A

1. Check the reagent and reagent (HCl) and then the acid is converted into a precipitate (AgCl) and then the acid is converted into a precipitate (AgCl).
2. Check the reagent and reagent (HCl) and then the acid is converted into a precipitate (AgCl) and then the acid is converted into a precipitate (AgCl).
3. Check the reagent and reagent (HCl) and then the acid is converted into a precipitate (AgCl) and then the acid is converted into a precipitate (AgCl).
4. Check the reagent and reagent (HCl) and then the acid is converted into a precipitate (AgCl) and then the acid is converted into a precipitate (AgCl).
5. Check the reagent and reagent (HCl) and then the acid is converted into a precipitate (AgCl) and then the acid is converted into a precipitate (AgCl).
6. Check the reagent and reagent (HCl) and then the acid is converted into a precipitate (AgCl) and then the acid is converted into a precipitate (AgCl).

| Reagent (ml) | Result   | Expected result | Passed (Y/N) |
|--------------|--|-----------------|--------------|
| Reagent (ml) | 99.99 ml<br>99.99 ml<br>99.99 ml<br>Mean: 99.99 ml | 100.00 ml       | Y            |
| Reagent (ml) | 99.99 ml<br>99.99 ml<br>99.99 ml<br>Mean: 99.99 ml | 100.00 ml       | Y            |
| Reagent (ml) | 99.99 ml<br>99.99 ml<br>99.99 ml<br>Mean: 99.99 ml | 100.00 ml       | Y            |
| Reagent (ml) | 99.99 ml<br>99.99 ml<br>99.99 ml<br>Mean: 99.99 ml | 100.00 ml       | Y            |



\*) Note: Please also note that the values given below must be adjusted if other purity levels of reagents are used. A certificate for the chemical reagent should be available.

| Purity | Nitrogen content |
|--------|------------------|
| 99.9%  | 21.18%           |
| 99.9%  | 21.17%           |
| 99.9%  | 21.18%           |
| 99.9%  | 21.18%           |
| 99.9%  | 21.18%           |

$$N_{\text{Nitrogen}} = \frac{\frac{m_{\text{Sample}} - m_{\text{Residue}}}{m_{\text{Sample}}} \times 14.007 \times 100}{\frac{m_{\text{Sample}} - m_{\text{Residue}}}{m_{\text{Sample}}}} \times 100$$

$$N_{\text{Nitrogen}} = \frac{21.18\%}{21.18\%} \times 100$$

$$N_{\text{Nitrogen}} = 100\%$$

## 5 Summary of Deviations/Comments

Deviations from above requirements are specified below and any corrective actions are noted.

| Deviation | Action | Comments |
|-----------|--------|----------|
|           |        |          |
|           |        |          |
|           |        |          |
|           |        |          |

## 6 OQ Documentation

Typical successful completion of test items, signed and dated this sheet below. If required by customer, have it also signed only with acceptance.

If customer's internal procedures require further reporting or referencing of results, insert them here as required.

Performed by: \_\_\_\_\_  
Checked by: \_\_\_\_\_  
Customer Name: \_\_\_\_\_  
Customer: \_\_\_\_\_  
Date completed: \_\_\_\_\_

## 7 Appendix A

### 7.1 Preparation of Reagents

#### 7.1.1 Aqueous

Ex. solvent: aqueous solution: use appropriate amount of suitable hydroxide to measure.

Use 100 g NaOH per liter of solution. Commercially available in concentrations up to 50 %. Do not use concentrations above 40 % as this will lead to crystal formation depending the function of the groups. If you use only low concentrations > 40 %, make a solution.

#### 7.1.2 Titration acid, determination of concentration

Ex. to determine sodium acetate (sodium) / sodium hydroxide, use acid to determine the NaOH. (Sodium hydroxide) concentration is what it is supposed to be. A solution against a predetermined solution of sodium acetate is described below in that document. (Sodium HCl) concentration can be determined by titration.

- Standard solution:**  
Weigh approx. 10 g of sodium acetate solution (NaOAc). Use a balance to make a few grams. Dry it by 1 hour at 100 °C or 2 h at 120 °C. After cooling in a desiccator, transfer the sodium acetate to a flask with a tight lid. Store it in a desiccator.
- Indicator solution:**  
Dissolve 1 g of indicator in 100 ml (methanol). Dissolve 10 g of sodium acetate in 100 ml (methanol).
- Procedure:**  
Weigh approx. 10 g of the standard solution, using an analytical balance, into the weight (W). Dissolve the sodium acetate in a reaction flask and add 40 ml of H<sub>2</sub>O (distilled) or deionized. Add 10 ml of indicator solution. Titrate to pink. Note the amount of acid used (A<sub>1</sub>). Dissolve this solution in a few minutes. The solution will turn pink. Carefully to avoid precipitation under covering water. Continue the titration until the next pink color change occurs. Note also this volume.  
(A<sub>2</sub>) Dissolve the solution in a few minutes. Dissolve rapidly in water temperature under covering water. Continue the titration until the next pink color occurs. Note also this volume (A<sub>3</sub>).  
Note: Temperature changes will influence the volume and the concentration of the titration solution. The working temperature of the titration should approximately that of the temperature during manufacturing. If temperature increases or decreases, sufficient accuracy may be obtained by use of a correction table (ATAC 100-10).

### 7.2 Calculation

$$N_{\text{NaOH}} = \frac{10.00 \times W}{(A_1 + A_2 + A_3)}$$

Note: Concentration must be accurate to four digits, i.e. 0.2000 M.

Note: The volume change of the official procedure (ATAC 100-10) may be different due, therefore a pH error in a total indicator (e.g. 0.1 g NaOH/L and 0.1 g NaOAc/L) is 100 ml (methanol) will cause a small error in practice.

### 7.3 Recalibration Solution

Recalibration solution: use appropriate amount of suitable hydroxide to measure.

Recalibration solution: use appropriate amount of suitable hydroxide to measure. The 1 % NaOH solution is prepared by dissolving 100 g of NaOH in 100 ml of distilled water. The standard solution is prepared by dissolving 100 g of NaOH in 100 ml of distilled water. The standard solution is prepared by dissolving 100 g of NaOH in 100 ml of distilled water. The standard solution is prepared by dissolving 100 g of NaOH in 100 ml of distilled water.

Note: The addition of acid to the solution is positive than zero. This should, however, be kept between 0.01 and 0.02 ml (methanol) when good separation is achieved.

Adjustment of the back acid is made by the following procedure:

- Transfer 10 ml from acid solution to a reaction flask and add 100 ml of distilled water. (The solution in the flask is acid and, since with 0.1 M sodium hydroxide solution and a small amount of acid is added). Calculate the amount of sodium hydroxide solution necessary to adjust the back acid solution in the 100 flask with the formula of 1 M NaOH = 10 (down + 0).
- Add the calculated amount of 1 M NaOH solution to the back acid solution. Mix.
- To obtain precision by titration using 25 ml of the back acid solution, then a blank. If the value of this blank is high (0.5 ml of 0.1 M NaOH) the back acid is incorrectly adjusted. The weight correction factor. The standard solution (0.1 M NaOH) is added into the back acid solution, note it carefully and repeat with a reading of 0.01 - 0.02 ml HCl is obtained. If a positive blank is not achieved, add further small quantities of 0.1 M NaOH and repeat the back acid solution until a value is achieved.







### 8.2.2 Weekly Maintenance

| Item               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |  |
|--------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
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| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |
| Level of equipment |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |  |







[illegible][illegible]

Overall Demographic: \_\_\_\_\_

[illegible]

## เอกสารไม่ควบคุม

[illegible]

Figure 1. Distribution of the 1000 simulated datasets. The figure shows a bar chart with the following data series:

| Category | Count |
|----------|-------|
| 0        | 100   |
| 1        | 100   |
| 2        | 100   |
| 3        | 100   |
| 4        | 100   |
| 5        | 100   |
| 6        | 100   |
| 7        | 100   |
| 8        | 100   |
| 9        | 100   |

The x-axis is labeled 'Category' and ranges from 0 to 9. The y-axis is labeled 'Count' and ranges from 0 to 1000. The bars are blue and have a height of 100 for each category.

Printed on acid-free paper. 100% recycled paper, including 10% post consumer waste.

|                  |        |        |        |
|------------------|--------|--------|--------|
| Source           | 1990   |        |        |
| Required return  | 14.00% |        |        |
| Cost of          | 10.00% |        |        |
| Debt             | 10.00% |        |        |
| Equity           | 14.00% |        |        |
| Weighted average | 12.00% |        |        |
| Payoff           | 10.00% | 14.00% | 12.00% |
| Weight           | 0.4    | 0.6    | 1.0    |
| Adjusted Return  | 4.00%  | 8.40%  | 12.00% |
| Adjusted Return  | 4.00%  | 8.40%  | 12.00% |

## เอกสารไม่ควบคุม

|                    |                      |
|--------------------|----------------------|
| Request Status     | Paid                 |
| Date               | 07/08/2016           |
| Request Number     | 100-1-108-2          |
| For Signature      | 100-1-108-2          |
| Amount             | \$0.00               |
| Agency Recommended | Yes No \$0.00 \$0.00 |

Overall UIC Data Temperature History Test Status

Internet:

Resource Status: **Pass**

Configuration:

Capacity:

Author:

Overall GC-MS Temperature Stability Test Results

|                                      |                    |    |        |
|--------------------------------------|--------------------|----|--------|
| <b>Sourcing Rule</b>                 |                    |    |        |
| <b>Rated Organization:</b>           | Thru               | 60 | 7 Year |
|                                      | <b>Report View</b> |    |        |
| <b>Name</b>                          | TRK                |    |        |
| <b>Original Status</b>               | Completed          |    |        |
| <b>Expected Release per Customer</b> | 0.0                | nd |        |

## เอกสารไม่ควบคุม

[illegible]

Downloaded from <http://ajphaphysiol.org/> at Univ of California on June 11, 2015

[illegible]

Source: *Source: Planning & Marketing*

[illegible]

## เอกสารไม่ควบคุม







(continued)

|                |                                |
|----------------|--------------------------------|
| Manufacturer   | Applied Technologies           |
| Name           | 1001                           |
| Page           | 14                             |
| Accession      | 000000                         |
| Country Code   | Business Process Control (BPC) |
| Location       | Bank                           |
| Reference Code | Business                       |

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Electronic Signature

## 7

This signature stage was raised post purchase because the 220 sign-off action was essential, which is used for the option document building agreement. The 220 sign-off is an agreement signified that the option document building agreement, option agreement and purchase agreement is a complete agreement and has been fully performed. It is an agreement to the building and type of sign-off. The agreement is a formal official signature. The highest agreement is that a person provides a sign-off to receive 200 and automatically after the document. (This is a sign-off to be applied to the document using a Document Content Management or other suitable software under a secure access and control procedure.)

**Order**  
Full Name of Signer: \_\_\_\_\_  
Accepted On Behalf of: \_\_\_\_\_  
Signature Creation Date: February 22, 2025  
Accepted On Behalf of: \_\_\_\_\_

**Peng-Wei Chen**, *Graduate Institute of Management, National Taiwan University, Taipei, Taiwan*

From a theoretical perspective it is known that a single point source in a homogeneous isotropic medium is equivalent to a dipole source placed at the same location. In this paper, we consider the problem of a point source in a medium with a spatially varying density. The equivalent dipole is placed at a location that is determined by the geometry of the medium. This location is determined by the geometry of the medium and the location of the source. The location of the dipole is determined by the geometry of the medium and the location of the source. The location of the dipole is determined by the geometry of the medium and the location of the source.

**References**

Supporting Information includes online supplementary material, which can be accessed at <http://www.blackwell-synergy.com/doi/full/doi/10.1111/j.1365-2013.02622.x>. Additional Supporting Information may be found in the online version of this article: <http://www.blackwell-synergy.com/doi/full/doi/10.1111/j.1365-2013.02622.x>. Please refer to the online version of this article for the full text of this article.

| Year | Department          | Project   | Start Date | End Date   | Status      |
|------|---------------------|-----------|------------|------------|-------------|
| 2010 | Engineering         | Project A | 2010-01-01 | 2010-12-31 | Completed   |
| 2011 | Marketing           | Project B | 2011-03-15 | 2011-09-30 | In Progress |
| 2012 | Finance             | Project C | 2012-01-01 | 2012-06-30 | Completed   |
| 2013 | Operations          | Project D | 2013-04-01 | 2013-10-31 | On Hold     |
| 2014 | IT                  | Project E | 2014-02-01 | 2014-11-30 | Completed   |
| 2015 | HR                  | Project F | 2015-05-01 | 2015-12-31 | In Progress |
| 2016 | Legal               | Project G | 2016-01-01 | 2016-03-31 | Completed   |
| 2017 | Sales               | Project H | 2017-07-01 | 2017-12-31 | In Progress |
| 2018 | Product Development | Project I | 2018-01-01 | 2018-06-30 | Completed   |
| 2019 | Customer Support    | Project J | 2019-03-01 | 2019-09-30 | In Progress |

[illegible]



OneView Connection Services  
Agilent OneView Connection Services

| Item                   | Connection<br>Name | Security<br>Protocol | Type of Connection | Agilent OneView<br>Connection |
|------------------------|--------------------|----------------------|--------------------|-------------------------------|
| Item 1: 2022-01-01-01  | Item 1             | Item 1               | Item 1             | Item 1                        |
| Item 2: 2022-01-01-02  | Item 2             | Item 2               | Item 2             | Item 2                        |
| Item 3: 2022-01-01-03  | Item 3             | Item 3               | Item 3             | Item 3                        |
| Item 4: 2022-01-01-04  | Item 4             | Item 4               | Item 4             | Item 4                        |
| Item 5: 2022-01-01-05  | Item 5             | Item 5               | Item 5             | Item 5                        |
| Item 6: 2022-01-01-06  | Item 6             | Item 6               | Item 6             | Item 6                        |
| Item 7: 2022-01-01-07  | Item 7             | Item 7               | Item 7             | Item 7                        |
| Item 8: 2022-01-01-08  | Item 8             | Item 8               | Item 8             | Item 8                        |
| Item 9: 2022-01-01-09  | Item 9             | Item 9               | Item 9             | Item 9                        |
| Item 10: 2022-01-01-10 | Item 10            | Item 10              | Item 10            | Item 10                       |

OneView Connection Services  
Agilent OneView Connection Services

| Item                   | Connection<br>Name | Security<br>Protocol | Type of Connection | Agilent OneView<br>Connection |
|------------------------|--------------------|----------------------|--------------------|-------------------------------|
| Item 1: 2022-01-01-01  | Item 1             | Item 1               | Item 1             | Item 1                        |
| Item 2: 2022-01-01-02  | Item 2             | Item 2               | Item 2             | Item 2                        |
| Item 3: 2022-01-01-03  | Item 3             | Item 3               | Item 3             | Item 3                        |
| Item 4: 2022-01-01-04  | Item 4             | Item 4               | Item 4             | Item 4                        |
| Item 5: 2022-01-01-05  | Item 5             | Item 5               | Item 5             | Item 5                        |
| Item 6: 2022-01-01-06  | Item 6             | Item 6               | Item 6             | Item 6                        |
| Item 7: 2022-01-01-07  | Item 7             | Item 7               | Item 7             | Item 7                        |
| Item 8: 2022-01-01-08  | Item 8             | Item 8               | Item 8             | Item 8                        |
| Item 9: 2022-01-01-09  | Item 9             | Item 9               | Item 9             | Item 9                        |
| Item 10: 2022-01-01-10 | Item 10            | Item 10              | Item 10            | Item 10                       |

OneView Connection Services  
Agilent OneView Connection Services

| Item                   | Connection<br>Name | Security<br>Protocol | Type of Connection | Agilent OneView<br>Connection |
|------------------------|--------------------|----------------------|--------------------|-------------------------------|
| Item 1: 2022-01-01-01  | Item 1             | Item 1               | Item 1             | Item 1                        |
| Item 2: 2022-01-01-02  | Item 2             | Item 2               | Item 2             | Item 2                        |
| Item 3: 2022-01-01-03  | Item 3             | Item 3               | Item 3             | Item 3                        |
| Item 4: 2022-01-01-04  | Item 4             | Item 4               | Item 4             | Item 4                        |
| Item 5: 2022-01-01-05  | Item 5             | Item 5               | Item 5             | Item 5                        |
| Item 6: 2022-01-01-06  | Item 6             | Item 6               | Item 6             | Item 6                        |
| Item 7: 2022-01-01-07  | Item 7             | Item 7               | Item 7             | Item 7                        |
| Item 8: 2022-01-01-08  | Item 8             | Item 8               | Item 8             | Item 8                        |
| Item 9: 2022-01-01-09  | Item 9             | Item 9               | Item 9             | Item 9                        |
| Item 10: 2022-01-01-10 | Item 10            | Item 10              | Item 10            | Item 10                       |

OneView Connection Services  
Agilent OneView Connection Services

| Item                   | Connection<br>Name | Security<br>Protocol | Type of Connection | Agilent OneView<br>Connection |
|------------------------|--------------------|----------------------|--------------------|-------------------------------|
| Item 1: 2022-01-01-01  | Item 1             | Item 1               | Item 1             | Item 1                        |
| Item 2: 2022-01-01-02  | Item 2             | Item 2               | Item 2             | Item 2                        |
| Item 3: 2022-01-01-03  | Item 3             | Item 3               | Item 3             | Item 3                        |
| Item 4: 2022-01-01-04  | Item 4             | Item 4               | Item 4             | Item 4                        |
| Item 5: 2022-01-01-05  | Item 5             | Item 5               | Item 5             | Item 5                        |
| Item 6: 2022-01-01-06  | Item 6             | Item 6               | Item 6             | Item 6                        |
| Item 7: 2022-01-01-07  | Item 7             | Item 7               | Item 7             | Item 7                        |
| Item 8: 2022-01-01-08  | Item 8             | Item 8               | Item 8             | Item 8                        |
| Item 9: 2022-01-01-09  | Item 9             | Item 9               | Item 9             | Item 9                        |
| Item 10: 2022-01-01-10 | Item 10            | Item 10              | Item 10            | Item 10                       |







# Agilent CrossLab Start Up Services

## Agilent 7890 Gas Chromatograph

### Preventive Maintenance Checklist

Agilent Preventive Maintenance provides factory recommended service for your analytical instruments to ensure reliable operation and the accuracy of your results.

Followed by highly trained and certified service engineers using genuine Agilent parts and Agilent, Agilent-authorized or Agilent-qualified tools and equipment, Agilent Preventive Maintenance provides a full range of service to reduce downtime and keep your systems operating at their peak. This checklist will be completed at the end of the service and provided to you as a record of the preventive maintenance activities.

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Agilent 7890 GC Preventive Maintenance Checklist



#### Introduction

#### Customer Information

- Customer should provide all necessary operating supplies upon request of the engineer.
- A customer representative should be available to the engineer while performing the preventive maintenance procedures.
- Any parts not included in the Preventive Maintenance section of this document are not part of the recommended Preventive Maintenance service and are charged to the price of the service.
- If a system requires the use of tools or special procedures to replace parts for the maintenance service, these tools and procedures may be charged to a work order, which may incur additional costs.

#### Important Customer Web Links

- For general information about Agilent Technologies services, please visit our website using the following URL: <http://www.agilent.com/service> or contact your local Agilent representative.
- The **Agilent Community** is an excellent place to get answers, collaborate with others about instrumentation and Agilent products, and find technical documents and other helpful information. Visit <http://www.agilent.com/communities>.
- To access **Agilent University**, visit <http://www.agilent.com/university> to learn about training options, which include online, classroom and on-site delivery. A training specialist can work closely with you to help determine your best options.
- A useful **Agilent Resource Center** web page is available, which includes short videos on maintenance, quick tips of troubleshooting for new instruments, and other valuable information. Check out the **Resource Page** here: <http://www.agilent.com/service/agilentresources>.
- Find technical support FAQs at <http://www.agilent.com/support>.
- Where should I specify the parameters responsible for your instrument data? See what by searching the **Agilent YouTube channel** at <http://www.youtube.com/agilent>.
- Product Manuals** are also available on Agilent.com:
  - Safety**  
<http://www.agilent.com/chem/7890/7890safety.pdf>
  - Installation and First Startup**  
<http://www.agilent.com/chem/7890/7890inst.pdf>
  - Operation Manual**  
<http://www.agilent.com/chem/7890/7890om.pdf>
  - Installing Your GC**  
<http://www.agilent.com/chem/7890/7890inst.pdf>

Agilent 7890 GC Preventive Maintenance Checklist



#### Service Engineer's Responsibilities

- Confirm the customer address and ensure that all necessary supplies are available before the preventive maintenance visit.
- Only select those pages that relate to the system or include using universal.
- Complete empty fields with the relevant information.
- Complete the relevant checkboxes in the checklist using either a "V" or "not used" "N".
- Check **"System not applicable"** if not found to indicate service history not followed as instructed.
- Complete the Preventive Maintenance record in the order of the tasks listed.
- Complete the Service Review section together with the customer.
- Complete the fields for page numbers at the foot of each selected page.
- Complete the total number of pages field in the Service Completion section.
- Ask the customer to sign the Service Completion section including the customer's and your signatures.

#### Additional Instruction Notes

- Check for any software version updates for this GC. If there are any, download "Safety" or "Installation" new instructions, then implement the changes on this and before starting any modification process.
- Do not implement firmware updates, unless you get approval from the customer and are sure that they are compatible with the instrument's configuration.

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Agilent Proactive Maintenance provides faster, more complete service for your analytical instruments to assure timely completion of the majority of your results. Delivered by highly trained and certified service engineers using genuine Agilent parts and supplies, Agilent Proactive Maintenance provides everything you need to reduce unplanned downtime and keep your systems operating at their peak. This should all be considered as the part of the service and support you can expect as a member of the institution.

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- To access **Agilent University**, visit <http://www.agilent.com/education/university> to learn more about training options, which include courses, seminars and on-site classes. A training coordinator can assist directly with you in choosing the right training option.
- To visit **Agilent Technology Centers**, visit [www.agilent.com/locations](http://www.agilent.com/locations) to learn more about our locations and the services that we offer.
- Need technical support? Visit [www.agilent.com/Support](http://www.agilent.com/Support) — visit our **Support Home page**.

- Contact the customer and ensure that all necessary supplies are available before the presentation and practice shift.
- Only select those pages that relate to the system or module being assessed.
- Complete a pretest before with the relevant information.
- Complete a pretest to ensure the accuracy of the student's understanding of the system or module.
- Check "function not applicable" check boxes to indicate incorrect/missing data, as appropriate.
- Complete the Pretest Information Sheet in the order of the items listed.
- Complete the System Review section together with the customer.
- Complete the Self-Test page number at the end of each selected page.
- Complete the total number of pages field in the System Information section.
- Add the customer's name to the bottom of the document including the customer's name and your signature.

- Check for any active service orders for this unit. If there are any applicable "Safety" or "Mechanical Maintenance" Service orders, plan to implement the changes on this unit before doing any qualification service.
- Do not implement any new updates, unless you get approval from the customer, and are sure that they are compatible with the customer's current software.

2. The right-hand side of the inequality must not exceed a certain upper bound.

18. Discuss any specific issues with the software before starting.
19. Review the installation guidelines for the selected platform and its components.
20. Space components (e.g., database, web server) across the geography.
21. Perform a general inspection of the system for installation.
22. Check for proper installation of parts, assemblies, resources, etc.
23. Check system for required hardware, software, and other dependencies.
24. Check for resource (memory, storage, and network) capacity. If any more are required, install them.
25. Before starting the following procedures, ensure that the Customer Support Assistant is in the correct state. If the CCA is already in a state, ensure that you have the correct state before and after the service is not available.

19. Check power and turn the power switch.
20. Open the cover and disconnect the key. Also check the particular connection to cooling fan.
21. Inspect physical connection for proper contact and fixed part.
22. Reconnect power to the fan. Under the fan on and verify the power is well not placed.
23. Verify speed of rotation. Check and verify the fan speed should not be slow or fast in speed.
24. Verify operation of all other fans. If not per CPU cooling fan.
25. Verify speed, connection and fan assembly is working smoothly while loading and during the test.

- For the process installed, perform the maintenance using the Maintenance procedure from either the Local or Remote User Interfaces. Perform the Insulate, Sewer and Ventilation Test.
- Replace the split and the capacitor. Also use the Maintenance procedure from either the Local or Remote User Interfaces to activate and deactivate the Split Split Load Control (SPLC). Note: Insulate Mat (IMM), Programmed Temperature Sequence (PTS), Ventilation Schedule (VS), and the Insulate, Sewer and Ventilation Test.
- If the split system is used to Split Load with Insulate, capacitor, inspect and clean the split main line on the split end first to replace the tubing between the split and the split main line.
- If the IMC includes a Freeze Protection Sensor (FPS) replace the IMC. If the sensor shows any buildup of sample or corrosion, replace the sensor. Therefore the IMC should not contain assemblies for replacement – IMC is non-repairable.

2. **Terms of Use:** By using the TuftsConnect User Interface, you agree to the following terms of use:



## AIE Maintenance:

## A. Section AIEE applicable:

1. Check all safety and control panel settings between GC, HPLC, and Agilent.
2. Verify an external gas flow, especially ambient flow.
3. Check operation of all flow.
4. Check settings for ambient pressure operation.
5. Check for smooth operation of the waste system if used (if necessary).

## Feature Instrument:

1. Restore the normal operating conditions to customer method, using the back-up system (if any).
2. Place the system with up to 100 µg 1% sample.
3. Note up the system, then restore the normal operating conditions.
4. After equilibration, check and record the peak TM detector signal output values. Peaks should be stable or lower than the detector outputs recorded prior to the test.
5. Perform a chemical check-out if this is a waste PM, report the customer's sample using the GC if applicable. This will verify a final check-out of both the AIE and the GC.

Note: If the PM service is performed prior to a qualification service, then use the qualification procedure as a guide for final checks when set up and checked.

## Service Review:

1. Attach available inspection records of all data to this documentation.
2. Record the Preventive Maintenance Service (PMS) to the customer's service logbook.
3. Update used instrument operation as shown as appropriate.
4. If the PM service is the system or instrument logbook based on the customer's request.
5. Complete the Service Inspection/Comments section if there are additional comments.
6. Review the service, parts replaced and test results shared with the customer.
7. If the instrument is under warranty, record the details of the changes to the Service Inspection/Comments section if necessary, in the customer's logbook.
8. Please ask the customer if they would like to have their instrument installed on their computer.

## Pre Test Results Table:

| Test Description                           | Before PM Service    | After PM Service   |
|--|----------------------|--------------------|
| Flow detector output                       | 10.0 g               | 10.0 g             |
| Gas detector output                        | 10.0 g               | 10.0 g             |
| AIE detector output                        | 10.0 g               | 10.0 g             |
| AIE detector output                        | 10.0 g               | 10.0 g             |
| Test description:                          | Expected test result | Actual test result |
| Gas and Ambient Flow after flow meter      | Pass                 |                    |
| Gas and Ambient Flow after back flow       | Pass                 | 10.0 g             |
| Gas and Ambient Flow after flow meter back | Pass                 |                    |
| Gas and Ambient Flow after flow meter back | Pass                 |                    |
| Gas and Ambient Flow after back flow meter | Pass                 | 10.0 g             |
| Flow rate (pressure drop test)             | Pass                 |                    |
| Flow rate (pressure drop test)             | Pass                 | 10.0 g             |

## Pre Test Log Table:

Note: The following table is used to record the results of the testing and results of the test. If there is a problem, the test should be performed at a qualified level of laboratory, you should use the test results to record.

| Test description                | Test result | Expected test result | Service description |
|---------------------------------|-------------|----------------------|---------------------|
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |

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| Test description                | Test result | Expected test result | Service description |
|---------------------------------|-------------|----------------------|---------------------|
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |
| GC, Gasflow (GC) and GC, GC, GC | 10.0 g      | 10.0 g               | 10.0 g              |

## Service Engineer Comments (optional):

If there are any specific points to be noted or to be performed, the service engineer should record the test results, please only include them in the test.

## Service Completion:

Service request number: 1001111111, Date service completed: 10 Jan 2011  
 Agilent signature: 1001111111, Customer signature: 1001111111  
 Total number of pages in this document: 1

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Do not include this section/page in the published customer-facing PDF version.

This page is only relevant for Agilent service documents for internal use of personnel and is NOT intended for customer viewing. Reflects the internal status of the service for internal use.

## Document Control Logs

## Revision Log


| Revision | Date        | Reason for update |
|----------|-------------|-------------------|
| 1.00     | 10 Jan 2011 | Initial version   |

## Approval Log

| Revision | Agilent           | Time of approval |
|----------|-------------------|------------------|
| 1.00     | Agilent Signature | 10 Jan 2011      |

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Select the appropriate PM to be done and then perform the checklist under that section.

☐ Initial Preventive Maintenance      0 weeks  
☐ Major Preventive Maintenance      1 Year

This checklist covers the following model(s):

| Type | Model             |
|------|-------------------|
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |


Selection of the Task/Recommended Index within the document:

| Task                              | Recommended              | Index/Recommended |
|-----------------------------------|--------------------------|-------------------|
| 1. Initial Preventive Maintenance | <input type="checkbox"/> | 1                 |
| 2. Major Preventive Maintenance   | <input type="checkbox"/> | 2                 |
| 3. Initial Preventive Maintenance | <input type="checkbox"/> | 3                 |
| 4. Major Preventive Maintenance   | <input type="checkbox"/> | 4                 |
| 5. Initial Preventive Maintenance | <input type="checkbox"/> | 5                 |
| 6. Major Preventive Maintenance   | <input type="checkbox"/> | 6                 |
| 7. Initial Preventive Maintenance | <input type="checkbox"/> | 7                 |
| 8. Major Preventive Maintenance   | <input type="checkbox"/> | 8                 |
| 9. Initial Preventive Maintenance | <input type="checkbox"/> | 9                 |
| 10. Major Preventive Maintenance  | <input type="checkbox"/> | 10                |

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| 4. Major Preventive Maintenance   | <input type="checkbox"/> | 4                 |
| 5. Initial Preventive Maintenance | <input type="checkbox"/> | 5                 |
| 6. Major Preventive Maintenance   | <input type="checkbox"/> | 6                 |
| 7. Initial Preventive Maintenance | <input type="checkbox"/> | 7                 |
| 8. Major Preventive Maintenance   | <input type="checkbox"/> | 8                 |
| 9. Initial Preventive Maintenance | <input type="checkbox"/> | 9                 |
| 10. Major Preventive Maintenance  | <input type="checkbox"/> | 10                |

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| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |
| GC   | 6890 Series GC/MS |


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| Task                              | Recommended              | Index/Recommended |
|-----------------------------------|--------------------------|-------------------|
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| 2. Major Preventive Maintenance   | <input type="checkbox"/> | 2                 |
| 3. Initial Preventive Maintenance | <input type="checkbox"/> | 3                 |
| 4. Major Preventive Maintenance   | <input type="checkbox"/> | 4                 |
| 5. Initial Preventive Maintenance | <input type="checkbox"/> | 5                 |
| 6. Major Preventive Maintenance   | <input type="checkbox"/> | 6                 |
| 7. Initial Preventive Maintenance | <input type="checkbox"/> | 7                 |
| 8. Major Preventive Maintenance   | <input type="checkbox"/> | 8                 |
| 9. Initial Preventive Maintenance | <input type="checkbox"/> | 9                 |
| 10. Major Preventive Maintenance  | <input type="checkbox"/> | 10                |

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Part 2 – Estimated and an residual as part of the jointwise maintenance

| Appendix B: Performance Targets |           |                     |        |
|---------------------------------|-----------|---------------------|--------|
| Agencies                        |           |                     |        |
| Agency                          | Indicator | Measure             | Target |
| A                               | A         | Agency A: Measure A | 100%   |
|                                 |           | Agency A: Measure B | 100%   |
|                                 |           | Agency A: Measure C | 100%   |
|                                 |           | Agency A: Measure D | 100%   |
|                                 |           | Agency A: Measure E | 100%   |
|                                 |           | Agency A: Measure F | 100%   |
| B                               | B         | Agency B: Measure A | 100%   |
|                                 |           | Agency B: Measure B | 100%   |
|                                 |           | Agency B: Measure C | 100%   |
|                                 |           | Agency B: Measure D | 100%   |
|                                 |           | Agency B: Measure E | 100%   |
|                                 |           | Agency B: Measure F | 100%   |
| C                               | C         | Agency C: Measure A | 100%   |
|                                 |           | Agency C: Measure B | 100%   |
|                                 |           | Agency C: Measure C | 100%   |
|                                 |           | Agency C: Measure D | 100%   |
|                                 |           | Agency C: Measure E | 100%   |
|                                 |           | Agency C: Measure F | 100%   |
| D                               | D         | Agency D: Measure A | 100%   |
|                                 |           | Agency D: Measure B | 100%   |
|                                 |           | Agency D: Measure C | 100%   |
|                                 |           | Agency D: Measure D | 100%   |
|                                 |           | Agency D: Measure E | 100%   |
|                                 |           | Agency D: Measure F | 100%   |
| E                               | E         | Agency E: Measure A | 100%   |
|                                 |           | Agency E: Measure B | 100%   |
|                                 |           | Agency E: Measure C | 100%   |
|                                 |           | Agency E: Measure D | 100%   |
|                                 |           | Agency E: Measure E | 100%   |
|                                 |           | Agency E: Measure F | 100%   |
| F                               | F         | Agency F: Measure A | 100%   |
|                                 |           | Agency F: Measure B | 100%   |
|                                 |           | Agency F: Measure C | 100%   |
|                                 |           | Agency F: Measure D | 100%   |
|                                 |           | Agency F: Measure E | 100%   |
|                                 |           | Agency F: Measure F | 100%   |

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| Key Performance Indicators for 2023-2024 |      |      |      |      |
|--|------|------|------|------|
| Year                                     | Q1   | Q2   | Q3   | Q4   |
| 2023                                     | 100% | 100% | 100% | 100% |
| 2024                                     | 100% | 100% | 100% | 100% |

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DOI-10.1002/for

| Year | Quarter | Revenue | Expenses | Profit |
|------|---------|---------|----------|--------|
| 2010 | Q1      | 100     | 80       | 20     |
| 2010 | Q2      | 120     | 90       | 30     |
| 2010 | Q3      | 110     | 85       | 25     |
| 2010 | Q4      | 130     | 100      | 30     |
| 2011 | Q1      | 140     | 110      | 30     |
| 2011 | Q2      | 150     | 120      | 30     |
| 2011 | Q3      | 160     | 130      | 30     |
| 2011 | Q4      | 170     | 140      | 30     |
| 2012 | Q1      | 180     | 150      | 30     |
| 2012 | Q2      | 190     | 160      | 30     |
| 2012 | Q3      | 200     | 170      | 30     |
| 2012 | Q4      | 210     | 180      | 30     |

| H4: Measurement Properties for Self-Report |      |          |
|--|------|----------|
| Item No.                                   | Item | Response |
| Item No.                                   | Item | Response |
| 1  | 1    | 1        |
| 2  | 2    | 2        |
| 3  | 3    | 3        |
| 4  | 4    | 4        |
| 5  | 5    | 5        |
| 6  | 6    | 6        |
| 7  | 7    | 7        |
| 8  | 8    | 8        |
| 9  | 9    | 9        |
| 10   | 10   | 10       |
| 11   | 11   | 11       |
| 12   | 12   | 12       |
| 13   | 13   | 13       |
| 14   | 14   | 14       |
| 15   | 15   | 15       |
| 16   | 16   | 16       |
| 17   | 17   | 17       |
| 18   | 18   | 18       |
| 19   | 19   | 19       |
| 20   | 20   | 20       |
| 21   | 21   | 21       |
| 22   | 22   | 22       |
| 23   | 23   | 23       |
| 24   | 24   | 24       |
| 25   | 25   | 25       |
| 26   | 26   | 26       |
| 27   | 27   | 27       |
| 28   | 28   | 28       |
| 29   | 29   | 29       |
| 30   | 30   | 30       |
| 31   | 31   | 31       |
| 32   | 32   | 32       |
| 33   | 33   | 33       |
| 34   | 34   | 34       |
| 35   | 35   | 35       |
| 36   | 36   | 36       |
| 37   | 37   | 37       |
| 38   | 38   | 38       |
| 39   | 39   | 39       |
| 40   | 40   | 40       |
| 41   | 41   | 41       |
| 42   | 42   | 42       |
| 43   | 43   | 43       |
| 44   | 44   | 44       |
| 45   | 45   | 45       |
| 46   | 46   | 46       |
| 47   | 47   | 47       |
| 48   | 48   | 48       |
| 49   | 49   | 49       |
| 50   | 50   | 50       |
| 51   | 51   | 51       |
| 52   | 52   | 52       |
| 53   | 53   | 53       |
| 54   | 54   | 54       |
| 55   | 55   | 55       |
| 56   | 56   | 56       |
| 57   | 57   | 57       |
| 58   | 58   | 58       |
| 59   | 59   | 59       |
| 60   | 60   | 60       |
| 61   | 61   | 61       |
| 62   | 62   | 62       |
| 63   | 63   | 63       |
| 64   | 64   | 64       |
| 65   | 65   | 65       |
| 66   | 66   | 66       |
| 67   | 67   | 67       |
| 68   | 68   | 68       |
| 69   | 69   | 69       |
| 70   | 70   | 70       |
| 71   | 71   | 71       |
| 72   | 72   | 72       |
| 73   | 73   | 73       |
| 74   | 74   | 74       |
| 75   | 75   | 75       |
| 76   | 76   | 76       |
| 77   | 77   | 77       |
| 78   | 78   | 78       |
| 79   | 79   | 79       |
| 80   | 80   | 80       |
| 81   | 81   | 81       |
| 82   | 82   | 82       |
| 83   | 83   | 83       |
| 84   | 84   | 84       |
| 85   | 85   | 85       |
| 86   | 86   | 86       |
| 87   | 87   | 87       |
| 88   | 88   | 88       |
| 89   | 89   | 89       |
| 90   | 90   | 90       |
| 91   | 91   | 91       |
| 92   | 92   | 92       |
| 93   | 93   | 93       |
| 94   | 94   | 94       |
| 95   | 95   | 95       |
| 96   | 96   | 96       |
| 97   | 97   | 97       |
| 98   | 98   | 98       |
| 99   | 99   | 99       |
| 100  | 100  | 100      |

## เอกสารไม่ควบคุม

**Furns**—Rounds the neighborhood if heard defective or worse can

[illegible]

| 2017 Performance Summary for 2017-2018-2019 |      |       |      |
|---|------|-------|------|
| Year No.                                    | Year | Score | Rank |
| 1   | 2017 | 85.00 | 1st  |
| 2   | 2018 | 85.00 | 1st  |
| 3   | 2019 | 85.00 | 1st  |
| 4   | 2020 | 85.00 | 1st  |
| 5   | 2021 | 85.00 | 1st  |
| 6   | 2022 | 85.00 | 1st  |
| 7   | 2023 | 85.00 | 1st  |
| 8   | 2024 | 85.00 | 1st  |
| 9   | 2025 | 85.00 | 1st  |
| 10  | 2026 | 85.00 | 1st  |
| 11  | 2027 | 85.00 | 1st  |
| 12  | 2028 | 85.00 | 1st  |
| 13  | 2029 | 85.00 | 1st  |
| 14  | 2030 | 85.00 | 1st  |
| 15  | 2031 | 85.00 | 1st  |
| 16  | 2032 | 85.00 | 1st  |
| 17  | 2033 | 85.00 | 1st  |
| 18  | 2034 | 85.00 | 1st  |
| 19  | 2035 | 85.00 | 1st  |
| 20  | 2036 | 85.00 | 1st  |
| 21  | 2037 | 85.00 | 1st  |
| 22  | 2038 | 85.00 | 1st  |
| 23  | 2039 | 85.00 | 1st  |
| 24  | 2040 | 85.00 | 1st  |
| 25  | 2041 | 85.00 | 1st  |
| 26  | 2042 | 85.00 | 1st  |
| 27  | 2043 | 85.00 | 1st  |
| 28  | 2044 | 85.00 | 1st  |
| 29  | 2045 | 85.00 | 1st  |
| 30  | 2046 | 85.00 | 1st  |
| 31  | 2047 | 85.00 | 1st  |
| 32  | 2048 | 85.00 | 1st  |
| 33  | 2049 | 85.00 | 1st  |
| 34  | 2050 | 85.00 | 1st  |
| 35  | 2051 | 85.00 | 1st  |
| 36  | 2052 | 85.00 | 1st  |
| 37  | 2053 | 85.00 | 1st  |
| 38  | 2054 | 85.00 | 1st  |
| 39  | 2055 | 85.00 | 1st  |
| 40  | 2056 | 85.00 | 1st  |
| 41  | 2057 | 85.00 | 1st  |
| 42  | 2058 | 85.00 | 1st  |
| 43  | 2059 | 85.00 | 1st  |
| 44  | 2060 | 85.00 | 1st  |
| 45  | 2061 | 85.00 | 1st  |
| 46  | 2062 | 85.00 | 1st  |
| 47  | 2063 | 85.00 | 1st  |
| 48  | 2064 | 85.00 | 1st  |
| 49  | 2065 | 85.00 | 1st  |
| 50  | 2066 | 85.00 | 1st  |
| 51  | 2067 | 85.00 | 1st  |
| 52  | 2068 | 85.00 | 1st  |
| 53  | 2069 | 85.00 | 1st  |
| 54  | 2070 | 85.00 | 1st  |
| 55  | 2071 | 85.00 | 1st  |
| 56  | 2072 | 85.00 | 1st  |
| 57  | 2073 | 85.00 | 1st  |
| 58  | 2074 | 85.00 | 1st  |
| 59  | 2075 | 85.00 | 1st  |
| 60  | 2076 | 85.00 | 1st  |
| 61  | 2077 | 85.00 | 1st  |
| 62  | 2078 | 85.00 | 1st  |
| 63  | 2079 | 85.00 | 1st  |
| 64  | 2080 | 85.00 | 1st  |
| 65  | 2081 | 85.00 | 1st  |
| 66  | 2082 | 85.00 | 1st  |
| 67  | 2083 | 85.00 | 1st  |
| 68  | 2084 | 85.00 | 1st  |
| 69  | 2085 | 85.00 | 1st  |
| 70  | 2086 | 85.00 | 1st  |
| 71  | 2087 | 85.00 | 1st  |
| 72  | 2088 | 85.00 | 1st  |
| 73  | 2089 | 85.00 | 1st  |
| 74  | 2090 | 85.00 | 1st  |
| 75  | 2091 | 85.00 | 1st  |
| 76  | 2092 | 85.00 | 1st  |
| 77  | 2093 | 85.00 | 1st  |
| 78  | 2094 | 85.00 | 1st  |
| 79  | 2095 | 85.00 | 1st  |
| 80  | 2096 | 85.00 | 1st  |
| 81  | 2097 | 85.00 | 1st  |
| 82  | 2098 | 85.00 | 1st  |
| 83  | 2099 | 85.00 | 1st  |
| 84  | 2100 | 85.00 | 1st  |
| 85  | 2101 | 85.00 | 1st  |
| 86  | 2102 | 85.00 | 1st  |
| 87  | 2103 | 85.00 | 1st  |
| 88  | 2104 | 85.00 | 1st  |
| 89  | 2105 | 85.00 | 1st  |
| 90  | 2106 | 85.00 | 1st  |
| 91  | 2107 | 85.00 | 1st  |
| 92  | 2108 | 85.00 | 1st  |
| 93  | 2109 | 85.00 | 1st  |
| 94  | 2110 | 85.00 | 1st  |
| 95  | 2111 | 85.00 | 1st  |
| 96  | 2112 | 85.00 | 1st  |
| 97  | 2113 | 85.00 | 1st  |
| 98  | 2114 | 85.00 | 1st  |
| 99  | 2115 | 85.00 | 1st  |
| 100   | 2116 | 85.00 | 1st  |

| All Manuscripts Received for 1998-1999 |       |     |             |
|--|-------|-----|-------------|
| Year                                   | Month | Day | Page number |
| 1998                                   | 1     | 1   | 1           |
| 1998                                   | 1     | 2   | 2           |
| 1998                                   | 1     | 3   | 3           |
| 1998                                   | 1     | 4   | 4           |
| 1998                                   | 1     | 5   | 5           |
| 1998                                   | 1     | 6   | 6           |
| 1998                                   | 1     | 7   | 7           |
| 1998                                   | 1     | 8   | 8           |
| 1998                                   | 1     | 9   | 9           |
| 1998                                   | 1     | 10  | 10          |
| 1998                                   | 1     | 11  | 11          |
| 1998                                   | 1     | 12  | 12          |
| 1998                                   | 1     | 13  | 13          |
| 1998                                   | 1     | 14  | 14          |
| 1998                                   | 1     | 15  | 15          |
| 1998                                   | 1     | 16  | 16          |
| 1998                                   | 1     | 17  | 17          |
| 1998                                   | 1     | 18  | 18          |
| 1998                                   | 1     | 19  | 19          |
| 1998                                   | 1     | 20  | 20          |
| 1998                                   | 1     | 21  | 21          |
| 1998                                   | 1     | 22  | 22          |
| 1998                                   | 1     | 23  | 23          |
| 1998                                   | 1     | 24  | 24          |
| 1998                                   | 1     | 25  | 25          |
| 1998                                   | 1     | 26  | 26          |
| 1998                                   | 1     | 27  | 27          |
| 1998                                   | 1     | 28  | 28          |
| 1998                                   | 1     | 29  | 29          |
| 1998                                   | 1     | 30  | 30          |
| 1998                                   | 1     | 31  | 31          |
| 1998                                   | 2     | 1   | 32          |
| 1998                                   | 2     | 2   | 33          |
| 1998                                   | 2     | 3   | 34          |
| 1998                                   | 2     | 4   | 35          |
| 1998                                   | 2     | 5   | 36          |
| 1998                                   | 2     | 6   | 37          |
| 1998                                   | 2     | 7   | 38          |
| 1998                                   | 2     | 8   | 39          |
| 1998                                   | 2     | 9   | 40          |
| 1998                                   | 2     | 10  | 41          |
| 1998                                   | 2     | 11  | 42          |
| 1998                                   | 2     | 12  | 43          |
| 1998                                   | 2     | 13  | 44          |
| 1998                                   | 2     | 14  | 45          |
| 1998                                   | 2     | 15  | 46          |
| 1998                                   | 2     | 16  | 47          |
| 1998                                   | 2     | 17  | 48          |
| 1998                                   | 2     | 18  | 49          |
| 1998                                   | 2     | 19  | 50          |
| 1998                                   | 2     | 20  | 51          |
| 1998                                   | 2     | 21  | 52          |
| 1998                                   | 2     | 22  | 53          |
| 1998                                   | 2     | 23  | 54          |
| 1998                                   | 2     | 24  | 55          |
| 1998                                   | 2     | 25  | 56          |
| 1998                                   | 2     | 26  | 57          |
| 1998                                   | 2     | 27  | 58          |
| 1998                                   | 2     | 28  | 59          |
| 1998                                   | 2     | 29  | 60          |
| 1998                                   | 2     | 30  | 61          |
| 1998                                   | 2     | 31  | 62          |
| 1998                                   | 3     | 1   | 63          |
| 1998                                   | 3     | 2   | 64          |
| 1998                                   | 3     | 3   | 65          |
| 1998                                   | 3     | 4   | 66          |
| 1998                                   | 3     | 5   | 67          |
| 1998                                   | 3     | 6   | 68          |
| 1998                                   | 3     | 7   | 69          |
| 1998                                   | 3     | 8   | 70          |
| 1998                                   | 3     | 9   | 71          |
| 1998                                   | 3     | 10  | 72          |
| 1998                                   | 3     | 11  | 73          |
| 1998                                   | 3     | 12  | 74          |
| 1998                                   | 3     | 13  | 75          |
| 1998                                   | 3     | 14  | 76          |
| 1998                                   | 3     | 15  | 77          |
| 1998                                   | 3     | 16  | 78          |
| 1998                                   | 3     | 17  | 79          |
| 1998                                   | 3     | 18  | 80          |
| 1998                                   | 3     | 19  | 81          |
| 1998                                   | 3     | 20  | 82          |
| 1998                                   | 3     | 21  | 83          |
| 1998                                   | 3     | 22  | 84          |
| 1998                                   | 3     | 23  | 85          |
| 1998                                   | 3     | 24  | 86          |
| 1998                                   | 3     | 25  | 87          |
| 1998                                   | 3     | 26  | 88          |
| 1998                                   | 3     | 27  | 89          |
| 1998                                   | 3     | 28  | 90          |
| 1998                                   | 3     | 29  | 91          |
| 1998                                   | 3     | 30  | 92          |
| 1998                                   | 3     | 31  | 93          |
| 1998                                   | 4     | 1   | 94          |
| 1998                                   | 4     | 2   | 95          |
| 1998                                   | 4     | 3   | 96          |
| 1998                                   | 4     | 4   | 97          |
| 1998                                   | 4     | 5   | 98          |
| 1998                                   | 4     | 6   | 99          |
| 1998                                   | 4     | 7   | 100         |
| 1998                                   | 4     | 8   | 101         |
| 1998                                   | 4     | 9   | 102         |
| 1                                      |       |     |             |

## เอกสารไม่ควบคุม

PCB Manufacturing Supplies Inc. 1759

[illegible][illegible]

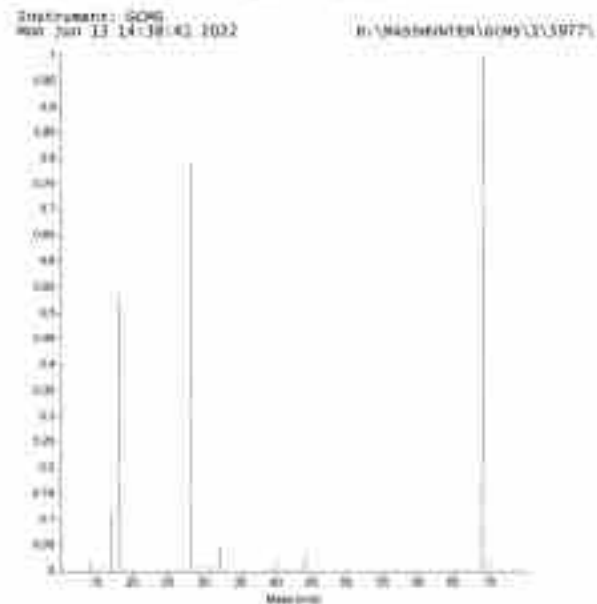
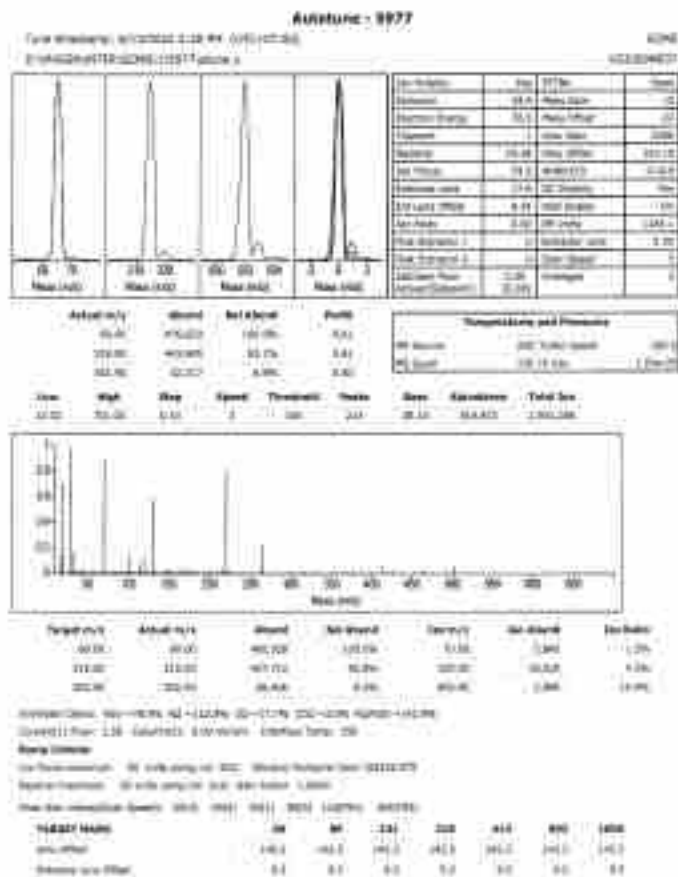
| Year | Quarter | Month | % loaded | Description               | Part number |
|------|---------|-------|----------|---------------------------|-------------|
| 2002 | 1       | 1     | 0        | Inventory (P/E) - 1000000 | 1000000     |
| 2002 | 1       | 2     | 0        | Inventory (P/E) - 1000000 | 1000000     |

## เอกสารไม่ควบคุม









Current Peaks (unit: atom%)

| Peak | Time (min) | Area   | Height | Width | Height/Width | Area/Height |
|------|------------|--------|--------|-------|--------------|-------------|
| 1    | 10.10      | 100000 | 10000  | 1.00  | 10000        | 10000       |
| 2    | 20.10      | 200000 | 20000  | 1.00  | 20000        | 20000       |
| 3    | 30.10      | 300000 | 30000  | 1.00  | 30000        | 30000       |
| 4    | 40.10      | 400000 | 40000  | 1.00  | 40000        | 40000       |

เอกสารไม่ควบคุม

เอกสารไม่ควบคุม



**TECHNOLOGY PROMOTION ASSOCIATION (TPA) (INC) JAPAN**  
 CALIBRATION AND TESTING EQUIPMENT SERVICES  
 1-1-1, Higashi-Shinjuku, Shinjuku-Ku, Tokyo 163-0292, Japan  
 TEL: 03-3346-1111 FAX: 03-3346-1112

**Certificate of Calibration**

Order No.: 2022-0000  
 Page: 1 of 1

|                         |   |
|-------------------------|---|
| Equipment:              | Turning table   |
| Manufacturer:           | Shimadzu  |
| Model:                  | TT-200  |
| Serial No.:             | 11000000  |
| St. No.:                | 10000000000000000000  |
| Calibration By:         | Shimadzu  |
| Received Date:          | 01 August 2022  |
| Calibration Date:       | 01 September 2022   |
| Reference:              | JIS S 5000-1  |
| Extended by:            | Shimadzu Analytical Engineering Department Co., Ltd.<br>1-1-1, Higashi-Shinjuku, Shinjuku-Ku, Tokyo 163-0292, Japan |
| Adjustment Temperature: | 20 ± 0.5 °C   |
| Relative Humidity:      | 50 ± 20 %   |
| Calibration Procedure:  | Shimadzu Analytical Engineering Department Co., Ltd.<br>1-1-1, Higashi-Shinjuku, Shinjuku-Ku, Tokyo 163-0292, Japan |
| Calibrated by:          | Shimadzu Analytical Engineering Department Co., Ltd.  |
| Approved by:            | Shimadzu Analytical Engineering Department Co., Ltd.  |
| Checked by:             | Shimadzu Analytical Engineering Department Co., Ltd.  |
| Received by:            | Shimadzu Analytical Engineering Department Co., Ltd.  |
| Received Date:          | 01 September 2022   |

The measurement uncertainty is estimated to be ± 0.01 mm.

เอกสารไม่ควบคุม

เอกสารไม่ควบคุม





Serial No. : 202011198  
Page : 1 of 2

#### Content of the calibration result

##### A. Reference Standard Instruments

This certificate is accurate to the International System of unit (SI unit) through Technology Promotion Association (TPA) Japan.

| Instruments         | Serial No. | SI No.  | Certificate No. | Due date     |
|---------------------|------------|---------|-----------------|--------------|
| 1) Thermo Hypograde | 100000     | 0000000 | 2011110         | 12 June 2023 |
| 2) Ohaus N11111     | 100000     | 0000000 | 2011110         | 21 Nov 2023  |

##### B. Standard Material : The Factory acceptance has been previously generated from

| Material                | Manufacturer | Lot No.   | Batch  |
|-------------------------|--------------|-----------|--------|
| 1) Hexamethylenediamine | PMSC20       | 000000000 | 00.00% |
| 2) Hydrochloric Acid    | PMSC20       | 000000000 | 00.00% |

##### C. The certificate is valid only to the item calibration at date and place of calibration

#### Calibration result

Performance Data : Performance standard curve for using 4.25 190.48 (200 N) Tensile Meter : Serial Number : 112000000

| Standard Forceful elongation (N) | Unit Reading (N) | Uncertainty of Measurement (±N) | Coverage Factor |
|----------------------------------|------------------|---------------------------------|-----------------|
| 0                                | 0.00             | 0.000                           | 0.00            |
| 10                               | 10.1             | 0.00                            | 0.00            |
| 100                              | 100              | 0.74                            | 0.00            |
| 1000                             | 1000             | 1.0                             | 0.00            |
| 10000                            | 10000            | 1.1                             | 0.00            |

Notes : -NCT : Unit Under Calibration  
-MT : Measurement Tensile Unit

The reported uncertainty of measurement was based on a standard uncertainty multiplied by a coverage factor k, providing a level of confidence of approximately 95 %.

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เอกสารไม่ควบคุม

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