

ภาคผนวก ค-3

ผลการตรวจวัดคุณภาพน้ำแบบต่อเนื่อง
(Online Monitoring)

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
01/01/2023 00:00:00	22.4	1241.8	7.1	01/02/2023 10:00:00	28.9	1239.7	7.0	01/03/2023 20:00:00	27.6	1259.4	6.9
01/01/2023 01:00:00	21.9	1239.1	7.1	01/02/2023 11:00:00	32.0	1242.9	7.0	01/03/2023 21:00:00	26.8	1256.8	7.0
01/01/2023 02:00:00	21.3	1217.2	7.1	01/02/2023 12:00:00	35.1	1246.6	7.0	01/03/2023 22:00:00	26.1	1255.2	7.0
01/01/2023 03:00:00	20.8	1208.2	7.1	01/02/2023 13:00:00	36.1	1250.9	6.9	01/03/2023 23:00:00	25.8	1253.5	7.0
01/01/2023 04:00:00	20.4	1201.7	7.1	01/02/2023 14:00:00	37.1	1254.6	6.9	01/04/2023 00:00:00	25.4	1251.4	7.0
01/01/2023 05:00:00	20.2	1197.5	7.1	01/02/2023 15:00:00	34.2	1256.8	6.9	01/04/2023 01:00:00	25.2	1251.4	7.0
01/01/2023 06:00:00	19.9	1188.4	7.1	01/02/2023 16:00:00	32.1	1258.4	6.9	01/04/2023 02:00:00	25.1	1250.3	7.0
01/01/2023 07:00:00	19.6	1173.4	7.1	01/02/2023 17:00:00	31.1	1258.9	6.9	01/04/2023 03:00:00	25.0	1249.3	7.0
01/01/2023 08:00:00	19.3	1146.2	7.1	01/02/2023 18:00:00	29.1	1258.4	6.9	01/04/2023 04:00:00	25.0	1248.7	7.0
01/01/2023 09:00:00	22.4	1201.7	7.1	01/02/2023 19:00:00	28.0	1257.3	7.0	01/04/2023 05:00:00	25.0	1248.7	7.0
01/01/2023 10:00:00	25.4	1235.9	7.0	01/02/2023 20:00:00	27.0	1254.6	7.0	01/04/2023 06:00:00	24.9	1248.7	7.0
01/01/2023 11:00:00	32.6	1238.6	7.0	01/02/2023 21:00:00	26.1	1252.5	7.0	01/04/2023 07:00:00	24.6	1248.2	7.0
01/01/2023 12:00:00	35.7	1241.3	7.0	01/02/2023 22:00:00	25.6	1250.3	7.0	01/04/2023 08:00:00	24.8	1247.7	7.0
01/01/2023 13:00:00	37.7	1244.5	7.0	01/02/2023 23:00:00	25.2	1248.2	7.0	01/04/2023 09:00:00	25.8	1247.7	7.0
01/01/2023 14:00:00	37.9	1249.3	6.9	01/03/2023 00:00:00	24.7	1247.1	7.0	01/04/2023 10:00:00	28.9	1248.7	7.0
01/01/2023 15:00:00	35.2	1252.5	6.9	01/03/2023 01:00:00	24.5	1243.9	7.0	01/04/2023 11:00:00	35.1	1249.8	6.9
01/01/2023 16:00:00	31.1	1254.1	7.0	01/03/2023 02:00:00	24.1	1230.0	7.0	01/04/2023 12:00:00	38.1	1252.5	6.9
01/01/2023 17:00:00	30.0	1256.2	6.9	01/03/2023 03:00:00	23.5	1221.5	7.0	01/04/2023 13:00:00	27.2	954.5	8.4
01/01/2023 18:00:00	29.0	1255.7	7.0	01/03/2023 04:00:00	22.9	1202.3	7.0	01/04/2023 14:00:00	26.5	960.9	8.4
01/01/2023 19:00:00	27.0	1254.1	7.0	01/03/2023 05:00:00	22.5	1200.7	7.0	01/04/2023 15:00:00	26.7	953.4	8.2
01/01/2023 20:00:00	24.9	1251.9	7.0	01/03/2023 06:00:00	22.3	1192.7	7.0	01/04/2023 16:00:00	26.9	948.6	8.1
01/01/2023 21:00:00	24.3	1249.8	7.0	01/03/2023 07:00:00	22.0	1181.5	7.0	01/04/2023 17:00:00	26.9	947.5	8.0
01/01/2023 22:00:00	23.9	1247.7	7.0	01/03/2023 08:00:00	21.7	1190.5	7.0	01/04/2023 18:00:00	27.0	948.1	7.9
01/01/2023 23:00:00	23.5	1246.1	7.0	01/03/2023 09:00:00	23.7	1219.4	7.0	01/04/2023 19:00:00	26.9	912.8	7.8
01/02/2023 00:00:00	22.6	1244.5	7.0	01/03/2023 10:00:00	27.8	1235.9	7.0	01/04/2023 20:00:00	26.9	892.0	7.6
01/02/2023 01:00:00	22.4	1242.9	7.1	01/03/2023 11:00:00	34.9	1242.9	7.0	01/04/2023 21:00:00	26.7	927.2	7.6
01/02/2023 02:00:00	21.7	1240.2	7.1	01/03/2023 12:00:00	38.0	1246.6	6.9	01/04/2023 22:00:00	26.4	931.5	7.5
01/02/2023 03:00:00	21.5	1241.3	7.1	01/03/2023 13:00:00	41.1	1251.4	6.9	01/04/2023 23:00:00	26.1	934.7	7.5
01/02/2023 04:00:00	22.2	1240.2	7.1	01/03/2023 14:00:00	35.9	1256.2	6.9	01/05/2023 00:00:00	25.7	941.1	7.4
01/02/2023 05:00:00	22.3	1240.2	7.1	01/03/2023 15:00:00	34.7	1258.9	6.9	01/05/2023 01:00:00	25.4	916.6	7.4
01/02/2023 06:00:00	22.2	1240.2	7.1	01/03/2023 16:00:00	33.6	1261.0	6.9	01/05/2023 02:00:00	24.8	106.9	6.9
01/02/2023 07:00:00	22.2	1238.6	7.1	01/03/2023 17:00:00	32.6	1262.1	6.9	01/05/2023 03:00:00	23.9	117.6	7.0
01/02/2023 08:00:00	22.8	1235.4	7.1	01/03/2023 18:00:00	30.7	1263.7	6.9	01/05/2023 04:00:00	23.2	114.4	7.3
01/02/2023 09:00:00	24.8	1239.1	7.0	01/03/2023 19:00:00	28.7	1261.6	6.9	01/05/2023 05:00:00	23.0	97.3	7.6

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
01/05/2023 06:00:00	22.9	89.3	7.7	01/06/2023 16:00:00	31.5	125.6	7.6	01/08/2023 02:00:00	24.1	1075.7	7.0
01/05/2023 07:00:00	22.8	104.3	7.7	01/06/2023 17:00:00	30.5	125.6	7.6	01/08/2023 03:00:00	24.3	1076.2	7.0
01/05/2023 08:00:00	23.7	106.4	7.8	01/06/2023 18:00:00	25.3	991.3	5.8	01/08/2023 04:00:00	24.8	894.7	7.7
01/05/2023 09:00:00	24.7	108.5	7.8	01/06/2023 19:00:00	26.3	1004.7	6.1	01/08/2023 05:00:00	24.8	865.3	7.8
01/05/2023 10:00:00	27.8	116.0	7.9	01/06/2023 20:00:00	26.7	1009.0	6.4	01/08/2023 06:00:00	24.7	849.8	7.8
01/05/2023 11:00:00	34.9	119.7	7.9	01/06/2023 21:00:00	26.5	1012.2	6.5	01/08/2023 07:00:00	24.7	832.7	7.8
01/05/2023 12:00:00	39.0	122.4	7.9	01/06/2023 22:00:00	26.0	1014.8	6.6	01/08/2023 08:00:00	24.6	822.6	7.8
01/05/2023 13:00:00	40.0	122.4	7.8	01/06/2023 23:00:00	25.7	1014.8	6.7	01/08/2023 09:00:00	24.4	822.0	7.8
01/05/2023 14:00:00	41.5	124.0	7.8	01/07/2023 00:00:00	24.4	1013.8	7.1	01/08/2023 10:00:00	24.2	821.0	7.8
01/05/2023 15:00:00	37.9	124.6	7.7	01/07/2023 01:00:00	24.3	1040.5	7.1	01/08/2023 11:00:00	29.3	83.4	6.4
01/05/2023 16:00:00	33.8	125.1	7.7	01/07/2023 02:00:00	24.6	1056.5	7.1	01/08/2023 12:00:00	31.4	80.8	6.6
01/05/2023 17:00:00	32.9	125.6	7.7	01/07/2023 03:00:00	24.9	1068.2	7.2	01/08/2023 13:00:00	33.4	82.9	7.0
01/05/2023 18:00:00	30.8	125.1	7.7	01/07/2023 04:00:00	25.0	1078.4	7.3	01/08/2023 14:00:00	33.2	84.0	6.8
01/05/2023 19:00:00	28.8	123.5	7.7	01/07/2023 05:00:00	25.1	1085.3	7.3	01/08/2023 15:00:00	32.1	84.5	6.5
01/05/2023 20:00:00	27.8	122.4	7.6	01/07/2023 06:00:00	25.0	1089.1	7.4	01/08/2023 16:00:00	30.1	84.5	6.6
01/05/2023 21:00:00	26.9	121.3	7.6	01/07/2023 07:00:00	24.9	1088.0	7.4	01/08/2023 17:00:00	29.1	82.9	6.5
01/05/2023 22:00:00	26.0	120.8	7.5	01/07/2023 08:00:00	24.8	1080.5	7.4	01/08/2023 18:00:00	28.4	82.9	6.6
01/05/2023 23:00:00	26.5	120.3	7.6	01/07/2023 09:00:00	24.7	1073.0	7.5	01/08/2023 19:00:00	27.4	81.8	6.7
01/06/2023 00:00:00	26.6	120.3	7.6	01/07/2023 10:00:00	24.5	1072.0	7.5	01/08/2023 20:00:00	26.7	80.2	6.7
01/06/2023 01:00:00	26.4	120.3	7.6	01/07/2023 11:00:00	24.4	1070.9	7.5	01/08/2023 21:00:00	26.3	79.2	6.8
01/06/2023 02:00:00	26.1	120.3	7.6	01/07/2023 12:00:00	24.2	1069.8	7.5	01/08/2023 22:00:00	26.4	79.2	6.8
01/06/2023 03:00:00	25.6	120.3	7.5	01/07/2023 13:00:00	24.1	1068.8	7.5	01/08/2023 23:00:00	26.0	78.6	6.7
01/06/2023 04:00:00	25.3	119.7	7.5	01/07/2023 14:00:00	24.0	1068.8	7.5	01/09/2023 00:00:00	25.4	78.1	6.7
01/06/2023 05:00:00	24.8	118.7	7.5	01/07/2023 15:00:00	24.3	358.5	6.6	01/09/2023 01:00:00	24.9	74.4	6.8
01/06/2023 06:00:00	24.2	118.7	7.5	01/07/2023 16:00:00	28.4	1035.1	6.0	01/09/2023 02:00:00	24.6	73.8	6.9
01/06/2023 07:00:00	23.7	118.1	7.6	01/07/2023 17:00:00	29.4	1058.1	6.0	01/09/2023 03:00:00	24.7	76.5	6.9
01/06/2023 08:00:00	23.5	117.6	7.6	01/07/2023 18:00:00	27.3	1063.4	6.0	01/09/2023 04:00:00	24.6	76.5	7.0
01/06/2023 09:00:00	25.4	116.0	7.8	01/07/2023 19:00:00	26.3	1069.8	6.1	01/09/2023 05:00:00	24.4	76.5	7.0
01/06/2023 10:00:00	28.4	118.7	7.8	01/07/2023 20:00:00	25.4	1075.7	6.3	01/09/2023 06:00:00	24.5	77.0	7.1
01/06/2023 11:00:00	35.6	120.3	7.8	01/07/2023 21:00:00	24.8	1078.4	6.4	01/09/2023 07:00:00	24.6	77.0	7.1
01/06/2023 12:00:00	37.7	121.9	7.7	01/07/2023 22:00:00	24.3	1080.5	6.6	01/09/2023 08:00:00	24.7	77.6	7.2
01/06/2023 13:00:00	35.6	123.5	7.7	01/07/2023 23:00:00	23.9	1078.4	6.7	01/09/2023 09:00:00	26.7	78.1	7.2
01/06/2023 14:00:00	35.6	124.6	7.6	01/08/2023 00:00:00	24.0	1076.8	6.9	01/09/2023 10:00:00	30.8	79.7	7.3
01/06/2023 15:00:00	33.6	125.1	7.6	01/08/2023 01:00:00	24.1	1076.2	6.9	01/09/2023 11:00:00	37.0	80.8	7.4

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
01/09/2023 12:00:00	40.0	82.4	7.6	01/10/2023 22:00:00	25.2	662.3	7.8	01/12/2023 08:00:00	22.8	73.3	8.3
01/09/2023 13:00:00	42.1	84.0	7.6	01/10/2023 23:00:00	25.1	98.9	8.0	01/12/2023 09:00:00	23.9	73.8	8.3
01/09/2023 14:00:00	42.1	86.1	7.4	01/11/2023 00:00:00	25.0	70.6	8.0	01/12/2023 10:00:00	28.0	74.9	8.4
01/09/2023 15:00:00	36.9	87.7	7.0	01/11/2023 01:00:00	25.1	73.3	7.9	01/12/2023 11:00:00	34.1	74.9	8.5
01/09/2023 16:00:00	34.9	88.2	6.9	01/11/2023 02:00:00	25.0	71.1	7.9	01/12/2023 12:00:00	34.3	61.5	8.4
01/09/2023 17:00:00	32.8	87.2	6.9	01/11/2023 03:00:00	24.8	73.8	7.8	01/12/2023 13:00:00	40.0	26.3	8.3
01/09/2023 18:00:00	30.8	86.6	7.0	01/11/2023 04:00:00	24.5	71.7	7.6	01/12/2023 14:00:00	37.9	61.5	8.2
01/09/2023 19:00:00	27.7	85.6	7.0	01/11/2023 05:00:00	24.2	73.3	7.7	01/12/2023 15:00:00	36.6	82.9	8.1
01/09/2023 20:00:00	26.8	82.9	7.0	01/11/2023 06:00:00	24.1	72.7	7.8	01/12/2023 16:00:00	34.5	81.8	7.9
01/09/2023 21:00:00	25.9	80.8	7.0	01/11/2023 07:00:00	23.9	73.8	7.8	01/12/2023 17:00:00	27.3	38.6	7.9
01/09/2023 22:00:00	25.8	74.4	7.1	01/11/2023 08:00:00	24.0	73.3	7.9	01/12/2023 18:00:00	26.9	71.1	7.9
01/09/2023 23:00:00	25.9	66.9	7.1	01/11/2023 09:00:00	24.8	74.4	7.9	01/12/2023 19:00:00	25.9	73.3	8.0
01/10/2023 00:00:00	26.0	58.3	7.2	01/11/2023 10:00:00	27.9	69.0	8.1	01/12/2023 20:00:00	25.1	76.0	8.1
01/10/2023 01:00:00	25.6	33.2	7.2	01/11/2023 11:00:00	30.0	55.1	8.1	01/12/2023 21:00:00	24.6	76.5	8.1
01/10/2023 02:00:00	25.9	18.3	7.2	01/11/2023 12:00:00	36.1	55.1	8.2	01/12/2023 22:00:00	24.3	76.0	8.2
01/10/2023 03:00:00	26.3	46.6	7.3	01/11/2023 13:00:00	38.2	83.4	8.3	01/12/2023 23:00:00	24.5	76.0	8.2
01/10/2023 04:00:00	26.1	56.2	7.3	01/11/2023 14:00:00	32.0	12.4	8.0	01/13/2023 00:00:00	24.3	73.8	8.2
01/10/2023 05:00:00	25.9	50.9	7.3	01/11/2023 15:00:00	26.9	47.6	7.8	01/13/2023 01:00:00	24.4	73.3	8.2
01/10/2023 06:00:00	25.8	49.8	7.3	01/11/2023 16:00:00	24.8	68.5	7.8	01/13/2023 02:00:00	24.2	73.3	8.2
01/10/2023 07:00:00	25.4	16.7	7.3	01/11/2023 17:00:00	23.8	72.2	7.9	01/13/2023 03:00:00	24.2	73.3	8.2
01/10/2023 08:00:00	25.6	8.1	7.4	01/11/2023 18:00:00	23.7	73.3	8.1	01/13/2023 04:00:00	24.3	73.8	8.2
01/10/2023 09:00:00	26.6	21.5	7.5	01/11/2023 19:00:00	23.5	72.7	8.1	01/13/2023 05:00:00	24.3	73.8	8.2
01/10/2023 10:00:00	29.7	40.2	7.7	01/11/2023 20:00:00	23.5	74.4	8.2	01/13/2023 06:00:00	24.3	73.3	8.2
01/10/2023 11:00:00	33.8	70.1	8.1	01/11/2023 21:00:00	23.4	73.8	8.2	01/13/2023 07:00:00	24.3	73.3	8.2
01/10/2023 12:00:00	34.7	81.3	8.1	01/11/2023 22:00:00	23.2	73.3	8.3	01/13/2023 08:00:00	24.7	72.2	8.2
01/10/2023 13:00:00	35.7	84.0	7.5	01/11/2023 23:00:00	23.2	74.4	8.3	01/13/2023 09:00:00	25.7	632.4	7.8
01/10/2023 14:00:00	35.2	85.6	7.2	01/12/2023 00:00:00	23.2	74.9	8.3	01/13/2023 10:00:00	26.5	619.6	7.8
01/10/2023 15:00:00	34.2	86.1	7.2	01/12/2023 01:00:00	23.2	74.9	8.4	01/13/2023 11:00:00	26.6	610.5	7.8
01/10/2023 16:00:00	25.6	684.8	7.8	01/12/2023 02:00:00	23.0	74.9	8.4	01/13/2023 12:00:00	26.8	594.0	7.9
01/10/2023 17:00:00	25.4	693.9	7.8	01/12/2023 03:00:00	22.8	74.9	8.5	01/13/2023 13:00:00	26.9	598.3	7.9
01/10/2023 18:00:00	25.5	665.6	7.8	01/12/2023 04:00:00	22.8	74.9	8.4	01/13/2023 14:00:00	27.1	580.6	7.9
01/10/2023 19:00:00	25.4	630.3	7.8	01/12/2023 05:00:00	22.6	73.8	8.4	01/13/2023 15:00:00	27.2	582.2	8.0
01/10/2023 20:00:00	25.3	627.6	7.8	01/12/2023 06:00:00	22.4	73.3	8.3	01/13/2023 16:00:00	27.2	574.2	8.0
01/10/2023 21:00:00	25.2	645.3	7.8	01/12/2023 07:00:00	22.5	74.4	8.3	01/13/2023 17:00:00	27.2	578.5	8.0

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
01/13/2023 18:00:00	27.1	93.0	8.0	01/15/2023 04:00:00	23.3	607.9	7.5	01/16/2023 14:00:00	42.9	694.4	7.2
01/13/2023 19:00:00	27.2	62.1	7.9	01/15/2023 05:00:00	23.6	606.3	7.5	01/16/2023 15:00:00	41.9	698.7	7.2
01/13/2023 20:00:00	27.0	67.4	7.9	01/15/2023 06:00:00	23.9	604.7	7.5	01/16/2023 16:00:00	35.9	700.8	7.2
01/13/2023 21:00:00	26.4	71.7	7.8	01/15/2023 07:00:00	23.6	604.7	7.5	01/16/2023 17:00:00	32.8	702.4	7.2
01/13/2023 22:00:00	25.6	73.3	7.7	01/15/2023 08:00:00	23.6	607.9	7.5	01/16/2023 18:00:00	29.7	701.3	7.2
01/13/2023 23:00:00	24.6	73.8	7.8	01/15/2023 09:00:00	25.6	608.4	7.5	01/16/2023 19:00:00	28.7	647.9	7.2
01/14/2023 00:00:00	26.1	556.1	7.8	01/15/2023 10:00:00	27.7	614.3	7.4	01/16/2023 20:00:00	27.2	630.8	7.2
01/14/2023 01:00:00	25.0	571.0	7.7	01/15/2023 11:00:00	31.8	596.7	7.4	01/16/2023 21:00:00	26.1	622.8	7.2
01/14/2023 02:00:00	24.0	572.1	7.7	01/15/2023 12:00:00	37.9	631.9	7.4	01/16/2023 22:00:00	25.1	629.8	7.3
01/14/2023 03:00:00	23.2	572.1	7.7	01/15/2023 13:00:00	37.9	667.2	7.3	01/16/2023 23:00:00	24.4	633.5	7.3
01/14/2023 04:00:00	22.7	572.6	7.7	01/15/2023 14:00:00	37.3	670.4	7.3	01/17/2023 00:00:00	24.1	638.3	7.3
01/14/2023 05:00:00	22.4	570.5	7.7	01/15/2023 15:00:00	38.7	667.2	7.3	01/17/2023 01:00:00	23.5	645.3	7.3
01/14/2023 06:00:00	22.0	571.0	7.7	01/15/2023 16:00:00	35.6	673.6	7.3	01/17/2023 02:00:00	23.2	649.5	7.3
01/14/2023 07:00:00	22.1	572.6	7.7	01/15/2023 17:00:00	32.6	675.2	7.3	01/17/2023 03:00:00	22.7	651.7	7.3
01/14/2023 08:00:00	22.2	573.2	7.7	01/15/2023 18:00:00	30.5	680.5	7.3	01/17/2023 04:00:00	22.4	651.1	7.3
01/14/2023 09:00:00	24.3	572.6	7.7	01/15/2023 19:00:00	28.5	681.0	7.4	01/17/2023 05:00:00	21.9	653.3	7.3
01/14/2023 10:00:00	28.4	584.4	7.6	01/15/2023 20:00:00	26.4	666.6	7.4	01/17/2023 06:00:00	21.6	650.6	7.3
01/14/2023 11:00:00	33.5	575.3	7.6	01/15/2023 21:00:00	25.4	651.7	7.4	01/17/2023 07:00:00	21.5	653.3	7.3
01/14/2023 12:00:00	39.7	560.3	7.5	01/15/2023 22:00:00	24.4	616.4	7.4	01/17/2023 08:00:00	21.7	655.9	7.2
01/14/2023 13:00:00	42.6	565.7	7.5	01/15/2023 23:00:00	23.6	600.9	7.4	01/17/2023 09:00:00	24.8	651.7	7.2
01/14/2023 14:00:00	42.8	636.2	7.5	01/16/2023 00:00:00	23.1	607.9	7.4	01/17/2023 10:00:00	30.9	624.4	7.2
01/14/2023 15:00:00	41.8	643.1	7.4	01/16/2023 01:00:00	22.8	619.1	7.4	01/17/2023 11:00:00	36.0	694.9	7.1
01/14/2023 16:00:00	35.9	646.9	7.4	01/16/2023 02:00:00	22.3	623.4	7.4	01/17/2023 12:00:00	39.1	709.3	7.1
01/14/2023 17:00:00	32.8	649.5	7.4	01/16/2023 03:00:00	22.0	625.5	7.4	01/17/2023 13:00:00	41.1	713.6	7.1
01/14/2023 18:00:00	30.8	649.0	7.4	01/16/2023 04:00:00	21.8	627.1	7.4	01/17/2023 14:00:00	40.0	717.9	7.0
01/14/2023 19:00:00	28.7	578.5	7.5	01/16/2023 05:00:00	21.5	631.4	7.4	01/17/2023 15:00:00	39.0	721.1	7.0
01/14/2023 20:00:00	26.7	580.1	7.5	01/16/2023 06:00:00	21.2	627.1	7.4	01/17/2023 16:00:00	36.9	723.8	7.0
01/14/2023 21:00:00	25.6	591.9	7.5	01/16/2023 07:00:00	21.3	628.2	7.4	01/17/2023 17:00:00	33.8	725.9	7.0
01/14/2023 22:00:00	24.8	595.6	7.5	01/16/2023 08:00:00	22.1	631.4	7.4	01/17/2023 18:00:00	31.8	727.5	7.1
01/14/2023 23:00:00	24.1	597.2	7.6	01/16/2023 09:00:00	24.1	633.0	7.3	01/17/2023 19:00:00	29.7	727.5	7.1
01/15/2023 00:00:00	23.6	599.9	7.6	01/16/2023 10:00:00	30.2	631.9	7.3	01/17/2023 20:00:00	28.5	724.8	7.1
01/15/2023 01:00:00	23.3	602.0	7.6	01/16/2023 11:00:00	35.4	632.4	7.3	01/17/2023 21:00:00	26.4	721.6	7.1
01/15/2023 02:00:00	23.1	604.7	7.6	01/16/2023 12:00:00	37.4	639.4	7.2	01/17/2023 22:00:00	25.4	651.1	7.2
01/15/2023 03:00:00	22.7	607.3	7.6	01/16/2023 13:00:00	42.1	674.6	7.2	01/17/2023 23:00:00	24.4	637.2	7.2

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
01/18/2023 00:00:00	23.7	643.1	7.2	01/19/2023 10:00:00	26.3	512.8	7.6	01/20/2023 20:00:00	27.7	644.2	7.1
01/18/2023 01:00:00	23.0	647.4	7.2	01/19/2023 11:00:00	24.3	629.8	7.8	01/20/2023 21:00:00	25.6	642.6	7.1
01/18/2023 02:00:00	22.6	650.1	7.2	01/19/2023 12:00:00	28.4	637.8	7.8	01/20/2023 22:00:00	24.8	640.5	7.1
01/18/2023 03:00:00	22.1	654.9	7.2	01/19/2023 13:00:00	31.5	642.6	7.7	01/20/2023 23:00:00	24.8	640.5	7.1
01/18/2023 04:00:00	22.1	669.3	7.2	01/19/2023 14:00:00	33.5	640.5	7.5	01/21/2023 00:00:00	24.8	639.9	7.1
01/18/2023 05:00:00	22.0	667.7	7.2	01/19/2023 15:00:00	34.5	639.9	7.5	01/21/2023 01:00:00	24.2	639.4	7.1
01/18/2023 06:00:00	21.9	660.7	7.2	01/19/2023 16:00:00	34.6	641.5	7.4	01/21/2023 02:00:00	23.3	638.8	7.1
01/18/2023 07:00:00	21.9	651.1	7.2	01/19/2023 17:00:00	34.6	643.1	7.3	01/21/2023 03:00:00	23.1	641.5	7.1
01/18/2023 08:00:00	22.8	645.8	7.2	01/19/2023 18:00:00	31.5	643.1	7.3	01/21/2023 04:00:00	23.0	642.1	7.1
01/18/2023 09:00:00	25.9	630.3	7.1	01/19/2023 19:00:00	28.5	641.5	7.4	01/21/2023 05:00:00	22.6	642.1	7.1
01/18/2023 10:00:00	31.0	700.8	7.1	01/19/2023 20:00:00	27.4	639.9	7.4	01/21/2023 06:00:00	22.8	641.0	7.1
01/18/2023 11:00:00	35.1	720.6	7.1	01/19/2023 21:00:00	26.4	638.8	7.4	01/21/2023 07:00:00	22.8	640.5	7.1
01/18/2023 12:00:00	39.2	724.8	7.1	01/19/2023 22:00:00	25.4	636.2	7.4	01/21/2023 08:00:00	23.3	640.5	7.1
01/18/2023 13:00:00	41.1	728.6	7.0	01/19/2023 23:00:00	24.7	635.6	7.3	01/21/2023 09:00:00	24.3	638.3	7.1
01/18/2023 14:00:00	41.8	732.3	7.0	01/20/2023 00:00:00	24.8	635.6	7.3	01/21/2023 10:00:00	29.5	639.4	7.1
01/18/2023 15:00:00	41.1	736.0	7.0	01/20/2023 01:00:00	24.8	637.8	7.3	01/21/2023 11:00:00	33.6	641.0	7.1
01/18/2023 16:00:00	35.9	739.3	7.0	01/20/2023 02:00:00	23.8	637.2	7.3	01/21/2023 12:00:00	36.6	639.4	7.1
01/18/2023 17:00:00	33.8	740.3	7.0	01/20/2023 03:00:00	22.8	638.3	7.3	01/21/2023 13:00:00	37.7	642.1	7.0
01/18/2023 18:00:00	31.8	740.9	7.0	01/20/2023 04:00:00	22.7	640.5	7.3	01/21/2023 14:00:00	40.0	644.2	7.0
01/18/2023 19:00:00	29.7	743.0	7.1	01/20/2023 05:00:00	22.4	643.7	7.2	01/21/2023 15:00:00	40.0	646.3	7.0
01/18/2023 20:00:00	28.7	740.3	7.1	01/20/2023 06:00:00	22.4	647.4	7.2	01/21/2023 16:00:00	36.8	649.0	7.0
01/18/2023 21:00:00	27.7	738.7	7.1	01/20/2023 07:00:00	22.3	648.5	7.2	01/21/2023 17:00:00	32.7	650.1	7.0
01/18/2023 22:00:00	25.6	737.1	7.1	01/20/2023 08:00:00	23.4	648.5	7.2	01/21/2023 18:00:00	30.7	650.1	7.0
01/18/2023 23:00:00	25.2	737.1	7.1	01/20/2023 09:00:00	24.4	649.0	7.2	01/21/2023 19:00:00	27.6	648.5	7.1
01/19/2023 00:00:00	24.8	737.1	7.1	01/20/2023 10:00:00	30.6	644.2	7.2	01/21/2023 20:00:00	26.6	646.9	7.1
01/19/2023 01:00:00	24.4	736.6	7.1	01/20/2023 11:00:00	34.7	643.1	7.2	01/21/2023 21:00:00	24.5	644.2	7.1
01/19/2023 02:00:00	24.3	736.0	7.1	01/20/2023 12:00:00	37.7	641.0	7.1	01/21/2023 22:00:00	23.5	641.5	7.1
01/19/2023 03:00:00	24.7	553.9	7.7	01/20/2023 13:00:00	40.0	639.9	7.1	01/21/2023 23:00:00	22.5	637.2	7.1
01/19/2023 04:00:00	24.5	578.5	7.7	01/20/2023 14:00:00	41.1	641.5	7.1	01/22/2023 00:00:00	22.1	632.4	7.1
01/19/2023 05:00:00	24.3	543.3	7.8	01/20/2023 15:00:00	40.0	644.7	7.1	01/22/2023 01:00:00	21.6	605.2	7.2
01/19/2023 06:00:00	24.1	542.7	7.8	01/20/2023 16:00:00	35.9	646.3	7.0	01/22/2023 02:00:00	21.4	599.3	7.2
01/19/2023 07:00:00	23.8	541.1	7.8	01/20/2023 17:00:00	32.8	646.9	7.0	01/22/2023 03:00:00	21.4	610.5	7.2
01/19/2023 08:00:00	23.3	34.3	7.6	01/20/2023 18:00:00	30.8	646.9	7.0	01/22/2023 04:00:00	21.4	631.9	7.2
01/19/2023 09:00:00	24.3	110.1	7.5	01/20/2023 19:00:00	28.7	646.9	7.1	01/22/2023 05:00:00	21.5	635.1	7.2

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
01/22/2023 06:00:00	21.1	635.6	7.2	01/23/2023 16:00:00	37.9	657.0	7.0	01/25/2023 02:00:00	25.4	650.6	7.2
01/22/2023 07:00:00	20.3	635.6	7.2	01/23/2023 17:00:00	34.9	657.0	7.0	01/25/2023 03:00:00	24.5	649.0	7.2
01/22/2023 08:00:00	21.3	635.6	7.2	01/23/2023 18:00:00	32.8	657.5	7.0	01/25/2023 04:00:00	23.6	647.9	7.2
01/22/2023 09:00:00	24.3	636.7	7.2	01/23/2023 19:00:00	30.8	657.0	7.1	01/25/2023 05:00:00	22.9	646.3	7.2
01/22/2023 10:00:00	31.5	637.8	7.1	01/23/2023 20:00:00	28.7	655.4	7.1	01/25/2023 06:00:00	22.2	645.8	7.2
01/22/2023 11:00:00	35.6	640.5	7.1	01/23/2023 21:00:00	27.7	653.3	7.1	01/25/2023 07:00:00	21.6	644.7	7.2
01/22/2023 12:00:00	40.1	642.1	7.1	01/23/2023 22:00:00	26.7	649.0	7.1	01/25/2023 08:00:00	21.1	644.2	7.2
01/22/2023 13:00:00	42.1	644.7	7.0	01/23/2023 23:00:00	25.6	647.9	7.1	01/25/2023 09:00:00	23.0	643.1	7.2
01/22/2023 14:00:00	43.2	648.5	7.0	01/24/2023 00:00:00	25.1	644.2	7.1	01/25/2023 10:00:00	27.1	644.2	7.2
01/22/2023 15:00:00	43.0	650.1	7.0	01/24/2023 01:00:00	24.5	637.2	7.2	01/25/2023 11:00:00	31.2	644.2	7.2
01/22/2023 16:00:00	36.9	652.7	7.0	01/24/2023 02:00:00	24.0	620.7	7.2	01/25/2023 12:00:00	35.3	645.3	7.2
01/22/2023 17:00:00	33.8	653.3	7.0	01/24/2023 03:00:00	23.5	605.2	7.2	01/25/2023 13:00:00	37.4	646.3	7.1
01/22/2023 18:00:00	31.8	654.3	7.0	01/24/2023 04:00:00	23.1	599.3	7.2	01/25/2023 14:00:00	38.4	648.5	7.1
01/22/2023 19:00:00	28.7	653.8	7.1	01/24/2023 05:00:00	23.7	623.9	7.2	01/25/2023 15:00:00	37.9	650.6	7.1
01/22/2023 20:00:00	27.7	650.6	7.1	01/24/2023 06:00:00	24.2	636.2	7.2	01/25/2023 16:00:00	34.8	652.7	7.1
01/22/2023 21:00:00	25.6	649.0	7.1	01/24/2023 07:00:00	23.7	624.4	7.2	01/25/2023 17:00:00	31.7	653.8	7.1
01/22/2023 22:00:00	24.6	644.7	7.1	01/24/2023 08:00:00	24.7	636.2	7.2	01/25/2023 18:00:00	29.7	655.4	7.1
01/22/2023 23:00:00	23.9	643.7	7.1	01/24/2023 09:00:00	26.1	632.4	7.2	01/25/2023 19:00:00	27.6	653.8	7.1
01/23/2023 00:00:00	23.2	637.2	7.2	01/24/2023 10:00:00	31.2	640.5	7.1	01/25/2023 20:00:00	25.6	653.3	7.2
01/23/2023 01:00:00	22.7	630.3	7.2	01/24/2023 11:00:00	35.3	645.8	7.1	01/25/2023 21:00:00	25.0	652.2	7.2
01/23/2023 02:00:00	22.8	614.3	7.2	01/24/2023 12:00:00	40.0	648.5	7.1	01/25/2023 22:00:00	24.5	650.6	7.2
01/23/2023 03:00:00	22.5	604.1	7.2	01/24/2023 13:00:00	41.1	652.2	7.0	01/25/2023 23:00:00	24.1	650.1	7.2
01/23/2023 04:00:00	23.0	609.5	7.2	01/24/2023 14:00:00	40.0	654.9	7.0	01/26/2023 00:00:00	24.1	648.5	7.2
01/23/2023 05:00:00	23.3	618.0	7.2	01/24/2023 15:00:00	40.0	657.5	7.0	01/26/2023 01:00:00	23.9	647.9	7.2
01/23/2023 06:00:00	22.8	619.6	7.2	01/24/2023 16:00:00	37.9	659.1	7.0	01/26/2023 02:00:00	23.8	940.6	7.9
01/23/2023 07:00:00	23.0	620.7	7.2	01/24/2023 17:00:00	34.9	660.2	7.0	01/26/2023 03:00:00	23.7	1222.6	8.0
01/23/2023 08:00:00	23.3	617.5	7.2	01/24/2023 18:00:00	32.8	661.3	7.0	01/26/2023 04:00:00	23.5	1242.9	8.0
01/23/2023 09:00:00	25.4	618.0	7.2	01/24/2023 19:00:00	30.8	660.7	7.0	01/26/2023 05:00:00	23.3	1245.0	8.0
01/23/2023 10:00:00	32.5	633.0	7.1	01/24/2023 20:00:00	30.4	658.6	7.1	01/26/2023 06:00:00	23.0	1246.1	8.0
01/23/2023 11:00:00	36.6	643.1	7.1	01/24/2023 21:00:00	29.4	656.5	7.1	01/26/2023 07:00:00	22.6	108.5	8.0
01/23/2023 12:00:00	40.0	645.8	7.1	01/24/2023 22:00:00	28.9	655.4	7.1	01/26/2023 08:00:00	22.0	96.8	8.1
01/23/2023 13:00:00	43.6	648.5	7.0	01/24/2023 23:00:00	28.4	653.8	7.1	01/26/2023 09:00:00	22.9	97.8	8.0
01/23/2023 14:00:00	44.6	651.7	7.0	01/25/2023 00:00:00	27.4	653.3	7.1	01/26/2023 10:00:00	25.9	97.8	7.9
01/23/2023 15:00:00	43.0	654.9	7.0	01/25/2023 01:00:00	26.4	651.7	7.1	01/26/2023 11:00:00	29.0	101.6	7.8

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
01/26/2023 12:00:00	32.1	29.0	7.7	01/27/2023 22:00:00	25.9	131.0	7.2	01/29/2023 08:00:00	20.8	130.4	7.2
01/26/2023 13:00:00	35.2	106.9	7.7	01/27/2023 23:00:00	25.4	131.0	7.2	01/29/2023 09:00:00	21.8	129.9	7.2
01/26/2023 14:00:00	36.2	123.5	7.6	01/28/2023 00:00:00	25.3	130.4	7.2	01/29/2023 10:00:00	27.9	129.9	7.2
01/26/2023 15:00:00	36.9	125.1	7.6	01/28/2023 01:00:00	25.1	130.4	7.2	01/29/2023 11:00:00	31.0	129.4	7.2
01/26/2023 16:00:00	35.4	126.2	7.5	01/28/2023 02:00:00	24.7	130.4	7.2	01/29/2023 12:00:00	34.1	129.4	7.2
01/26/2023 17:00:00	34.3	127.8	7.5	01/28/2023 03:00:00	24.1	129.9	7.2	01/29/2023 13:00:00	36.1	129.4	7.2
01/26/2023 18:00:00	33.3	128.3	7.5	01/28/2023 04:00:00	23.6	130.4	7.2	01/29/2023 14:00:00	37.0	129.9	7.1
01/26/2023 19:00:00	31.3	127.8	7.5	01/28/2023 05:00:00	23.2	129.9	7.2	01/29/2023 15:00:00	35.9	130.4	7.1
01/26/2023 20:00:00	30.2	126.2	7.5	01/28/2023 06:00:00	22.6	129.9	7.2	01/29/2023 16:00:00	32.8	131.0	7.1
01/26/2023 21:00:00	28.2	127.2	7.5	01/28/2023 07:00:00	22.2	130.4	7.2	01/29/2023 17:00:00	29.8	130.4	7.1
01/26/2023 22:00:00	27.2	129.9	7.5	01/28/2023 08:00:00	21.9	130.4	7.2	01/29/2023 18:00:00	27.7	130.4	7.2
01/26/2023 23:00:00	26.1	129.4	7.5	01/28/2023 09:00:00	22.3	129.9	7.2	01/29/2023 19:00:00	25.7	129.9	7.2
01/27/2023 00:00:00	24.1	128.8	7.5	01/28/2023 10:00:00	27.4	131.0	7.2	01/29/2023 20:00:00	24.6	129.4	7.2
01/27/2023 01:00:00	23.5	128.3	7.5	01/28/2023 11:00:00	31.5	129.9	7.2	01/29/2023 21:00:00	23.9	128.8	7.2
01/27/2023 02:00:00	23.0	128.3	7.4	01/28/2023 12:00:00	34.6	130.4	7.2	01/29/2023 22:00:00	22.8	2238.3	8.1
01/27/2023 03:00:00	22.6	128.8	7.4	01/28/2023 13:00:00	36.7	130.4	7.1	01/29/2023 23:00:00	22.5	2309.4	8.1
01/27/2023 04:00:00	22.6	129.4	7.4	01/28/2023 14:00:00	37.7	131.5	7.1	01/30/2023 00:00:00	22.8	2382.0	8.1
01/27/2023 05:00:00	21.9	129.4	7.4	01/28/2023 15:00:00	38.2	132.0	7.1	01/30/2023 01:00:00	23.0	2417.8	8.1
01/27/2023 06:00:00	21.8	128.8	7.4	01/28/2023 16:00:00	35.1	133.1	7.1	01/30/2023 02:00:00	23.3	2453.0	8.1
01/27/2023 07:00:00	21.8	128.3	7.4	01/28/2023 17:00:00	32.0	133.1	7.1	01/30/2023 03:00:00	23.5	2473.3	8.1
01/27/2023 08:00:00	22.6	128.8	7.4	01/28/2023 18:00:00	28.9	132.6	7.1	01/30/2023 04:00:00	23.6	2536.4	8.1
01/27/2023 09:00:00	24.6	129.4	7.3	01/28/2023 19:00:00	27.9	131.5	7.2	01/30/2023 05:00:00	23.3	2536.4	8.2
01/27/2023 10:00:00	30.8	130.4	7.3	01/28/2023 20:00:00	25.9	130.4	7.2	01/30/2023 06:00:00	23.1	2547.0	8.2
01/27/2023 11:00:00	35.9	131.5	7.3	01/28/2023 21:00:00	25.0	129.9	7.2	01/30/2023 07:00:00	22.8	2546.5	8.2
01/27/2023 12:00:00	39.0	132.6	7.2	01/28/2023 22:00:00	24.3	129.4	7.2	01/30/2023 08:00:00	22.8	2604.2	8.2
01/27/2023 13:00:00	40.0	134.2	7.2	01/28/2023 23:00:00	23.5	129.9	7.2	01/30/2023 09:00:00	23.1	2639.4	8.2
01/27/2023 14:00:00	37.9	135.2	7.2	01/29/2023 00:00:00	23.0	129.4	7.2	01/30/2023 10:00:00	23.1	2667.2	8.2
01/27/2023 15:00:00	36.2	135.2	7.2	01/29/2023 01:00:00	22.6	129.4	7.2	01/30/2023 11:00:00	24.0	101.6	8.2
01/27/2023 16:00:00	35.1	134.2	7.1	01/29/2023 02:00:00	22.2	129.4	7.2	01/30/2023 12:00:00	28.1	91.4	8.1
01/27/2023 17:00:00	32.5	133.6	7.1	01/29/2023 03:00:00	22.1	129.4	7.2	01/30/2023 13:00:00	30.1	90.9	8.1
01/27/2023 18:00:00	29.5	133.6	7.1	01/29/2023 04:00:00	21.6	129.4	7.2	01/30/2023 14:00:00	32.2	93.0	8.0
01/27/2023 19:00:00	27.4	131.5	7.2	01/29/2023 05:00:00	21.4	129.9	7.2	01/30/2023 15:00:00	33.1	95.2	7.9
01/27/2023 20:00:00	26.4	131.0	7.2	01/29/2023 06:00:00	21.1	129.9	7.2	01/30/2023 16:00:00	32.5	98.9	7.9
01/27/2023 21:00:00	26.2	131.0	7.2	01/29/2023 07:00:00	20.7	129.9	7.2	01/30/2023 17:00:00	31.5	98.9	7.9

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
01/30/2023 18:00:00	30.5	99.5	7.9	02/01/2023 04:00:00	28.4	2799.6	8.3	02/02/2023 14:00:00	42.9	90.9	8.3
01/30/2023 19:00:00	29.5	103.7	7.8	02/01/2023 05:00:00	28.2	2792.2	8.3	02/02/2023 15:00:00	39.0	91.4	7.9
01/30/2023 20:00:00	27.4	2908.6	8.2	02/01/2023 06:00:00	28.0	2784.2	8.3	02/02/2023 16:00:00	35.9	92.0	7.8
01/30/2023 21:00:00	26.7	2927.8	8.2	02/01/2023 07:00:00	27.7	2779.3	8.3	02/02/2023 17:00:00	32.8	90.9	7.8
01/30/2023 22:00:00	26.3	2925.7	8.3	02/01/2023 08:00:00	27.3	2774.0	8.3	02/02/2023 18:00:00	29.7	92.0	7.8
01/30/2023 23:00:00	26.0	2926.7	8.3	02/01/2023 09:00:00	26.9	2695.0	8.3	02/02/2023 19:00:00	28.7	92.0	7.9
01/31/2023 00:00:00	25.6	2926.7	8.3	02/01/2023 10:00:00	28.7	135.8	7.7	02/02/2023 20:00:00	28.1	89.8	8.0
01/31/2023 01:00:00	25.2	2925.7	8.3	02/01/2023 11:00:00	35.8	100.5	7.5	02/02/2023 21:00:00	27.8	36.4	8.0
01/31/2023 02:00:00	24.6	101.1	7.7	02/01/2023 12:00:00	38.9	76.5	7.7	02/02/2023 22:00:00	27.3	40.7	8.1
01/31/2023 03:00:00	23.6	87.7	7.9	02/01/2023 13:00:00	41.1	93.6	8.0	02/02/2023 23:00:00	26.9	76.0	8.1
01/31/2023 04:00:00	22.6	86.1	8.0	02/01/2023 14:00:00	41.1	93.6	7.9	02/03/2023 00:00:00	26.6	88.2	8.2
01/31/2023 05:00:00	21.8	85.0	8.1	02/01/2023 15:00:00	37.9	95.7	6.9	02/03/2023 01:00:00	26.3	90.4	8.2
01/31/2023 06:00:00	21.3	85.0	8.1	02/01/2023 16:00:00	35.9	97.3	7.2	02/03/2023 02:00:00	26.1	92.5	8.2
01/31/2023 07:00:00	20.9	86.1	8.2	02/01/2023 17:00:00	32.8	97.8	7.4	02/03/2023 03:00:00	25.9	93.6	8.3
01/31/2023 08:00:00	20.6	87.2	8.4	02/01/2023 18:00:00	30.8	100.0	7.6	02/03/2023 04:00:00	25.7	94.1	8.3
01/31/2023 09:00:00	22.1	87.7	8.6	02/01/2023 19:00:00	28.7	96.8	7.7	02/03/2023 05:00:00	25.7	95.2	8.3
01/31/2023 10:00:00	25.2	3011.7	8.3	02/01/2023 20:00:00	28.5	2666.7	8.4	02/03/2023 06:00:00	25.5	95.7	8.4
01/31/2023 11:00:00	25.6	3007.4	8.3	02/01/2023 21:00:00	28.7	2662.9	8.3	02/03/2023 07:00:00	25.5	95.7	8.4
01/31/2023 12:00:00	25.5	3002.1	8.3	02/01/2023 22:00:00	28.9	2627.7	8.3	02/03/2023 08:00:00	25.6	96.2	8.5
01/31/2023 13:00:00	25.6	3000.4	8.3	02/01/2023 23:00:00	29.0	2557.2	8.3	02/03/2023 09:00:00	28.7	96.2	8.7
01/31/2023 14:00:00	25.7	3003.1	8.3	02/02/2023 00:00:00	28.9	2562.0	8.2	02/03/2023 10:00:00	30.7	96.8	8.8
01/31/2023 15:00:00	25.8	3003.1	8.4	02/02/2023 01:00:00	28.6	2567.9	8.3	02/03/2023 11:00:00	32.8	94.6	8.7
01/31/2023 16:00:00	30.9	3017.5	8.3	02/02/2023 02:00:00	28.4	2573.2	8.3	02/03/2023 12:00:00	33.8	19.9	8.7
01/31/2023 17:00:00	30.1	3024.5	8.2	02/02/2023 03:00:00	28.1	2578.5	8.3	02/03/2023 13:00:00	37.7	53.0	8.6
01/31/2023 18:00:00	29.1	3028.2	8.2	02/02/2023 04:00:00	27.8	2574.3	8.3	02/03/2023 14:00:00	36.9	88.2	8.4
01/31/2023 19:00:00	28.1	3028.2	8.2	02/02/2023 05:00:00	27.4	127.8	8.1	02/03/2023 15:00:00	31.8	58.3	7.7
01/31/2023 20:00:00	27.1	3024.5	8.2	02/02/2023 06:00:00	24.3	92.5	8.0	02/03/2023 16:00:00	30.8	23.1	7.8
01/31/2023 21:00:00	28.1	2912.3	8.3	02/02/2023 07:00:00	23.3	93.0	8.2	02/03/2023 17:00:00	28.9	58.3	7.9
01/31/2023 22:00:00	28.2	2892.6	8.3	02/02/2023 08:00:00	23.9	94.1	8.5	02/03/2023 18:00:00	28.5	90.4	8.0
01/31/2023 23:00:00	28.3	2868.5	8.3	02/02/2023 09:00:00	27.0	94.1	8.9	02/03/2023 19:00:00	27.5	2347.8	8.3
02/01/2023 00:00:00	28.4	2846.1	8.3	02/02/2023 10:00:00	33.2	22.5	8.7	02/03/2023 20:00:00	27.6	2336.6	8.3
02/01/2023 01:00:00	28.5	2835.4	8.3	02/02/2023 11:00:00	37.3	57.8	8.6	02/03/2023 21:00:00	27.7	2327.5	8.3
02/01/2023 02:00:00	28.5	2818.3	8.3	02/02/2023 12:00:00	40.0	86.1	8.6	02/03/2023 22:00:00	27.6	2326.5	8.3
02/01/2023 03:00:00	28.4	2809.8	8.3	02/02/2023 13:00:00	42.8	88.8	8.5	02/03/2023 23:00:00	27.4	2327.0	8.3

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
02/04/2023 00:00:00	27.2	2328.1	8.3	02/05/2023 10:00:00	33.1	97.3	9.0	02/06/2023 20:00:00	26.7	93.6	8.1
02/04/2023 01:00:00	27.0	2328.6	8.3	02/05/2023 11:00:00	33.1	97.3	8.9	02/06/2023 21:00:00	26.1	94.1	8.2
02/04/2023 02:00:00	24.9	129.4	8.2	02/05/2023 12:00:00	34.1	52.5	8.8	02/06/2023 22:00:00	25.8	94.6	8.2
02/04/2023 03:00:00	24.0	96.8	8.4	02/05/2023 13:00:00	36.2	52.5	8.7	02/06/2023 23:00:00	25.6	95.2	8.3
02/04/2023 04:00:00	23.9	96.2	8.4	02/05/2023 14:00:00	28.0	86.1	7.9	02/07/2023 00:00:00	25.4	94.6	8.3
02/04/2023 05:00:00	23.8	96.2	8.4	02/05/2023 15:00:00	34.1	50.9	8.3	02/07/2023 01:00:00	25.3	94.6	8.3
02/04/2023 06:00:00	23.8	95.7	8.4	02/05/2023 16:00:00	33.1	15.6	8.1	02/07/2023 02:00:00	25.2	95.2	8.3
02/04/2023 07:00:00	23.5	95.2	8.4	02/05/2023 17:00:00	32.1	6.5	8.2	02/07/2023 03:00:00	28.2	2218.6	8.2
02/04/2023 08:00:00	23.9	94.6	8.5	02/05/2023 18:00:00	29.1	11.3	8.1	02/07/2023 04:00:00	28.2	2201.5	8.2
02/04/2023 09:00:00	27.0	96.2	8.7	02/05/2023 19:00:00	28.0	2154.0	8.3	02/07/2023 05:00:00	28.0	2202.6	8.2
02/04/2023 10:00:00	33.1	95.7	8.8	02/05/2023 20:00:00	27.8	2189.2	8.3	02/07/2023 06:00:00	27.8	2201.5	8.2
02/04/2023 11:00:00	36.2	90.9	8.7	02/05/2023 21:00:00	27.8	2199.9	8.3	02/07/2023 07:00:00	27.6	2201.5	8.3
02/04/2023 12:00:00	40.0	30.6	8.5	02/05/2023 22:00:00	27.7	2200.4	8.3	02/07/2023 08:00:00	27.4	2199.4	8.3
02/04/2023 13:00:00	37.6	31.1	8.2	02/05/2023 23:00:00	27.6	2199.9	8.3	02/07/2023 09:00:00	28.2	104.8	8.1
02/04/2023 14:00:00	38.6	48.7	8.2	02/06/2023 00:00:00	27.4	2199.9	8.3	02/07/2023 10:00:00	32.3	103.2	8.6
02/04/2023 15:00:00	39.0	84.0	8.4	02/06/2023 01:00:00	27.2	2200.4	8.3	02/07/2023 11:00:00	36.4	101.1	8.5
02/04/2023 16:00:00	37.3	93.0	8.0	02/06/2023 02:00:00	25.9	98.9	8.1	02/07/2023 12:00:00	37.5	35.4	8.4
02/04/2023 17:00:00	32.2	93.6	7.9	02/06/2023 03:00:00	25.1	98.9	8.3	02/07/2023 13:00:00	39.9	41.8	8.4
02/04/2023 18:00:00	30.2	55.1	7.8	02/06/2023 04:00:00	24.5	98.4	8.3	02/07/2023 14:00:00	40.3	77.0	8.3
02/04/2023 19:00:00	28.1	55.1	7.8	02/06/2023 05:00:00	24.1	97.8	8.4	02/07/2023 15:00:00	37.4	78.1	8.2
02/04/2023 20:00:00	27.1	90.4	8.0	02/06/2023 06:00:00	24.4	96.2	8.3	02/07/2023 16:00:00	36.4	78.1	8.0
02/04/2023 21:00:00	26.5	92.0	8.1	02/06/2023 07:00:00	24.5	97.3	8.4	02/07/2023 17:00:00	33.5	73.8	8.0
02/04/2023 22:00:00	25.9	93.0	8.2	02/06/2023 08:00:00	25.6	96.8	8.5	02/07/2023 18:00:00	31.4	49.2	8.1
02/04/2023 23:00:00	25.5	93.0	8.2	02/06/2023 09:00:00	28.6	99.5	8.6	02/07/2023 19:00:00	28.4	49.2	8.1
02/05/2023 00:00:00	25.1	93.0	8.3	02/06/2023 10:00:00	30.7	97.8	8.6	02/07/2023 20:00:00	27.3	84.5	8.1
02/05/2023 01:00:00	24.8	93.6	8.3	02/06/2023 11:00:00	33.8	97.3	8.6	02/07/2023 21:00:00	26.5	97.3	8.2
02/05/2023 02:00:00	24.6	94.6	8.3	02/06/2023 12:00:00	39.9	95.2	8.5	02/07/2023 22:00:00	26.0	97.8	8.3
02/05/2023 03:00:00	24.5	94.6	8.4	02/06/2023 13:00:00	40.0	59.9	8.4	02/07/2023 23:00:00	25.6	97.3	8.3
02/05/2023 04:00:00	24.4	95.2	8.4	02/06/2023 14:00:00	40.4	24.7	8.3	02/08/2023 00:00:00	25.3	97.8	8.4
02/05/2023 05:00:00	24.2	94.1	8.5	02/06/2023 15:00:00	36.9	15.1	8.1	02/08/2023 01:00:00	24.9	97.3	8.4
02/05/2023 06:00:00	24.3	94.6	8.4	02/06/2023 16:00:00	34.9	15.1	8.1	02/08/2023 02:00:00	24.7	98.4	8.5
02/05/2023 07:00:00	23.7	95.2	8.4	02/06/2023 17:00:00	31.8	23.1	8.1	02/08/2023 03:00:00	24.5	97.3	8.5
02/05/2023 08:00:00	24.9	94.6	8.6	02/06/2023 18:00:00	29.7	47.6	8.1	02/08/2023 04:00:00	24.6	97.8	8.6
02/05/2023 09:00:00	27.0	95.7	8.9	02/06/2023 19:00:00	27.7	83.4	8.1	02/08/2023 05:00:00	24.0	98.9	8.6

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
02/08/2023 06:00:00	28.1	2275.7	8.3	02/09/2023 16:00:00	35.9	48.7	8.1	02/11/2023 02:00:00	30.1	3074.7	8.5
02/08/2023 07:00:00	28.4	2255.4	8.2	02/09/2023 17:00:00	33.5	35.9	8.2	02/11/2023 03:00:00	30.3	3074.7	8.4
02/08/2023 08:00:00	28.2	2253.8	8.2	02/09/2023 18:00:00	29.4	62.6	8.2	02/11/2023 04:00:00	30.4	3076.3	8.4
02/08/2023 09:00:00	28.2	2250.6	8.3	02/09/2023 19:00:00	28.4	2630.9	8.6	02/11/2023 05:00:00	30.4	3081.6	8.4
02/08/2023 10:00:00	28.2	2249.6	8.3	02/09/2023 20:00:00	29.4	2666.1	8.5	02/11/2023 06:00:00	30.2	3078.4	8.4
02/08/2023 11:00:00	28.2	2237.8	8.4	02/09/2023 21:00:00	29.7	2701.4	8.4	02/11/2023 07:00:00	29.9	3078.4	8.4
02/08/2023 12:00:00	38.5	10.8	8.5	02/09/2023 22:00:00	29.9	2737.2	8.4	02/11/2023 08:00:00	29.8	3081.1	8.4
02/08/2023 13:00:00	40.8	81.3	8.6	02/09/2023 23:00:00	30.2	2802.8	8.3	02/11/2023 09:00:00	29.8	3068.8	8.3
02/08/2023 14:00:00	41.8	95.2	8.6	02/10/2023 00:00:00	30.4	2838.1	8.3	02/11/2023 10:00:00	30.1	3065.1	8.4
02/08/2023 15:00:00	40.0	94.6	8.5	02/10/2023 01:00:00	30.6	2873.3	8.3	02/11/2023 11:00:00	30.0	3074.1	8.4
02/08/2023 16:00:00	37.9	93.0	8.4	02/10/2023 02:00:00	30.8	2898.4	8.3	02/11/2023 12:00:00	30.1	3062.9	8.4
02/08/2023 17:00:00	33.0	79.7	8.3	02/10/2023 03:00:00	30.8	2912.9	8.3	02/11/2023 13:00:00	30.3	3062.9	8.5
02/08/2023 18:00:00	29.9	44.4	8.3	02/10/2023 04:00:00	30.7	2927.8	8.3	02/11/2023 14:00:00	30.3	3059.2	8.5
02/08/2023 19:00:00	27.9	79.7	8.3	02/10/2023 05:00:00	30.6	2940.1	8.3	02/11/2023 15:00:00	30.3	3060.3	8.5
02/08/2023 20:00:00	26.9	98.4	8.5	02/10/2023 06:00:00	30.4	2957.2	8.3	02/11/2023 16:00:00	30.3	3065.6	8.6
02/08/2023 21:00:00	26.5	98.9	8.5	02/10/2023 07:00:00	30.2	2970.5	8.3	02/11/2023 17:00:00	30.3	3052.8	8.6
02/08/2023 22:00:00	26.4	99.5	8.6	02/10/2023 08:00:00	27.2	2954.5	8.4	02/11/2023 18:00:00	30.2	2982.3	8.6
02/08/2023 23:00:00	26.3	98.9	8.6	02/10/2023 09:00:00	28.2	2962.0	8.3	02/11/2023 19:00:00	30.2	3007.9	8.5
02/09/2023 00:00:00	26.1	100.5	8.6	02/10/2023 10:00:00	31.3	2957.2	8.2	02/11/2023 20:00:00	30.0	3026.6	8.5
02/09/2023 01:00:00	25.9	100.0	8.6	02/10/2023 11:00:00	33.4	2956.7	8.3	02/11/2023 21:00:00	29.7	3028.8	8.5
02/09/2023 02:00:00	25.7	100.5	8.7	02/10/2023 12:00:00	38.5	2930.5	8.2	02/11/2023 22:00:00	29.5	3032.5	8.5
02/09/2023 03:00:00	25.4	99.5	8.7	02/10/2023 13:00:00	40.0	2959.9	8.2	02/11/2023 23:00:00	29.3	3033.6	8.5
02/09/2023 04:00:00	24.8	100.5	8.7	02/10/2023 14:00:00	37.9	2988.7	8.0	02/12/2023 00:00:00	29.0	3032.5	8.5
02/09/2023 05:00:00	24.8	98.4	8.7	02/10/2023 15:00:00	35.9	2996.2	7.9	02/12/2023 01:00:00	28.7	3029.8	8.4
02/09/2023 06:00:00	24.7	100.0	8.7	02/10/2023 16:00:00	33.8	2992.4	7.9	02/12/2023 02:00:00	26.7	3023.4	8.4
02/09/2023 07:00:00	24.5	100.0	8.7	02/10/2023 17:00:00	31.8	2957.2	7.9	02/12/2023 03:00:00	25.7	3019.1	8.4
02/09/2023 08:00:00	25.5	101.6	8.9	02/10/2023 18:00:00	29.7	2956.1	7.9	02/12/2023 04:00:00	24.6	3016.5	8.4
02/09/2023 09:00:00	28.5	102.1	9.1	02/10/2023 19:00:00	27.7	2938.5	7.9	02/12/2023 05:00:00	24.2	3014.3	8.4
02/09/2023 10:00:00	33.7	103.7	9.2	02/10/2023 20:00:00	30.2	3057.6	8.5	02/12/2023 06:00:00	24.4	3012.7	8.4
02/09/2023 11:00:00	35.7	100.0	9.0	02/10/2023 21:00:00	30.3	3062.9	8.5	02/12/2023 07:00:00	24.8	3012.7	8.3
02/09/2023 12:00:00	36.8	62.1	8.9	02/10/2023 22:00:00	30.1	3069.9	8.5	02/12/2023 08:00:00	26.8	3012.7	8.3
02/09/2023 13:00:00	38.8	26.8	8.8	02/10/2023 23:00:00	29.9	3067.7	8.5	02/12/2023 09:00:00	29.8	3013.3	8.3
02/09/2023 14:00:00	38.8	79.2	8.7	02/11/2023 00:00:00	29.7	3069.3	8.5	02/12/2023 10:00:00	34.0	3014.9	8.2
02/09/2023 15:00:00	39.0	84.0	8.4	02/11/2023 01:00:00	29.8	3070.4	8.5	02/12/2023 11:00:00	36.0	3010.6	8.2

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
02/12/2023 12:00:00	29.3	2996.7	8.4	02/13/2023 22:00:00	25.9	3006.3	8.7	02/15/2023 08:00:00	24.7	2996.7	8.4
02/12/2023 13:00:00	29.6	3032.0	8.5	02/13/2023 23:00:00	25.8	3005.8	8.7	02/15/2023 09:00:00	26.8	2996.2	8.3
02/12/2023 14:00:00	29.7	3062.9	8.5	02/14/2023 00:00:00	25.5	3004.2	8.7	02/15/2023 10:00:00	27.8	3044.2	8.3
02/12/2023 15:00:00	29.8	3065.1	8.6	02/14/2023 01:00:00	25.2	3003.7	8.7	02/15/2023 11:00:00	28.6	3013.8	8.3
02/12/2023 16:00:00	29.8	3029.8	8.6	02/14/2023 02:00:00	24.9	3001.5	8.7	02/15/2023 12:00:00	28.4	3012.2	8.3
02/12/2023 17:00:00	30.0	3016.5	8.6	02/14/2023 03:00:00	25.0	3001.0	8.7	02/15/2023 13:00:00	28.2	3007.9	8.3
02/12/2023 18:00:00	29.8	3051.7	8.6	02/14/2023 04:00:00	25.0	3000.4	8.6	02/15/2023 14:00:00	28.0	3006.9	8.4
02/12/2023 19:00:00	29.8	3039.4	8.6	02/14/2023 05:00:00	24.7	2999.4	8.6	02/15/2023 15:00:00	26.8	147.5	8.2
02/12/2023 20:00:00	29.9	3051.2	8.6	02/14/2023 06:00:00	24.2	2997.8	8.6	02/15/2023 16:00:00	26.5	112.3	8.4
02/12/2023 21:00:00	29.8	3068.3	8.5	02/14/2023 07:00:00	24.2	2996.2	8.6	02/15/2023 17:00:00	26.7	111.2	8.5
02/12/2023 22:00:00	29.5	3059.2	8.5	02/14/2023 08:00:00	25.3	2995.1	8.6	02/15/2023 18:00:00	26.9	110.7	8.6
02/12/2023 23:00:00	27.4	3071.5	8.5	02/14/2023 09:00:00	28.4	2995.1	8.5	02/15/2023 19:00:00	25.9	110.1	8.5
02/13/2023 00:00:00	25.4	3074.1	8.5	02/14/2023 10:00:00	33.5	2998.3	8.5	02/15/2023 20:00:00	24.9	108.5	8.4
02/13/2023 01:00:00	24.9	3070.9	8.5	02/14/2023 11:00:00	37.6	3001.5	8.4	02/15/2023 21:00:00	24.5	107.5	8.4
02/13/2023 02:00:00	24.6	3069.3	8.5	02/14/2023 12:00:00	41.1	2997.2	8.4	02/15/2023 22:00:00	24.5	106.4	8.5
02/13/2023 03:00:00	24.3	3068.3	8.4	02/14/2023 13:00:00	41.2	3032.5	8.3	02/15/2023 23:00:00	24.3	105.9	8.6
02/13/2023 04:00:00	24.5	3066.1	8.4	02/14/2023 14:00:00	44.3	3050.1	8.3	02/16/2023 00:00:00	24.1	105.9	8.6
02/13/2023 05:00:00	24.6	3065.1	8.4	02/14/2023 15:00:00	40.0	3061.3	8.3	02/16/2023 01:00:00	24.5	106.4	8.7
02/13/2023 06:00:00	23.8	3065.1	8.4	02/14/2023 16:00:00	37.9	3064.0	8.3	02/16/2023 02:00:00	24.8	106.4	8.7
02/13/2023 07:00:00	23.4	3062.4	8.4	02/14/2023 17:00:00	33.8	3065.1	8.3	02/16/2023 03:00:00	24.8	107.5	8.7
02/13/2023 08:00:00	24.5	3061.3	8.3	02/14/2023 18:00:00	30.8	3047.4	8.3	02/16/2023 04:00:00	24.0	108.5	8.6
02/13/2023 09:00:00	29.6	3060.8	8.3	02/14/2023 19:00:00	28.7	3007.9	8.6	02/16/2023 05:00:00	24.0	109.6	8.6
02/13/2023 10:00:00	34.7	3061.9	8.2	02/14/2023 20:00:00	27.7	3021.3	8.6	02/16/2023 06:00:00	23.9	110.1	8.6
02/13/2023 11:00:00	35.9	3063.5	8.2	02/14/2023 21:00:00	28.7	3009.0	8.5	02/16/2023 07:00:00	23.4	107.5	8.7
02/13/2023 12:00:00	30.5	2957.7	8.4	02/14/2023 22:00:00	29.5	3011.1	8.5	02/16/2023 08:00:00	24.0	107.5	8.7
02/13/2023 13:00:00	29.7	2993.5	8.5	02/14/2023 23:00:00	29.4	3010.6	8.4	02/16/2023 09:00:00	25.0	108.5	8.9
02/13/2023 14:00:00	29.7	3003.7	8.5	02/15/2023 00:00:00	27.7	3011.1	8.4	02/16/2023 10:00:00	28.1	108.5	9.0
02/13/2023 15:00:00	29.8	3018.1	8.6	02/15/2023 01:00:00	26.7	3006.3	8.4	02/16/2023 11:00:00	30.2	105.3	8.9
02/13/2023 16:00:00	29.7	3011.7	8.7	02/15/2023 02:00:00	25.9	3004.2	8.4	02/16/2023 12:00:00	32.2	63.7	8.9
02/13/2023 17:00:00	29.6	3017.0	8.7	02/15/2023 03:00:00	25.5	3002.1	8.4	02/16/2023 13:00:00	36.3	92.0	9.0
02/13/2023 18:00:00	30.5	2950.8	8.7	02/15/2023 04:00:00	25.3	3001.5	8.4	02/16/2023 14:00:00	37.3	95.2	8.5
02/13/2023 19:00:00	28.5	2986.6	8.7	02/15/2023 05:00:00	24.8	2999.9	8.4	02/16/2023 15:00:00	33.2	95.2	8.3
02/13/2023 20:00:00	27.4	3008.5	8.7	02/15/2023 06:00:00	24.4	2999.4	8.4	02/16/2023 16:00:00	28.1	2932.1	8.5
02/13/2023 21:00:00	26.7	3009.0	8.7	02/15/2023 07:00:00	24.5	2998.3	8.4	02/16/2023 17:00:00	28.0	2959.3	8.6

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
02/16/2023 18:00:00	28.2	2931.0	8.5	02/18/2023 04:00:00	24.4	118.1	8.3	02/19/2023 14:00:00	27.7	2899.5	8.5
02/16/2023 19:00:00	28.2	2931.0	8.5	02/18/2023 05:00:00	24.0	119.2	8.3	02/19/2023 15:00:00	28.2	2884.0	8.5
02/16/2023 20:00:00	28.0	2931.6	8.5	02/18/2023 06:00:00	23.9	118.1	8.4	02/19/2023 16:00:00	28.1	2884.0	8.5
02/16/2023 21:00:00	27.7	2932.6	8.4	02/18/2023 07:00:00	23.7	119.2	8.4	02/19/2023 17:00:00	32.2	144.3	7.1
02/16/2023 22:00:00	27.4	2932.6	8.4	02/18/2023 08:00:00	23.7	116.5	8.4	02/19/2023 18:00:00	31.6	127.2	7.1
02/16/2023 23:00:00	27.2	2932.6	8.4	02/18/2023 09:00:00	24.8	117.1	8.6	02/19/2023 19:00:00	29.5	124.6	7.4
02/17/2023 00:00:00	27.0	2930.5	8.4	02/18/2023 10:00:00	27.8	117.6	8.7	02/19/2023 20:00:00	27.5	121.3	7.6
02/17/2023 01:00:00	26.7	150.7	7.9	02/18/2023 11:00:00	34.0	118.1	8.7	02/19/2023 21:00:00	26.5	116.5	7.9
02/17/2023 02:00:00	25.6	115.5	8.2	02/18/2023 12:00:00	35.0	108.5	8.7	02/19/2023 22:00:00	25.5	72.7	8.1
02/17/2023 03:00:00	24.6	115.5	8.3	02/18/2023 13:00:00	34.0	124.6	8.6	02/19/2023 23:00:00	24.9	85.6	8.1
02/17/2023 04:00:00	23.7	114.4	8.5	02/18/2023 14:00:00	38.1	125.6	8.6	02/20/2023 00:00:00	24.4	111.2	8.2
02/17/2023 05:00:00	23.8	112.8	8.5	02/18/2023 15:00:00	37.1	125.1	8.5	02/20/2023 01:00:00	24.1	114.9	8.2
02/17/2023 06:00:00	23.7	112.8	8.5	02/18/2023 16:00:00	36.8	125.1	8.4	02/20/2023 02:00:00	23.8	117.1	8.3
02/17/2023 07:00:00	23.7	111.7	8.6	02/18/2023 17:00:00	33.7	125.6	7.9	02/20/2023 03:00:00	23.5	118.7	8.3
02/17/2023 08:00:00	24.2	110.7	8.6	02/18/2023 18:00:00	30.6	125.1	7.9	02/20/2023 04:00:00	23.7	120.8	8.4
02/17/2023 09:00:00	28.3	101.1	8.8	02/18/2023 19:00:00	28.6	124.6	8.0	02/20/2023 05:00:00	23.5	121.9	8.5
02/17/2023 10:00:00	30.4	65.8	8.8	02/18/2023 20:00:00	27.6	97.3	8.0	02/20/2023 06:00:00	23.6	121.9	8.5
02/17/2023 11:00:00	36.5	92.5	8.8	02/18/2023 21:00:00	26.6	77.0	8.1	02/20/2023 07:00:00	23.6	122.9	8.6
02/17/2023 12:00:00	39.6	95.7	8.7	02/18/2023 22:00:00	25.7	54.6	8.2	02/20/2023 08:00:00	24.6	123.5	8.6
02/17/2023 13:00:00	40.0	97.8	8.6	02/18/2023 23:00:00	25.1	86.6	8.3	02/20/2023 09:00:00	28.7	119.2	8.7
02/17/2023 14:00:00	41.1	98.4	8.5	02/19/2023 00:00:00	24.4	103.2	8.4	02/20/2023 10:00:00	32.8	84.0	8.6
02/17/2023 15:00:00	37.9	100.0	8.5	02/19/2023 01:00:00	23.8	108.0	8.4	02/20/2023 11:00:00	36.9	114.9	8.3
02/17/2023 16:00:00	36.4	101.1	8.4	02/19/2023 02:00:00	23.7	114.4	8.5	02/20/2023 12:00:00	38.9	121.3	8.3
02/17/2023 17:00:00	33.4	100.0	8.2	02/19/2023 03:00:00	23.7	116.5	8.6	02/20/2023 13:00:00	41.5	122.9	8.4
02/17/2023 18:00:00	31.3	98.4	8.2	02/19/2023 04:00:00	23.7	117.6	8.6	02/20/2023 14:00:00	28.7	2841.8	8.5
02/17/2023 19:00:00	29.3	95.2	8.4	02/19/2023 05:00:00	23.3	116.5	8.5	02/20/2023 15:00:00	28.7	2842.9	8.5
02/17/2023 20:00:00	27.2	87.2	8.5	02/19/2023 06:00:00	23.5	117.6	8.6	02/20/2023 16:00:00	28.6	2841.8	8.5
02/17/2023 21:00:00	27.9	2917.7	8.5	02/19/2023 07:00:00	23.6	116.0	8.7	02/20/2023 17:00:00	28.6	2844.5	8.5
02/17/2023 22:00:00	28.0	2925.1	8.4	02/19/2023 08:00:00	25.6	116.0	8.8	02/20/2023 18:00:00	28.4	2847.7	8.5
02/17/2023 23:00:00	27.8	2926.2	8.4	02/19/2023 09:00:00	26.7	2864.8	8.3	02/20/2023 19:00:00	28.2	2764.9	8.5
02/18/2023 00:00:00	27.5	2928.4	8.4	02/19/2023 10:00:00	26.9	2900.0	8.3	02/20/2023 20:00:00	27.8	23.6	7.9
02/18/2023 01:00:00	27.1	2928.4	8.4	02/19/2023 11:00:00	26.9	2910.2	8.3	02/20/2023 21:00:00	26.9	94.1	7.7
02/18/2023 02:00:00	25.0	122.9	7.8	02/19/2023 12:00:00	27.0	2907.0	8.4	02/20/2023 22:00:00	25.9	110.1	7.9
02/18/2023 03:00:00	24.1	117.6	8.0	02/19/2023 13:00:00	27.1	2903.8	8.4	02/20/2023 23:00:00	24.9	112.3	8.1

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
02/21/2023 00:00:00	24.4	112.8	8.3	02/22/2023 10:00:00	32.6	124.6	8.9	02/23/2023 20:00:00	27.7	92.5	8.0
02/21/2023 01:00:00	23.9	112.3	8.4	02/22/2023 11:00:00	36.7	126.7	8.9	02/23/2023 21:00:00	26.7	57.3	8.1
02/21/2023 02:00:00	23.6	112.3	8.6	02/22/2023 12:00:00	40.0	126.2	8.7	02/23/2023 22:00:00	25.6	57.8	8.2
02/21/2023 03:00:00	23.3	112.8	8.6	02/22/2023 13:00:00	41.9	135.8	8.6	02/23/2023 23:00:00	25.2	93.0	8.3
02/21/2023 04:00:00	23.1	113.9	8.6	02/22/2023 14:00:00	40.9	137.4	8.4	02/24/2023 00:00:00	24.8	109.1	8.4
02/21/2023 05:00:00	22.9	113.9	8.6	02/22/2023 15:00:00	35.9	137.9	8.1	02/24/2023 01:00:00	24.2	113.9	8.4
02/21/2023 06:00:00	22.6	114.4	8.7	02/22/2023 16:00:00	36.9	139.5	8.0	02/24/2023 02:00:00	23.8	115.5	8.5
02/21/2023 07:00:00	22.6	114.4	8.7	02/22/2023 17:00:00	34.4	139.5	8.0	02/24/2023 03:00:00	28.1	2905.4	8.4
02/21/2023 08:00:00	25.0	115.5	8.7	02/22/2023 18:00:00	31.3	139.5	8.1	02/24/2023 04:00:00	28.2	2892.0	8.3
02/21/2023 09:00:00	28.1	114.9	8.8	02/22/2023 19:00:00	28.3	139.0	8.1	02/24/2023 05:00:00	27.9	2891.0	8.3
02/21/2023 10:00:00	33.2	79.2	8.8	02/22/2023 20:00:00	27.2	103.7	8.2	02/24/2023 06:00:00	27.7	2891.0	8.3
02/21/2023 11:00:00	37.3	101.6	8.7	02/22/2023 21:00:00	26.5	102.1	8.3	02/24/2023 07:00:00	27.4	2891.5	8.3
02/21/2023 12:00:00	40.0	103.7	8.6	02/22/2023 22:00:00	25.5	88.2	8.3	02/24/2023 08:00:00	27.1	2890.4	8.3
02/21/2023 13:00:00	42.4	105.9	8.6	02/22/2023 23:00:00	24.9	66.3	8.4	02/24/2023 09:00:00	27.8	57.8	8.0
02/21/2023 14:00:00	41.8	108.0	8.5	02/23/2023 00:00:00	24.2	99.5	8.5	02/24/2023 10:00:00	35.0	93.0	8.5
02/21/2023 15:00:00	39.0	109.1	8.4	02/23/2023 01:00:00	23.6	122.9	8.5	02/24/2023 11:00:00	39.1	97.3	8.5
02/21/2023 16:00:00	40.0	109.6	8.4	02/23/2023 02:00:00	26.7	2942.2	8.4	02/24/2023 12:00:00	41.9	100.0	8.5
02/21/2023 17:00:00	35.9	108.5	8.0	02/23/2023 03:00:00	27.8	2938.5	8.4	02/24/2023 13:00:00	44.0	102.1	8.5
02/21/2023 18:00:00	31.8	106.4	8.0	02/23/2023 04:00:00	27.7	2936.4	8.4	02/24/2023 14:00:00	44.1	104.3	8.3
02/21/2023 19:00:00	28.7	96.2	8.0	02/23/2023 05:00:00	27.4	2935.3	8.4	02/24/2023 15:00:00	40.0	105.9	7.7
02/21/2023 20:00:00	27.7	63.1	8.2	02/23/2023 06:00:00	27.2	2934.8	8.4	02/24/2023 16:00:00	39.1	103.7	7.8
02/21/2023 21:00:00	26.9	63.1	8.3	02/23/2023 07:00:00	26.9	2933.7	8.4	02/24/2023 17:00:00	37.0	102.1	7.9
02/21/2023 22:00:00	27.1	2833.8	8.6	02/23/2023 08:00:00	26.6	144.8	8.2	02/24/2023 18:00:00	31.9	101.6	8.0
02/21/2023 23:00:00	28.1	2869.6	8.6	02/23/2023 09:00:00	28.1	119.2	8.3	02/24/2023 19:00:00	29.8	100.5	8.1
02/22/2023 00:00:00	28.4	2896.3	8.6	02/23/2023 10:00:00	33.2	84.0	8.7	02/24/2023 20:00:00	27.8	98.4	8.2
02/22/2023 01:00:00	28.2	2894.7	8.6	02/23/2023 11:00:00	36.3	111.2	8.5	02/24/2023 21:00:00	26.8	95.2	8.3
02/22/2023 02:00:00	27.9	2895.2	8.5	02/23/2023 12:00:00	39.4	113.3	8.5	02/24/2023 22:00:00	25.9	80.8	8.4
02/22/2023 03:00:00	27.7	2895.8	8.5	02/23/2023 13:00:00	41.1	113.9	8.5	02/24/2023 23:00:00	25.3	45.5	8.4
02/22/2023 04:00:00	27.4	2895.2	8.5	02/23/2023 14:00:00	41.2	116.0	8.4	02/25/2023 00:00:00	24.5	93.0	8.5
02/22/2023 05:00:00	25.1	143.2	8.2	02/23/2023 15:00:00	37.9	116.0	8.3	02/25/2023 01:00:00	24.1	109.1	8.5
02/22/2023 06:00:00	24.1	119.7	8.3	02/23/2023 16:00:00	37.9	110.7	8.0	02/25/2023 02:00:00	23.4	113.3	8.6
02/22/2023 07:00:00	23.2	119.7	8.4	02/23/2023 17:00:00	35.9	106.4	8.0	02/25/2023 03:00:00	23.0	113.9	8.6
02/22/2023 08:00:00	24.4	121.9	8.5	02/23/2023 18:00:00	31.8	102.7	7.9	02/25/2023 04:00:00	22.3	114.4	8.7
02/22/2023 09:00:00	27.4	124.6	8.7	02/23/2023 19:00:00	29.7	99.5	7.9	02/25/2023 05:00:00	27.6	2855.7	8.4

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
02/25/2023 06:00:00	27.5	2854.1	8.3	02/26/2023 16:00:00	26.4	2855.2	8.5	02/28/2023 02:00:00	24.4	126.7	7.6
02/25/2023 07:00:00	27.2	2854.7	8.3	02/26/2023 17:00:00	26.2	2857.9	8.5	02/28/2023 03:00:00	23.7	124.6	7.8
02/25/2023 08:00:00	26.8	2883.5	8.3	02/26/2023 18:00:00	25.9	2819.9	8.5	02/28/2023 04:00:00	22.7	122.4	8.1
02/25/2023 09:00:00	26.5	2881.9	8.3	02/26/2023 19:00:00	25.6	2849.3	8.5	02/28/2023 05:00:00	22.5	120.8	8.3
02/25/2023 10:00:00	28.2	112.8	7.3	02/26/2023 20:00:00	25.2	132.6	7.6	02/28/2023 06:00:00	22.5	119.7	8.5
02/25/2023 11:00:00	34.4	118.1	7.6	02/26/2023 21:00:00	25.8	127.8	7.3	02/28/2023 07:00:00	22.0	118.1	8.6
02/25/2023 12:00:00	36.4	118.1	7.9	02/26/2023 22:00:00	25.5	133.6	7.7	02/28/2023 08:00:00	24.5	118.1	8.6
02/25/2023 13:00:00	39.5	119.2	8.0	02/26/2023 23:00:00	25.4	134.7	7.9	02/28/2023 09:00:00	27.6	119.7	8.8
02/25/2023 14:00:00	40.0	120.3	8.3	02/27/2023 00:00:00	24.9	135.2	7.9	02/28/2023 10:00:00	32.7	120.8	8.8
02/25/2023 15:00:00	39.0	120.3	8.5	02/27/2023 01:00:00	24.3	130.4	8.0	02/28/2023 11:00:00	36.8	122.9	8.7
02/25/2023 16:00:00	39.0	120.8	8.5	02/27/2023 02:00:00	23.5	129.9	8.2	02/28/2023 12:00:00	38.9	125.1	8.7
02/25/2023 17:00:00	37.0	120.3	8.3	02/27/2023 03:00:00	23.3	134.7	8.2	02/28/2023 13:00:00	41.3	126.7	8.6
02/25/2023 18:00:00	31.8	117.6	8.2	02/27/2023 04:00:00	22.8	127.2	8.1	02/28/2023 14:00:00	42.4	128.3	8.6
02/25/2023 19:00:00	28.7	113.9	8.3	02/27/2023 05:00:00	22.2	92.0	8.2	02/28/2023 15:00:00	40.0	129.9	8.5
02/25/2023 20:00:00	27.4	110.7	8.4	02/27/2023 06:00:00	21.6	108.5	8.4	02/28/2023 16:00:00	39.8	128.8	7.6
02/25/2023 21:00:00	26.4	108.5	8.5	02/27/2023 07:00:00	21.5	108.0	8.3	02/28/2023 17:00:00	37.7	127.8	7.9
02/25/2023 22:00:00	25.6	104.3	8.6	02/27/2023 08:00:00	22.6	105.9	8.4	02/28/2023 18:00:00	32.6	126.7	7.9
02/25/2023 23:00:00	24.7	103.7	8.6	02/27/2023 09:00:00	25.6	109.1	8.4	02/28/2023 19:00:00	26.4	2936.4	8.5
02/26/2023 00:00:00	24.4	96.2	8.7	02/27/2023 10:00:00	29.7	108.5	8.5	02/28/2023 20:00:00	26.1	2901.1	8.5
02/26/2023 01:00:00	25.2	106.4	8.7	02/27/2023 11:00:00	33.8	108.5	8.6	02/28/2023 21:00:00	26.0	2921.4	8.4
02/26/2023 02:00:00	24.8	106.4	8.8	02/27/2023 12:00:00	35.9	110.1	8.6	02/28/2023 22:00:00	25.8	2930.5	8.4
02/26/2023 03:00:00	24.3	105.3	8.8	02/27/2023 13:00:00	40.0	113.3	8.6	02/28/2023 23:00:00	25.7	2895.2	8.4
02/26/2023 04:00:00	24.1	104.3	8.8	02/27/2023 14:00:00	40.7	115.5	8.6	03/01/2023 00:00:00	25.4	2874.4	8.3
02/26/2023 05:00:00	23.3	98.9	8.8	02/27/2023 15:00:00	39.0	117.1	8.4	03/01/2023 01:00:00	25.0	83.4	7.7
02/26/2023 06:00:00	22.6	96.2	8.6	02/27/2023 16:00:00	37.9	117.1	8.0	03/01/2023 02:00:00	24.8	78.1	7.8
02/26/2023 07:00:00	22.0	95.2	8.5	02/27/2023 17:00:00	35.8	114.9	8.1	03/01/2023 03:00:00	25.1	102.7	8.1
02/26/2023 08:00:00	23.0	96.8	8.5	02/27/2023 18:00:00	31.7	113.3	8.0	03/01/2023 04:00:00	25.3	109.6	8.2
02/26/2023 09:00:00	25.0	98.4	8.6	02/27/2023 19:00:00	26.6	2916.6	8.5	03/01/2023 05:00:00	24.6	108.5	8.4
02/26/2023 10:00:00	28.1	100.5	8.7	02/27/2023 20:00:00	25.6	2951.8	8.5	03/01/2023 06:00:00	24.5	106.4	8.4
02/26/2023 11:00:00	31.2	102.7	8.8	02/27/2023 21:00:00	25.4	2954.5	8.5	03/01/2023 07:00:00	24.0	103.7	8.5
02/26/2023 12:00:00	34.3	105.3	8.9	02/27/2023 22:00:00	25.3	2956.1	8.4	03/01/2023 08:00:00	25.0	103.2	8.6
02/26/2023 13:00:00	26.5	2800.7	8.5	02/27/2023 23:00:00	25.0	2962.0	8.4	03/01/2023 09:00:00	29.1	103.2	8.6
02/26/2023 14:00:00	26.3	2836.0	8.5	02/28/2023 00:00:00	24.7	138.4	7.8	03/01/2023 10:00:00	33.2	106.4	8.6
02/26/2023 15:00:00	26.5	2854.7	8.5	02/28/2023 01:00:00	24.7	129.9	7.5	03/01/2023 11:00:00	37.3	110.1	8.6

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
03/01/2023 12:00:00	41.1	113.3	8.6	03/02/2023 22:00:00	27.2	3063.5	8.4	03/04/2023 08:00:00	29.4	2455.7	8.2
03/01/2023 13:00:00	43.6	116.5	8.6	03/02/2023 23:00:00	26.2	3061.9	8.4	03/04/2023 09:00:00	29.3	2446.1	8.2
03/01/2023 14:00:00	42.6	118.7	8.5	03/03/2023 00:00:00	30.0	3127.0	8.4	03/04/2023 10:00:00	29.1	2442.9	8.3
03/01/2023 15:00:00	40.0	119.7	8.4	03/03/2023 01:00:00	30.0	3104.6	8.3	03/04/2023 11:00:00	28.9	2444.5	8.3
03/01/2023 16:00:00	41.2	120.3	7.9	03/03/2023 02:00:00	30.1	3111.0	8.3	03/04/2023 12:00:00	28.8	2443.4	8.4
03/01/2023 17:00:00	39.0	118.1	8.0	03/03/2023 03:00:00	30.0	3113.1	8.3	03/04/2023 13:00:00	36.0	86.6	6.9
03/01/2023 18:00:00	33.8	117.1	8.0	03/03/2023 04:00:00	30.0	3113.1	8.3	03/04/2023 14:00:00	41.1	84.5	7.5
03/01/2023 19:00:00	30.6	113.9	8.1	03/03/2023 05:00:00	29.8	3148.4	8.3	03/04/2023 15:00:00	40.4	87.2	7.6
03/01/2023 20:00:00	29.6	110.7	8.2	03/03/2023 06:00:00	29.7	3152.7	8.3	03/04/2023 16:00:00	40.0	88.8	7.6
03/01/2023 21:00:00	27.6	107.5	8.2	03/03/2023 07:00:00	29.5	3160.1	8.3	03/04/2023 17:00:00	38.5	89.8	7.1
03/01/2023 22:00:00	26.5	104.3	8.3	03/03/2023 08:00:00	29.1	3160.1	8.3	03/04/2023 18:00:00	33.3	90.4	7.3
03/01/2023 23:00:00	27.0	2978.6	8.4	03/03/2023 09:00:00	29.0	3165.5	8.3	03/04/2023 19:00:00	29.2	94.6	7.4
03/02/2023 00:00:00	27.6	2999.9	8.4	03/03/2023 10:00:00	28.9	3167.6	8.3	03/04/2023 20:00:00	28.2	95.2	7.5
03/02/2023 01:00:00	27.6	3019.1	8.3	03/03/2023 11:00:00	28.9	2503.8	8.4	03/04/2023 21:00:00	27.2	96.2	7.6
03/02/2023 02:00:00	27.2	3017.0	8.3	03/03/2023 12:00:00	29.1	2533.7	8.5	03/04/2023 22:00:00	25.1	96.8	7.8
03/02/2023 03:00:00	25.2	3015.9	8.2	03/03/2023 13:00:00	29.2	2498.4	8.5	03/04/2023 23:00:00	24.5	59.4	7.8
03/02/2023 04:00:00	24.2	3007.9	8.1	03/03/2023 14:00:00	29.3	2543.3	8.5	03/05/2023 00:00:00	24.1	24.1	7.7
03/02/2023 05:00:00	23.6	3011.1	8.1	03/03/2023 15:00:00	29.4	2558.8	8.6	03/05/2023 01:00:00	24.3	32.7	7.8
03/02/2023 06:00:00	23.9	3010.6	8.2	03/03/2023 16:00:00	29.5	2555.6	8.6	03/05/2023 02:00:00	23.7	38.0	7.8
03/02/2023 07:00:00	23.9	3011.7	8.2	03/03/2023 17:00:00	29.5	2550.8	8.6	03/05/2023 03:00:00	23.0	51.4	7.9
03/02/2023 08:00:00	24.9	3011.7	8.2	03/03/2023 18:00:00	29.4	2546.0	8.6	03/05/2023 04:00:00	22.8	57.3	7.9
03/02/2023 09:00:00	28.0	3042.1	8.3	03/03/2023 19:00:00	29.2	2543.8	8.6	03/05/2023 05:00:00	22.8	22.0	7.9
03/02/2023 10:00:00	27.8	3040.0	8.3	03/03/2023 20:00:00	28.9	2541.7	8.6	03/05/2023 06:00:00	23.2	8.1	7.9
03/02/2023 11:00:00	28.2	3038.9	8.3	03/03/2023 21:00:00	28.5	2524.6	8.5	03/05/2023 07:00:00	23.0	78.6	8.0
03/02/2023 12:00:00	28.7	3040.0	8.3	03/03/2023 22:00:00	26.4	4.4	8.0	03/05/2023 08:00:00	27.1	2422.1	8.3
03/02/2023 13:00:00	29.1	3034.1	8.4	03/03/2023 23:00:00	25.4	19.9	7.9	03/05/2023 09:00:00	27.9	2407.6	8.2
03/02/2023 14:00:00	29.4	3032.5	8.4	03/04/2023 00:00:00	24.5	53.5	7.9	03/05/2023 10:00:00	28.2	2407.6	8.2
03/02/2023 15:00:00	29.8	3043.2	8.4	03/04/2023 01:00:00	24.0	60.5	8.0	03/05/2023 11:00:00	28.4	2407.1	8.3
03/02/2023 16:00:00	30.1	3055.5	8.5	03/04/2023 02:00:00	23.6	64.7	8.1	03/05/2023 12:00:00	28.3	2402.8	8.3
03/02/2023 17:00:00	30.0	3053.9	8.5	03/04/2023 03:00:00	23.7	67.9	8.2	03/05/2023 13:00:00	28.4	2399.1	8.3
03/02/2023 18:00:00	29.6	3055.5	8.5	03/04/2023 04:00:00	29.0	2475.5	8.3	03/05/2023 14:00:00	28.4	2405.0	8.4
03/02/2023 19:00:00	29.3	3060.8	8.5	03/04/2023 05:00:00	29.5	2447.2	8.2	03/05/2023 15:00:00	28.4	2406.0	8.4
03/02/2023 20:00:00	28.7	150.2	8.1	03/04/2023 06:00:00	29.5	2447.7	8.2	03/05/2023 16:00:00	28.3	2410.3	8.4
03/02/2023 21:00:00	28.2	3042.1	8.4	03/04/2023 07:00:00	29.5	2462.7	8.2	03/05/2023 17:00:00	28.1	2409.2	8.4

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
03/05/2023 18:00:00	27.8	2406.0	8.4	03/07/2023 04:00:00	22.2	66.9	8.3	03/08/2023 14:00:00	29.2	2200.4	8.2
03/05/2023 19:00:00	27.4	2400.7	8.4	03/07/2023 05:00:00	21.8	70.1	8.4	03/08/2023 15:00:00	29.3	2207.9	8.3
03/05/2023 20:00:00	26.7	102.1	8.0	03/07/2023 06:00:00	21.8	71.7	8.4	03/08/2023 16:00:00	29.3	2209.5	8.3
03/05/2023 21:00:00	25.9	98.9	7.8	03/07/2023 07:00:00	26.0	2230.9	8.2	03/08/2023 17:00:00	29.2	2209.5	8.3
03/05/2023 22:00:00	25.2	68.5	8.0	03/07/2023 08:00:00	26.9	2201.0	8.2	03/08/2023 18:00:00	29.2	2208.4	8.3
03/05/2023 23:00:00	24.5	56.2	8.1	03/07/2023 09:00:00	26.9	2187.1	8.2	03/08/2023 19:00:00	29.1	2203.6	8.3
03/06/2023 00:00:00	24.0	29.0	8.3	03/07/2023 10:00:00	26.8	2186.0	8.2	03/08/2023 20:00:00	27.7	27.4	8.0
03/06/2023 01:00:00	23.5	12.4	8.4	03/07/2023 11:00:00	27.0	2196.2	8.2	03/08/2023 21:00:00	26.9	46.0	8.1
03/06/2023 02:00:00	23.0	0.1	8.4	03/07/2023 12:00:00	27.3	2186.5	8.2	03/08/2023 22:00:00	26.0	69.5	8.2
03/06/2023 03:00:00	22.4	35.4	8.4	03/07/2023 13:00:00	27.4	2189.2	8.3	03/08/2023 23:00:00	25.2	73.8	8.3
03/06/2023 04:00:00	21.9	56.7	8.5	03/07/2023 14:00:00	27.6	2187.1	8.3	03/09/2023 00:00:00	24.6	72.2	8.4
03/06/2023 05:00:00	21.5	64.2	8.5	03/07/2023 15:00:00	27.6	2190.8	8.3	03/09/2023 01:00:00	24.2	73.3	8.4
03/06/2023 06:00:00	21.6	67.9	8.6	03/07/2023 16:00:00	27.8	2189.2	8.4	03/09/2023 02:00:00	23.7	74.4	8.5
03/06/2023 07:00:00	21.4	67.4	8.5	03/07/2023 17:00:00	30.9	1673.9	7.9	03/09/2023 03:00:00	23.5	74.9	8.5
03/06/2023 08:00:00	23.2	69.0	8.6	03/07/2023 18:00:00	30.4	1709.1	7.7	03/09/2023 04:00:00	23.3	75.4	8.6
03/06/2023 09:00:00	27.2	69.0	8.7	03/07/2023 19:00:00	28.4	1728.3	7.7	03/09/2023 05:00:00	23.5	74.9	8.6
03/06/2023 10:00:00	32.4	104.3	8.6	03/07/2023 20:00:00	27.3	1729.4	8.0	03/09/2023 06:00:00	23.3	75.4	8.6
03/06/2023 11:00:00	36.5	105.9	8.5	03/07/2023 21:00:00	26.3	1685.1	8.2	03/09/2023 07:00:00	23.2	76.0	8.6
03/06/2023 12:00:00	40.0	106.4	8.4	03/07/2023 22:00:00	25.6	1672.8	8.4	03/09/2023 08:00:00	25.3	76.5	8.7
03/06/2023 13:00:00	42.3	106.9	8.2	03/07/2023 23:00:00	24.9	1699.5	8.4	03/09/2023 09:00:00	29.4	76.0	8.9
03/06/2023 14:00:00	40.5	108.0	8.2	03/08/2023 00:00:00	24.5	1702.2	8.4	03/09/2023 10:00:00	33.5	70.1	9.0
03/06/2023 15:00:00	41.1	108.5	8.2	03/08/2023 01:00:00	24.2	1703.2	8.4	03/09/2023 11:00:00	36.6	69.5	8.7
03/06/2023 16:00:00	40.0	109.6	8.0	03/08/2023 02:00:00	23.6	1705.4	8.4	03/09/2023 12:00:00	37.6	99.5	8.5
03/06/2023 17:00:00	36.9	109.6	7.9	03/08/2023 03:00:00	23.4	1704.8	8.4	03/09/2023 13:00:00	38.6	103.2	8.5
03/06/2023 18:00:00	31.8	108.5	8.0	03/08/2023 04:00:00	23.1	1703.2	8.4	03/09/2023 14:00:00	41.3	105.3	8.4
03/06/2023 19:00:00	29.7	108.0	8.0	03/08/2023 05:00:00	22.8	1702.7	8.4	03/09/2023 15:00:00	40.5	106.4	8.2
03/06/2023 20:00:00	27.4	106.9	8.1	03/08/2023 06:00:00	22.6	1703.8	8.4	03/09/2023 16:00:00	37.9	106.4	8.1
03/06/2023 21:00:00	26.4	106.4	8.2	03/08/2023 07:00:00	22.8	1704.3	8.4	03/09/2023 17:00:00	33.8	104.8	8.0
03/06/2023 22:00:00	25.4	105.3	8.2	03/08/2023 08:00:00	24.8	1702.7	8.4	03/09/2023 18:00:00	30.8	102.1	8.0
03/06/2023 23:00:00	24.7	102.7	8.3	03/08/2023 09:00:00	27.9	2115.0	8.1	03/09/2023 19:00:00	28.7	84.5	8.1
03/07/2023 00:00:00	24.0	60.5	8.3	03/08/2023 10:00:00	28.4	2119.3	8.1	03/09/2023 20:00:00	27.7	14.0	8.2
03/07/2023 01:00:00	23.6	25.2	8.3	03/08/2023 11:00:00	28.6	2151.8	8.1	03/09/2023 21:00:00	26.9	49.2	8.2
03/07/2023 02:00:00	22.8	38.6	8.3	03/08/2023 12:00:00	28.9	2179.1	8.2	03/09/2023 22:00:00	26.3	71.1	8.3
03/07/2023 03:00:00	22.6	56.2	8.3	03/08/2023 13:00:00	29.1	2190.8	8.2	03/09/2023 23:00:00	26.2	73.8	8.3

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
03/10/2023 00:00:00	25.6	74.9	8.3	03/11/2023 10:00:00	28.3	1826.1	8.1	03/12/2023 20:00:00	28.7	14.5	8.2
03/10/2023 01:00:00	25.1	77.0	8.3	03/11/2023 11:00:00	28.4	1790.8	8.2	03/12/2023 21:00:00	27.8	48.2	8.3
03/10/2023 02:00:00	24.9	76.0	8.4	03/11/2023 12:00:00	28.5	1826.1	8.3	03/12/2023 22:00:00	27.9	72.2	8.3
03/10/2023 03:00:00	24.7	76.5	8.5	03/11/2023 13:00:00	36.8	1798.8	7.9	03/12/2023 23:00:00	27.7	74.4	8.4
03/10/2023 04:00:00	24.5	76.5	8.5	03/11/2023 14:00:00	40.0	1821.3	8.0	03/13/2023 00:00:00	27.0	76.0	8.4
03/10/2023 05:00:00	27.6	1842.1	8.1	03/11/2023 15:00:00	39.2	1828.2	8.1	03/13/2023 01:00:00	26.7	74.9	8.6
03/10/2023 06:00:00	28.0	1826.6	8.0	03/11/2023 16:00:00	37.5	1831.9	7.8	03/13/2023 02:00:00	26.5	77.6	8.6
03/10/2023 07:00:00	27.9	1825.5	8.1	03/11/2023 17:00:00	33.4	1833.0	8.0	03/13/2023 03:00:00	26.1	77.0	8.6
03/10/2023 08:00:00	27.7	1827.1	8.1	03/11/2023 18:00:00	30.4	1831.9	8.0	03/13/2023 04:00:00	26.0	78.1	8.7
03/10/2023 09:00:00	27.6	1826.6	8.1	03/11/2023 19:00:00	29.3	1817.0	8.1	03/13/2023 05:00:00	23.9	75.4	8.6
03/10/2023 10:00:00	27.6	1825.0	8.2	03/11/2023 20:00:00	28.4	1781.7	8.3	03/13/2023 06:00:00	23.9	77.0	8.7
03/10/2023 11:00:00	27.7	1776.4	8.2	03/11/2023 21:00:00	28.2	1763.0	8.3	03/13/2023 07:00:00	24.4	77.6	8.8
03/10/2023 12:00:00	27.8	1811.6	8.3	03/11/2023 22:00:00	27.9	1798.3	8.4	03/13/2023 08:00:00	24.7	78.1	8.8
03/10/2023 13:00:00	37.0	110.1	7.7	03/11/2023 23:00:00	27.4	1801.5	8.5	03/13/2023 09:00:00	28.8	2115.0	8.1
03/10/2023 14:00:00	39.0	101.1	7.9	03/12/2023 00:00:00	26.8	1803.1	8.5	03/13/2023 10:00:00	29.1	2096.3	8.1
03/10/2023 15:00:00	39.5	100.5	7.9	03/12/2023 01:00:00	26.5	1803.6	8.6	03/13/2023 11:00:00	29.1	2047.7	8.1
03/10/2023 16:00:00	37.4	101.6	8.0	03/12/2023 02:00:00	26.3	1801.5	8.6	03/13/2023 12:00:00	29.1	2082.9	8.2
03/10/2023 17:00:00	34.3	102.1	8.0	03/12/2023 03:00:00	26.2	1801.0	8.7	03/13/2023 13:00:00	29.1	2104.3	8.2
03/10/2023 18:00:00	31.3	101.1	8.1	03/12/2023 04:00:00	25.9	1801.0	8.7	03/13/2023 14:00:00	29.1	2100.6	8.3
03/10/2023 19:00:00	29.2	58.3	8.3	03/12/2023 05:00:00	25.6	1800.4	8.7	03/13/2023 15:00:00	28.9	2103.2	8.3
03/10/2023 20:00:00	28.2	23.1	8.3	03/12/2023 06:00:00	25.0	1800.4	8.7	03/13/2023 16:00:00	28.9	2102.2	8.3
03/10/2023 21:00:00	27.5	41.2	8.4	03/12/2023 07:00:00	28.7	2036.5	8.1	03/13/2023 17:00:00	28.8	2104.8	8.4
03/10/2023 22:00:00	27.0	72.7	8.5	03/12/2023 08:00:00	29.4	2034.3	8.1	03/13/2023 18:00:00	28.5	2102.2	8.4
03/10/2023 23:00:00	26.4	73.8	8.5	03/12/2023 09:00:00	29.3	2030.6	8.1	03/13/2023 19:00:00	28.6	2025.8	8.2
03/11/2023 00:00:00	25.7	73.8	8.6	03/12/2023 10:00:00	29.2	2027.9	8.2	03/13/2023 20:00:00	29.0	2041.3	8.2
03/11/2023 01:00:00	25.7	77.0	8.6	03/12/2023 11:00:00	29.3	2027.9	8.2	03/13/2023 21:00:00	29.3	2048.8	8.1
03/11/2023 02:00:00	25.5	76.5	8.6	03/12/2023 12:00:00	29.3	2053.0	8.3	03/13/2023 22:00:00	29.5	2049.8	8.1
03/11/2023 03:00:00	24.9	75.4	8.7	03/12/2023 13:00:00	29.3	2056.8	8.3	03/13/2023 23:00:00	29.7	2048.2	8.0
03/11/2023 04:00:00	28.0	1849.0	8.4	03/12/2023 14:00:00	29.3	2058.4	8.4	03/14/2023 00:00:00	29.5	2047.7	8.1
03/11/2023 05:00:00	28.8	1834.6	8.1	03/12/2023 15:00:00	29.5	2062.1	8.5	03/14/2023 01:00:00	27.0	101.6	8.1
03/11/2023 06:00:00	28.6	1833.0	8.0	03/12/2023 16:00:00	35.6	108.0	7.9	03/14/2023 02:00:00	26.0	78.6	8.2
03/11/2023 07:00:00	28.4	1831.9	8.1	03/12/2023 17:00:00	34.6	98.4	7.9	03/14/2023 03:00:00	25.0	78.6	8.2
03/11/2023 08:00:00	28.3	1831.4	8.1	03/12/2023 18:00:00	31.5	94.1	8.0	03/14/2023 04:00:00	24.5	79.7	8.3
03/11/2023 09:00:00	28.2	1833.0	8.1	03/12/2023 19:00:00	29.5	49.8	8.2	03/14/2023 05:00:00	24.1	79.2	8.3

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
03/14/2023 06:00:00	23.8	79.7	8.3	03/15/2023 16:00:00	37.2	104.8	8.2	03/17/2023 02:00:00	29.1	2163.6	8.2
03/14/2023 07:00:00	23.5	80.8	8.4	03/15/2023 17:00:00	35.1	104.3	8.2	03/17/2023 03:00:00	28.1	917.1	8.1
03/14/2023 08:00:00	25.8	80.2	8.4	03/15/2023 18:00:00	31.0	101.1	8.2	03/17/2023 04:00:00	26.0	1641.8	8.3
03/14/2023 09:00:00	27.9	42.3	8.6	03/15/2023 19:00:00	28.9	82.9	8.1	03/17/2023 05:00:00	25.0	1672.8	8.3
03/14/2023 10:00:00	32.0	42.3	8.6	03/15/2023 20:00:00	27.9	53.5	8.1	03/17/2023 06:00:00	24.6	1728.9	8.4
03/14/2023 11:00:00	35.1	74.4	8.5	03/15/2023 21:00:00	27.3	39.1	8.0	03/17/2023 07:00:00	24.2	1757.2	8.4
03/14/2023 12:00:00	37.7	76.5	8.4	03/15/2023 22:00:00	26.9	69.0	8.1	03/17/2023 08:00:00	25.6	1767.3	8.4
03/14/2023 13:00:00	41.1	79.2	8.4	03/15/2023 23:00:00	26.5	81.8	8.1	03/17/2023 09:00:00	30.8	1774.3	8.6
03/14/2023 14:00:00	39.0	82.4	8.3	03/16/2023 00:00:00	26.2	85.0	8.1	03/17/2023 10:00:00	34.9	1776.9	8.6
03/14/2023 15:00:00	39.2	84.5	8.3	03/16/2023 01:00:00	26.1	83.4	8.1	03/17/2023 11:00:00	36.9	1790.3	8.5
03/14/2023 16:00:00	39.1	85.6	8.3	03/16/2023 02:00:00	26.2	84.5	8.2	03/17/2023 12:00:00	39.0	1825.5	8.4
03/14/2023 17:00:00	36.0	86.6	8.1	03/16/2023 03:00:00	25.8	85.0	8.2	03/17/2023 13:00:00	39.0	1836.2	8.4
03/14/2023 18:00:00	31.9	87.7	8.1	03/16/2023 04:00:00	25.2	85.0	8.2	03/17/2023 14:00:00	40.0	1845.3	8.4
03/14/2023 19:00:00	28.9	87.7	8.1	03/16/2023 05:00:00	24.8	86.1	8.3	03/17/2023 15:00:00	40.5	1854.4	8.4
03/14/2023 20:00:00	27.3	79.2	8.2	03/16/2023 06:00:00	25.0	85.6	8.3	03/17/2023 16:00:00	39.1	1862.4	8.3
03/14/2023 21:00:00	26.7	20.4	8.3	03/16/2023 07:00:00	24.6	86.1	8.3	03/17/2023 17:00:00	36.0	1867.7	8.1
03/14/2023 22:00:00	25.7	30.0	8.3	03/16/2023 08:00:00	25.7	86.6	8.3	03/17/2023 18:00:00	31.9	1867.2	8.1
03/14/2023 23:00:00	24.9	65.8	8.4	03/16/2023 09:00:00	30.8	87.7	8.6	03/17/2023 19:00:00	28.8	1857.6	8.2
03/15/2023 00:00:00	24.4	77.6	8.4	03/16/2023 10:00:00	36.0	52.5	8.6	03/17/2023 20:00:00	27.8	1794.0	8.3
03/15/2023 01:00:00	24.1	80.2	8.5	03/16/2023 11:00:00	37.0	87.7	8.4	03/17/2023 21:00:00	27.4	1819.6	8.4
03/15/2023 02:00:00	27.8	1926.5	8.3	03/16/2023 12:00:00	39.0	106.4	8.3	03/17/2023 22:00:00	27.1	1828.7	8.5
03/15/2023 03:00:00	28.2	1912.0	8.1	03/16/2023 13:00:00	40.6	108.5	8.3	03/17/2023 23:00:00	26.7	1831.4	8.5
03/15/2023 04:00:00	28.4	1931.8	8.1	03/16/2023 14:00:00	30.2	2085.6	8.3	03/18/2023 00:00:00	29.8	2147.6	8.3
03/15/2023 05:00:00	28.2	1928.6	8.1	03/16/2023 15:00:00	29.9	2156.6	8.3	03/18/2023 01:00:00	30.5	2112.3	8.2
03/15/2023 06:00:00	28.0	1930.7	8.1	03/16/2023 16:00:00	29.8	2177.5	8.3	03/18/2023 02:00:00	30.5	2092.6	8.2
03/15/2023 07:00:00	27.8	1932.9	8.1	03/16/2023 17:00:00	29.7	2178.0	8.4	03/18/2023 03:00:00	30.4	2072.8	8.2
03/15/2023 08:00:00	27.6	1931.8	8.1	03/16/2023 18:00:00	29.5	2173.7	8.4	03/18/2023 04:00:00	30.2	2055.7	8.2
03/15/2023 09:00:00	27.8	1938.2	8.1	03/16/2023 19:00:00	29.3	2121.9	8.3	03/18/2023 05:00:00	30.0	2053.0	8.2
03/15/2023 10:00:00	28.2	1945.7	8.1	03/16/2023 20:00:00	29.0	2118.7	8.3	03/18/2023 06:00:00	29.8	2052.0	8.2
03/15/2023 11:00:00	28.5	1980.9	8.2	03/16/2023 21:00:00	29.0	2154.0	8.3	03/18/2023 07:00:00	29.6	2049.8	8.2
03/15/2023 12:00:00	28.8	2003.4	8.2	03/16/2023 22:00:00	29.5	2158.8	8.2	03/18/2023 08:00:00	29.4	2048.2	8.2
03/15/2023 13:00:00	28.9	2005.5	8.3	03/16/2023 23:00:00	29.8	2161.4	8.2	03/18/2023 09:00:00	29.3	2046.6	8.2
03/15/2023 14:00:00	28.9	2006.6	8.3	03/17/2023 00:00:00	29.8	2162.0	8.2	03/18/2023 10:00:00	29.2	2009.2	8.2
03/15/2023 15:00:00	35.1	82.4	8.1	03/17/2023 01:00:00	29.5	2162.0	8.2	03/18/2023 11:00:00	29.2	2044.5	8.3

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
03/18/2023 12:00:00	34.5	129.9	8.3	03/19/2023 22:00:00	27.3	88.2	8.5	03/21/2023 08:00:00	27.8	85.0	8.6
03/18/2023 13:00:00	41.1	101.6	8.3	03/19/2023 23:00:00	27.1	88.2	8.6	03/21/2023 09:00:00	31.9	87.7	8.9
03/18/2023 14:00:00	39.0	103.7	8.3	03/20/2023 00:00:00	26.8	89.3	8.6	03/21/2023 10:00:00	37.1	40.2	8.7
03/18/2023 15:00:00	40.0	104.3	8.4	03/20/2023 01:00:00	26.7	88.8	8.6	03/21/2023 11:00:00	39.0	75.4	8.5
03/18/2023 16:00:00	40.0	105.9	8.4	03/20/2023 02:00:00	26.3	88.8	8.6	03/21/2023 12:00:00	41.1	102.7	8.5
03/18/2023 17:00:00	37.1	105.9	8.4	03/20/2023 03:00:00	26.4	90.9	8.6	03/21/2023 13:00:00	42.1	106.4	8.4
03/18/2023 18:00:00	33.0	102.7	8.3	03/20/2023 04:00:00	26.3	92.0	8.7	03/21/2023 14:00:00	41.5	107.5	8.4
03/18/2023 19:00:00	28.9	86.1	8.3	03/20/2023 05:00:00	25.9	91.4	8.7	03/21/2023 15:00:00	40.5	109.6	8.4
03/18/2023 20:00:00	27.9	15.6	8.4	03/20/2023 06:00:00	25.5	89.3	8.7	03/21/2023 16:00:00	40.0	110.1	8.2
03/18/2023 21:00:00	27.2	50.9	8.5	03/20/2023 07:00:00	25.4	90.4	8.7	03/21/2023 17:00:00	36.9	110.1	8.0
03/18/2023 22:00:00	26.9	80.2	8.5	03/20/2023 08:00:00	28.4	90.4	8.7	03/21/2023 18:00:00	32.8	109.1	8.0
03/18/2023 23:00:00	26.9	85.0	8.6	03/20/2023 09:00:00	32.5	90.4	8.8	03/21/2023 19:00:00	29.7	105.3	7.9
03/19/2023 00:00:00	26.8	85.6	8.6	03/20/2023 10:00:00	34.6	82.9	8.6	03/21/2023 20:00:00	29.0	34.8	8.0
03/19/2023 01:00:00	29.8	1939.8	8.2	03/20/2023 11:00:00	37.7	83.4	8.6	03/21/2023 21:00:00	28.0	67.4	8.1
03/19/2023 02:00:00	30.0	1920.6	8.2	03/20/2023 12:00:00	40.0	109.1	8.4	03/21/2023 22:00:00	27.6	84.5	8.1
03/19/2023 03:00:00	29.8	1918.4	8.2	03/20/2023 13:00:00	40.8	112.3	8.4	03/21/2023 23:00:00	29.5	2007.1	8.3
03/19/2023 04:00:00	29.6	1917.4	8.2	03/20/2023 14:00:00	41.0	113.3	8.4	03/22/2023 00:00:00	29.9	2033.8	8.2
03/19/2023 05:00:00	29.3	1916.8	8.2	03/20/2023 15:00:00	30.2	1959.6	8.1	03/22/2023 01:00:00	30.0	2033.3	8.2
03/19/2023 06:00:00	29.1	1915.2	8.2	03/20/2023 16:00:00	30.2	1976.1	8.2	03/22/2023 02:00:00	29.8	2029.5	8.2
03/19/2023 07:00:00	28.9	1915.8	8.2	03/20/2023 17:00:00	30.5	1956.4	8.2	03/22/2023 03:00:00	29.6	2027.9	8.2
03/19/2023 08:00:00	29.1	1897.1	8.1	03/20/2023 18:00:00	30.7	1965.4	8.2	03/22/2023 04:00:00	28.2	1991.6	8.2
03/19/2023 09:00:00	29.4	1892.3	8.1	03/20/2023 19:00:00	30.7	1983.1	8.2	03/22/2023 05:00:00	26.2	2001.2	8.2
03/19/2023 10:00:00	29.3	1851.7	8.2	03/20/2023 20:00:00	30.4	1954.2	8.2	03/22/2023 06:00:00	25.4	2001.2	8.3
03/19/2023 11:00:00	34.4	72.7	8.2	03/20/2023 21:00:00	30.1	1986.8	8.2	03/22/2023 07:00:00	25.5	2000.2	8.4
03/19/2023 12:00:00	38.5	101.1	8.2	03/20/2023 22:00:00	28.7	117.1	8.1	03/22/2023 08:00:00	28.5	2000.2	8.5
03/19/2023 13:00:00	39.4	104.8	8.3	03/20/2023 23:00:00	27.6	84.0	8.3	03/22/2023 09:00:00	32.6	1998.6	8.6
03/19/2023 14:00:00	40.0	107.5	8.4	03/21/2023 00:00:00	27.0	84.5	8.3	03/22/2023 10:00:00	35.7	1981.5	8.6
03/19/2023 15:00:00	39.8	109.1	8.4	03/21/2023 01:00:00	27.1	84.0	8.3	03/22/2023 11:00:00	40.0	2016.7	8.5
03/19/2023 16:00:00	39.0	109.6	8.4	03/21/2023 02:00:00	27.1	85.6	8.3	03/22/2023 12:00:00	41.1	2041.8	8.4
03/19/2023 17:00:00	37.0	110.1	8.3	03/21/2023 03:00:00	27.0	85.0	8.3	03/22/2023 13:00:00	41.7	2047.2	8.4
03/19/2023 18:00:00	31.8	108.0	8.2	03/21/2023 04:00:00	26.7	84.5	8.3	03/22/2023 14:00:00	42.3	2052.5	8.5
03/19/2023 19:00:00	28.7	59.9	8.2	03/21/2023 05:00:00	26.4	85.6	8.3	03/22/2023 15:00:00	41.3	2055.2	8.5
03/19/2023 20:00:00	27.8	76.5	8.3	03/21/2023 06:00:00	25.9	86.6	8.3	03/22/2023 16:00:00	40.0	2059.4	8.4
03/19/2023 21:00:00	27.5	86.6	8.4	03/21/2023 07:00:00	25.6	85.6	8.3	03/22/2023 17:00:00	37.9	2059.4	8.3

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
03/22/2023 18:00:00	33.8	2060.5	8.0	03/24/2023 04:00:00	29.6	2583.9	8.1	03/25/2023 14:00:00	31.0	2435.4	8.4
03/22/2023 19:00:00	29.7	2056.8	8.0	03/24/2023 05:00:00	29.4	2575.3	8.1	03/25/2023 15:00:00	39.2	2447.2	8.2
03/22/2023 20:00:00	28.7	2039.7	8.1	03/24/2023 06:00:00	29.1	2569.5	8.1	03/25/2023 16:00:00	40.0	2455.2	8.4
03/22/2023 21:00:00	27.7	2004.4	8.2	03/24/2023 07:00:00	28.7	2565.7	8.1	03/25/2023 17:00:00	37.9	2462.1	8.1
03/22/2023 22:00:00	27.2	2003.9	8.3	03/24/2023 08:00:00	29.0	2550.2	8.3	03/25/2023 18:00:00	34.8	2464.8	8.1
03/22/2023 23:00:00	27.0	2019.4	8.4	03/24/2023 09:00:00	31.0	2543.8	8.5	03/25/2023 19:00:00	30.7	2462.7	8.1
03/23/2023 00:00:00	26.7	2017.8	8.4	03/24/2023 10:00:00	36.2	2572.7	8.4	03/25/2023 20:00:00	28.7	2457.8	8.3
03/23/2023 01:00:00	26.5	2016.2	8.5	03/24/2023 11:00:00	38.2	2597.2	8.2	03/25/2023 21:00:00	27.8	2450.4	8.3
03/23/2023 02:00:00	26.3	2015.6	8.5	03/24/2023 12:00:00	40.0	2603.6	8.1	03/25/2023 22:00:00	27.3	2427.4	8.4
03/23/2023 03:00:00	26.3	2014.0	8.6	03/24/2023 13:00:00	40.7	2611.1	8.1	03/25/2023 23:00:00	27.1	2413.5	8.5
03/23/2023 04:00:00	26.3	2013.5	8.6	03/24/2023 14:00:00	40.7	2610.6	8.0	03/26/2023 00:00:00	26.9	2405.5	8.6
03/23/2023 05:00:00	26.2	2013.5	8.6	03/24/2023 15:00:00	41.7	2613.3	8.0	03/26/2023 01:00:00	26.8	2395.4	8.6
03/23/2023 06:00:00	25.9	2013.5	8.6	03/24/2023 16:00:00	39.8	2627.1	8.0	03/26/2023 02:00:00	26.8	2391.6	8.7
03/23/2023 07:00:00	25.9	2011.9	8.6	03/24/2023 17:00:00	37.8	2630.3	7.9	03/26/2023 03:00:00	26.8	2390.6	8.7
03/23/2023 08:00:00	28.5	2083.5	8.3	03/24/2023 18:00:00	33.7	2628.2	7.9	03/26/2023 04:00:00	26.7	2387.4	8.7
03/23/2023 09:00:00	29.5	2062.1	8.2	03/24/2023 19:00:00	29.6	2623.4	8.0	03/26/2023 05:00:00	27.2	2390.6	8.8
03/23/2023 10:00:00	29.8	2047.7	8.2	03/24/2023 20:00:00	28.5	2610.6	8.1	03/26/2023 06:00:00	27.3	2397.5	8.8
03/23/2023 11:00:00	30.2	2560.9	8.1	03/24/2023 21:00:00	27.7	2598.8	8.1	03/26/2023 07:00:00	27.2	2390.6	8.8
03/23/2023 12:00:00	30.3	2539.6	8.1	03/24/2023 22:00:00	27.2	2579.1	8.2	03/26/2023 08:00:00	30.2	2392.2	8.1
03/23/2023 13:00:00	30.4	2524.6	8.1	03/24/2023 23:00:00	26.8	2567.9	8.1	03/26/2023 09:00:00	30.5	2385.2	8.1
03/23/2023 14:00:00	30.6	2522.5	8.2	03/25/2023 00:00:00	26.5	2552.4	8.2	03/26/2023 10:00:00	30.5	2407.1	8.1
03/23/2023 15:00:00	39.8	2531.0	8.2	03/25/2023 01:00:00	29.6	2470.7	8.2	03/26/2023 11:00:00	30.5	2418.9	8.1
03/23/2023 16:00:00	40.7	2560.4	8.0	03/25/2023 02:00:00	30.4	2453.6	8.2	03/26/2023 12:00:00	30.6	2418.9	8.2
03/23/2023 17:00:00	37.9	2568.9	7.6	03/25/2023 03:00:00	30.6	2450.4	8.2	03/26/2023 13:00:00	30.7	2417.3	8.2
03/23/2023 18:00:00	33.8	2573.2	7.5	03/25/2023 04:00:00	30.7	2440.2	8.2	03/26/2023 14:00:00	30.9	2417.3	8.2
03/23/2023 19:00:00	30.8	2571.1	7.5	03/25/2023 05:00:00	30.7	2428.5	8.2	03/26/2023 15:00:00	31.0	2422.1	8.3
03/23/2023 20:00:00	28.7	2568.9	7.7	03/25/2023 06:00:00	30.5	2427.9	8.2	03/26/2023 16:00:00	31.0	2424.2	8.3
03/23/2023 21:00:00	27.8	2562.5	7.7	03/25/2023 07:00:00	30.2	2423.7	8.2	03/26/2023 17:00:00	31.1	2416.7	8.3
03/23/2023 22:00:00	29.8	2607.9	8.1	03/25/2023 08:00:00	30.0	2417.3	8.2	03/26/2023 18:00:00	31.3	2395.9	8.2
03/23/2023 23:00:00	30.5	2613.3	8.1	03/25/2023 09:00:00	29.9	2426.9	8.2	03/26/2023 19:00:00	31.2	2371.3	8.2
03/24/2023 00:00:00	30.5	2605.2	8.1	03/25/2023 10:00:00	29.9	2437.6	8.2	03/26/2023 20:00:00	29.7	2441.3	8.3
03/24/2023 01:00:00	30.3	2600.4	8.1	03/25/2023 11:00:00	30.0	2452.0	8.3	03/26/2023 21:00:00	28.7	2448.2	8.3
03/24/2023 02:00:00	30.1	2596.2	8.1	03/25/2023 12:00:00	30.5	2435.9	8.3	03/26/2023 22:00:00	27.6	2413.0	8.3
03/24/2023 03:00:00	29.8	2593.5	8.1	03/25/2023 13:00:00	30.8	2434.9	8.3	03/26/2023 23:00:00	27.1	2393.8	8.3

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
03/27/2023 00:00:00	26.3	2380.9	8.3	03/28/2023 10:00:00	33.8	495.2	8.4	03/29/2023 20:00:00	28.3	1154.7	7.9
03/27/2023 01:00:00	26.2	2371.9	8.4	03/28/2023 11:00:00	34.8	519.8	8.2	03/29/2023 21:00:00	27.2	1153.1	8.0
03/27/2023 02:00:00	26.1	2367.6	8.4	03/28/2023 12:00:00	37.4	555.0	8.3	03/29/2023 22:00:00	26.3	1151.5	8.1
03/27/2023 03:00:00	25.9	2361.2	8.5	03/28/2023 13:00:00	37.4	590.2	8.0	03/29/2023 23:00:00	25.8	1144.6	8.1
03/27/2023 04:00:00	25.8	2358.0	8.5	03/28/2023 14:00:00	38.3	614.8	8.1	03/30/2023 00:00:00	25.3	1074.1	8.2
03/27/2023 05:00:00	25.9	2359.0	8.6	03/28/2023 15:00:00	40.0	633.0	8.0	03/30/2023 01:00:00	25.3	1072.0	8.3
03/27/2023 06:00:00	25.7	2357.4	8.6	03/28/2023 16:00:00	39.2	641.5	8.1	03/30/2023 02:00:00	25.1	1078.4	8.3
03/27/2023 07:00:00	25.3	2353.7	8.7	03/28/2023 17:00:00	37.1	644.2	7.8	03/30/2023 03:00:00	24.7	1082.6	8.3
03/27/2023 08:00:00	29.0	2351.6	9.0	03/28/2023 18:00:00	33.0	644.7	7.6	03/30/2023 04:00:00	24.1	1083.7	8.3
03/27/2023 09:00:00	32.1	2400.7	9.0	03/28/2023 19:00:00	29.9	638.8	7.7	03/30/2023 05:00:00	24.4	1096.0	8.4
03/27/2023 10:00:00	36.2	2435.9	9.0	03/28/2023 20:00:00	28.9	628.2	7.8	03/30/2023 06:00:00	24.9	1097.6	8.4
03/27/2023 11:00:00	40.1	2471.2	8.8	03/28/2023 21:00:00	28.3	617.0	8.0	03/30/2023 07:00:00	24.3	1099.2	8.4
03/27/2023 12:00:00	41.1	2481.3	8.7	03/28/2023 22:00:00	28.0	565.7	8.1	03/30/2023 08:00:00	27.1	1107.2	8.9
03/27/2023 13:00:00	43.2	2492.6	8.7	03/28/2023 23:00:00	27.8	557.1	8.2	03/30/2023 09:00:00	32.3	1114.2	8.8
03/27/2023 14:00:00	42.5	2503.8	8.5	03/29/2023 00:00:00	27.5	563.5	8.2	03/30/2023 10:00:00	35.3	1120.0	8.6
03/27/2023 15:00:00	42.8	2517.1	8.1	03/29/2023 01:00:00	27.4	570.0	8.2	03/30/2023 11:00:00	37.4	1226.8	8.4
03/27/2023 16:00:00	41.7	2523.5	8.0	03/29/2023 02:00:00	27.1	571.0	8.2	03/30/2023 12:00:00	41.1	1256.8	8.3
03/27/2023 17:00:00	39.0	2527.3	8.0	03/29/2023 03:00:00	27.0	576.4	8.3	03/30/2023 13:00:00	30.2	2586.0	8.2
03/27/2023 18:00:00	34.9	2528.9	7.9	03/29/2023 04:00:00	26.9	577.4	8.3	03/30/2023 14:00:00	30.5	2602.6	8.3
03/27/2023 19:00:00	29.7	2521.9	7.9	03/29/2023 05:00:00	29.7	2492.0	8.2	03/30/2023 15:00:00	30.7	2603.6	8.3
03/27/2023 20:00:00	28.7	2507.0	8.0	03/29/2023 06:00:00	30.1	2478.1	8.2	03/30/2023 16:00:00	30.8	2604.2	8.3
03/27/2023 21:00:00	28.0	2494.2	8.1	03/29/2023 07:00:00	30.1	2477.6	8.2	03/30/2023 17:00:00	30.7	2605.2	8.3
03/27/2023 22:00:00	27.6	2491.0	8.2	03/29/2023 08:00:00	29.9	2475.5	8.2	03/30/2023 18:00:00	30.5	2606.3	8.4
03/27/2023 23:00:00	27.3	2464.3	8.3	03/29/2023 09:00:00	29.8	2471.2	8.2	03/30/2023 19:00:00	30.3	2604.7	8.4
03/28/2023 00:00:00	29.4	2411.4	8.2	03/29/2023 10:00:00	29.7	2541.7	8.3	03/30/2023 20:00:00	30.1	2602.6	8.4
03/28/2023 01:00:00	30.2	2386.3	8.2	03/29/2023 11:00:00	34.9	926.7	8.4	03/30/2023 21:00:00	29.8	2565.7	8.3
03/28/2023 02:00:00	30.4	2371.9	8.2	03/29/2023 12:00:00	37.9	1033.0	8.5	03/30/2023 22:00:00	29.5	2530.5	8.3
03/28/2023 03:00:00	30.6	2390.0	8.2	03/29/2023 13:00:00	42.1	1068.2	8.2	03/30/2023 23:00:00	29.8	2531.5	8.3
03/28/2023 04:00:00	30.7	2392.7	8.2	03/29/2023 14:00:00	43.1	1099.2	8.1	03/31/2023 00:00:00	30.4	2532.1	8.3
03/28/2023 05:00:00	30.4	2391.1	8.2	03/29/2023 15:00:00	39.0	1128.0	7.9	03/31/2023 01:00:00	30.8	2529.4	8.3
03/28/2023 06:00:00	30.0	2390.6	8.2	03/29/2023 16:00:00	32.8	1138.2	7.8	03/31/2023 02:00:00	31.0	2528.3	8.3
03/28/2023 07:00:00	29.7	8.7	8.1	03/29/2023 17:00:00	31.8	1136.6	7.9	03/31/2023 03:00:00	28.4	2520.9	8.5
03/28/2023 08:00:00	29.7	483.4	8.4	03/29/2023 18:00:00	32.8	1139.8	8.0	03/31/2023 04:00:00	27.4	2515.5	8.4
03/28/2023 09:00:00	31.7	518.7	8.6	03/29/2023 19:00:00	30.8	1149.9	7.9	03/31/2023 05:00:00	27.0	2513.9	8.4

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
03/31/2023 06:00:00	26.7	2512.3	8.4	04/01/2023 16:00:00	38.4	2391.6	8.3	04/03/2023 02:00:00	26.1	2635.7	8.4
03/31/2023 07:00:00	26.5	2514.5	8.4	04/01/2023 17:00:00	37.3	2419.9	8.2	04/03/2023 03:00:00	25.7	2631.4	8.4
03/31/2023 08:00:00	29.5	2509.6	8.5	04/01/2023 18:00:00	33.2	2429.0	8.1	04/03/2023 04:00:00	25.5	2629.8	8.4
03/31/2023 09:00:00	32.6	2512.3	8.4	04/01/2023 19:00:00	30.2	2435.4	8.2	04/03/2023 05:00:00	25.6	2634.6	8.5
03/31/2023 10:00:00	33.6	2521.9	8.4	04/01/2023 20:00:00	31.2	2678.9	8.3	04/03/2023 06:00:00	25.7	2632.5	8.6
03/31/2023 11:00:00	36.7	2585.5	8.3	04/01/2023 21:00:00	29.1	2677.3	8.3	04/03/2023 07:00:00	26.0	2633.6	8.6
03/31/2023 12:00:00	41.1	2620.7	8.4	04/01/2023 22:00:00	28.2	2606.8	8.3	04/03/2023 08:00:00	29.1	2634.1	8.8
03/31/2023 13:00:00	42.6	2631.9	8.3	04/01/2023 23:00:00	28.0	2602.0	8.3	04/03/2023 09:00:00	32.2	2638.9	8.8
03/31/2023 14:00:00	42.4	2642.1	8.2	04/02/2023 00:00:00	27.8	2597.8	8.3	04/03/2023 10:00:00	35.3	2661.9	8.7
03/31/2023 15:00:00	41.8	2650.6	8.0	04/02/2023 01:00:00	27.5	2596.2	8.3	04/03/2023 11:00:00	38.3	2732.4	8.5
03/31/2023 16:00:00	40.0	2654.4	7.9	04/02/2023 02:00:00	27.2	2595.1	8.2	04/03/2023 12:00:00	40.0	2756.9	8.5
03/31/2023 17:00:00	36.9	2655.4	7.9	04/02/2023 03:00:00	27.2	2591.9	8.3	04/03/2023 13:00:00	42.0	2767.6	8.5
03/31/2023 18:00:00	32.8	2653.8	7.9	04/02/2023 04:00:00	27.1	2593.5	8.2	04/03/2023 14:00:00	42.8	2779.9	8.5
03/31/2023 19:00:00	30.8	2651.7	7.9	04/02/2023 05:00:00	27.0	2591.4	8.2	04/03/2023 15:00:00	42.3	2786.8	8.3
03/31/2023 20:00:00	29.7	2647.4	8.0	04/02/2023 06:00:00	26.9	2590.3	8.2	04/03/2023 16:00:00	41.1	2792.7	8.2
03/31/2023 21:00:00	28.8	2641.6	8.1	04/02/2023 07:00:00	26.9	2590.8	8.2	04/03/2023 17:00:00	37.8	2799.1	8.2
03/31/2023 22:00:00	28.4	2618.1	8.2	04/02/2023 08:00:00	29.0	2602.6	8.2	04/03/2023 18:00:00	34.7	2798.6	8.1
03/31/2023 23:00:00	28.3	2582.8	8.2	04/02/2023 09:00:00	30.0	2684.3	8.3	04/03/2023 19:00:00	30.6	2792.2	8.2
04/01/2023 00:00:00	28.0	2551.8	8.2	04/02/2023 10:00:00	30.3	2705.1	8.3	04/03/2023 20:00:00	29.6	2788.4	8.3
04/01/2023 01:00:00	27.9	2548.6	8.3	04/02/2023 11:00:00	30.6	2704.6	8.3	04/03/2023 21:00:00	28.7	2783.1	8.3
04/01/2023 02:00:00	27.8	2543.8	8.3	04/02/2023 12:00:00	30.6	2704.6	8.3	04/03/2023 22:00:00	28.3	2775.6	8.4
04/01/2023 03:00:00	27.9	2541.7	8.3	04/02/2023 13:00:00	30.7	2704.6	8.3	04/03/2023 23:00:00	28.0	2708.3	8.4
04/01/2023 04:00:00	27.7	2544.4	8.3	04/02/2023 14:00:00	30.8	2705.6	8.3	04/04/2023 00:00:00	27.9	2685.4	8.5
04/01/2023 05:00:00	27.2	2544.4	8.3	04/02/2023 15:00:00	30.9	2706.2	8.3	04/04/2023 01:00:00	27.7	2681.6	8.5
04/01/2023 06:00:00	27.1	2541.2	8.3	04/02/2023 16:00:00	30.9	2706.7	8.3	04/04/2023 02:00:00	29.8	2674.7	8.4
04/01/2023 07:00:00	30.0	2575.3	8.3	04/02/2023 17:00:00	30.8	2711.0	8.3	04/04/2023 03:00:00	30.2	2680.0	8.3
04/01/2023 08:00:00	30.3	2563.1	8.3	04/02/2023 18:00:00	30.8	2723.8	8.3	04/04/2023 04:00:00	30.1	2678.9	8.3
04/01/2023 09:00:00	30.6	2586.0	8.3	04/02/2023 19:00:00	31.0	2729.7	8.3	04/04/2023 05:00:00	29.9	2677.3	8.3
04/01/2023 10:00:00	30.9	2657.0	8.3	04/02/2023 20:00:00	31.2	2735.0	8.3	04/04/2023 06:00:00	29.7	2677.3	8.3
04/01/2023 11:00:00	30.8	2661.3	8.3	04/02/2023 21:00:00	31.3	2737.2	8.3	04/04/2023 07:00:00	29.4	2675.2	8.3
04/01/2023 12:00:00	30.8	2661.9	8.3	04/02/2023 22:00:00	31.1	2732.4	8.3	04/04/2023 08:00:00	29.3	2677.9	8.3
04/01/2023 13:00:00	31.0	2660.8	8.3	04/02/2023 23:00:00	30.6	2728.1	8.3	04/04/2023 09:00:00	29.2	2679.5	8.3
04/01/2023 14:00:00	31.1	2659.7	8.3	04/03/2023 00:00:00	28.0	2697.6	8.5	04/04/2023 10:00:00	35.4	2750.0	8.5
04/01/2023 15:00:00	33.2	2321.1	8.3	04/03/2023 01:00:00	27.0	2667.2	8.5	04/04/2023 11:00:00	39.5	2774.5	8.6

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
04/04/2023 12:00:00	41.5	2788.4	8.4	04/05/2023 22:00:00	28.2	2725.4	8.3	04/07/2023 08:00:00	29.5	2670.9	9.0
04/04/2023 13:00:00	43.2	2805.0	8.4	04/05/2023 23:00:00	27.7	2690.2	8.4	04/07/2023 09:00:00	30.6	2670.9	9.0
04/04/2023 14:00:00	41.1	2814.1	8.3	04/06/2023 00:00:00	27.6	2678.4	8.5	04/07/2023 10:00:00	31.4	2694.4	8.4
04/04/2023 15:00:00	42.2	2821.5	8.3	04/06/2023 01:00:00	27.2	2647.4	8.5	04/07/2023 11:00:00	30.7	2684.8	8.3
04/04/2023 16:00:00	40.9	2827.4	8.2	04/06/2023 02:00:00	27.2	2648.5	8.5	04/07/2023 12:00:00	30.7	2698.7	8.3
04/04/2023 17:00:00	38.8	2827.9	8.1	04/06/2023 03:00:00	27.2	2648.5	8.6	04/07/2023 13:00:00	30.7	2692.8	8.3
04/04/2023 18:00:00	34.7	2825.3	8.0	04/06/2023 04:00:00	26.9	2648.5	8.6	04/07/2023 14:00:00	30.6	2680.5	8.3
04/04/2023 19:00:00	30.6	2820.5	8.1	04/06/2023 05:00:00	26.2	2647.4	8.6	04/07/2023 15:00:00	30.6	2751.6	8.3
04/04/2023 20:00:00	29.5	2813.0	8.2	04/06/2023 06:00:00	26.2	2646.9	8.7	04/07/2023 16:00:00	30.7	2762.3	8.3
04/04/2023 21:00:00	28.8	2807.7	8.4	04/06/2023 07:00:00	30.0	2645.8	8.4	04/07/2023 17:00:00	30.6	2763.3	8.3
04/04/2023 22:00:00	28.2	2799.6	8.5	04/06/2023 08:00:00	30.5	2638.4	8.3	04/07/2023 18:00:00	30.4	2759.6	8.3
04/04/2023 23:00:00	31.0	2748.9	8.4	04/06/2023 09:00:00	30.4	2633.6	8.3	04/07/2023 19:00:00	30.2	2754.2	8.3
04/05/2023 00:00:00	31.6	2737.2	8.4	04/06/2023 10:00:00	30.4	2661.3	8.3	04/07/2023 20:00:00	29.8	2719.0	8.3
04/05/2023 01:00:00	31.7	2728.1	8.3	04/06/2023 11:00:00	30.5	2696.6	8.3	04/07/2023 21:00:00	28.4	2683.8	8.5
04/05/2023 02:00:00	31.6	2667.7	8.3	04/06/2023 12:00:00	30.7	2711.0	8.3	04/07/2023 22:00:00	27.7	2684.8	8.5
04/05/2023 03:00:00	31.3	2659.2	8.3	04/06/2023 13:00:00	30.9	2712.1	8.3	04/07/2023 23:00:00	27.2	2684.8	8.4
04/05/2023 04:00:00	31.1	2656.0	8.3	04/06/2023 14:00:00	31.2	2711.0	8.4	04/08/2023 00:00:00	26.8	2682.7	8.4
04/05/2023 05:00:00	30.8	2653.8	8.3	04/06/2023 15:00:00	35.5	2710.5	8.6	04/08/2023 01:00:00	26.3	2690.7	8.4
04/05/2023 06:00:00	30.6	2640.0	8.3	04/06/2023 16:00:00	40.2	2713.1	8.5	04/08/2023 02:00:00	26.3	2690.2	8.4
04/05/2023 07:00:00	30.8	2624.5	8.3	04/06/2023 17:00:00	39.0	2745.7	8.4	04/08/2023 03:00:00	26.0	2693.9	8.4
04/05/2023 08:00:00	30.7	2621.8	8.3	04/06/2023 18:00:00	35.9	2753.7	8.2	04/08/2023 04:00:00	25.8	2694.4	8.4
04/05/2023 09:00:00	30.6	2616.5	8.3	04/06/2023 19:00:00	32.1	2761.7	8.2	04/08/2023 05:00:00	25.7	2695.0	8.4
04/05/2023 10:00:00	31.5	2636.2	8.5	04/06/2023 20:00:00	30.0	2758.0	8.4	04/08/2023 06:00:00	25.5	2693.9	8.4
04/05/2023 11:00:00	38.7	2706.7	8.8	04/06/2023 21:00:00	29.5	2750.5	8.4	04/08/2023 07:00:00	25.7	2696.6	8.4
04/05/2023 12:00:00	40.7	2725.9	8.4	04/06/2023 22:00:00	29.1	2741.4	8.5	04/08/2023 08:00:00	29.8	2696.0	8.5
04/05/2023 13:00:00	41.7	2736.6	8.4	04/06/2023 23:00:00	28.5	2684.8	8.6	04/08/2023 09:00:00	32.9	2703.0	8.4
04/05/2023 14:00:00	42.0	2744.6	8.4	04/07/2023 00:00:00	28.4	2664.5	8.6	04/08/2023 10:00:00	37.0	2696.6	8.3
04/05/2023 15:00:00	43.0	2748.9	8.5	04/07/2023 01:00:00	28.1	2670.9	8.7	04/08/2023 11:00:00	41.1	2774.0	8.2
04/05/2023 16:00:00	41.9	2759.6	8.3	04/07/2023 02:00:00	28.0	2675.2	8.7	04/08/2023 12:00:00	43.5	2806.1	8.1
04/05/2023 17:00:00	38.8	2763.3	8.1	04/07/2023 03:00:00	27.8	2675.2	8.8	04/08/2023 13:00:00	44.3	2820.5	8.0
04/05/2023 18:00:00	33.7	2761.2	7.9	04/07/2023 04:00:00	27.4	2675.2	8.8	04/08/2023 14:00:00	43.3	2830.1	7.9
04/05/2023 19:00:00	30.6	2754.2	8.0	04/07/2023 05:00:00	27.2	2674.1	8.8	04/08/2023 15:00:00	41.2	2837.0	7.9
04/05/2023 20:00:00	29.6	2749.4	8.1	04/07/2023 06:00:00	27.1	2672.0	8.8	04/08/2023 16:00:00	31.3	2796.4	8.3
04/05/2023 21:00:00	28.8	2743.0	8.3	04/07/2023 07:00:00	27.5	2672.0	8.9	04/08/2023 17:00:00	31.3	2801.2	8.3

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
04/08/2023 18:00:00	31.1	2805.0	8.3	04/10/2023 04:00:00	30.6	2654.4	8.2	04/11/2023 14:00:00	41.0	2813.5	7.9
04/08/2023 19:00:00	31.0	2800.7	8.3	04/10/2023 05:00:00	28.1	2646.4	8.3	04/11/2023 15:00:00	42.0	2818.9	7.9
04/08/2023 20:00:00	30.8	2728.1	8.3	04/10/2023 06:00:00	27.1	2651.2	8.4	04/11/2023 16:00:00	41.2	2827.4	7.8
04/08/2023 21:00:00	30.5	2715.8	8.3	04/10/2023 07:00:00	26.4	2654.9	8.4	04/11/2023 17:00:00	39.0	2829.6	7.7
04/08/2023 22:00:00	30.2	2715.3	8.3	04/10/2023 08:00:00	29.5	2650.6	8.4	04/11/2023 18:00:00	34.9	2830.6	7.7
04/08/2023 23:00:00	30.0	2714.7	8.3	04/10/2023 09:00:00	32.5	2650.1	8.4	04/11/2023 19:00:00	31.4	2822.6	7.8
04/09/2023 00:00:00	29.7	2713.7	8.3	04/10/2023 10:00:00	36.6	2698.7	8.3	04/11/2023 20:00:00	30.4	2799.1	7.9
04/09/2023 01:00:00	27.6	2716.9	8.4	04/10/2023 11:00:00	38.7	2734.0	8.2	04/11/2023 21:00:00	29.3	2728.6	8.0
04/09/2023 02:00:00	26.6	2720.6	8.4	04/10/2023 12:00:00	41.2	2756.4	8.2	04/11/2023 22:00:00	28.6	2721.7	8.0
04/09/2023 03:00:00	26.1	2723.3	8.4	04/10/2023 13:00:00	43.3	2768.7	8.2	04/11/2023 23:00:00	28.2	2719.0	8.1
04/09/2023 04:00:00	25.7	2730.2	8.4	04/10/2023 14:00:00	42.3	2778.8	8.0	04/12/2023 00:00:00	27.8	2716.9	8.1
04/09/2023 05:00:00	25.6	2724.9	8.3	04/10/2023 15:00:00	41.7	2789.0	7.9	04/12/2023 01:00:00	27.7	2716.3	8.1
04/09/2023 06:00:00	25.5	2723.3	8.4	04/10/2023 16:00:00	39.0	2795.4	8.0	04/12/2023 02:00:00	27.6	2714.2	8.1
04/09/2023 07:00:00	25.4	2724.3	8.4	04/10/2023 17:00:00	35.9	2794.8	8.0	04/12/2023 03:00:00	27.4	2713.7	8.1
04/09/2023 08:00:00	29.5	2727.0	8.4	04/10/2023 18:00:00	32.8	2792.2	8.0	04/12/2023 04:00:00	27.2	2713.1	8.1
04/09/2023 09:00:00	32.5	2733.4	8.4	04/10/2023 19:00:00	30.8	2790.6	8.1	04/12/2023 05:00:00	26.8	2712.6	8.1
04/09/2023 10:00:00	35.6	2725.4	8.3	04/10/2023 20:00:00	29.7	2782.6	8.1	04/12/2023 06:00:00	26.7	2710.5	8.1
04/09/2023 11:00:00	35.4	2731.8	8.2	04/10/2023 21:00:00	29.0	2775.1	8.2	04/12/2023 07:00:00	26.4	2711.5	8.1
04/09/2023 12:00:00	39.1	2831.7	8.2	04/10/2023 22:00:00	28.7	2715.8	8.2	04/12/2023 08:00:00	30.0	2712.1	8.2
04/09/2023 13:00:00	42.6	2844.5	8.2	04/10/2023 23:00:00	28.3	2692.3	8.2	04/12/2023 09:00:00	32.1	2708.9	8.1
04/09/2023 14:00:00	43.6	2856.3	8.0	04/11/2023 00:00:00	28.1	2685.4	8.2	04/12/2023 10:00:00	36.2	2717.9	8.1
04/09/2023 15:00:00	42.6	2865.9	8.0	04/11/2023 01:00:00	28.0	2680.5	8.2	04/12/2023 11:00:00	38.3	2744.1	7.8
04/09/2023 16:00:00	40.4	2869.6	8.0	04/11/2023 02:00:00	28.0	2680.5	8.3	04/12/2023 12:00:00	41.2	2810.3	7.9
04/09/2023 17:00:00	32.0	2778.3	8.2	04/11/2023 03:00:00	27.9	2680.5	8.3	04/12/2023 13:00:00	42.3	2830.6	7.8
04/09/2023 18:00:00	31.5	2776.1	8.3	04/11/2023 04:00:00	27.9	2678.9	8.3	04/12/2023 14:00:00	42.5	2842.4	7.7
04/09/2023 19:00:00	31.2	2765.5	8.3	04/11/2023 05:00:00	27.8	2679.5	8.2	04/12/2023 15:00:00	40.0	2849.8	7.6
04/09/2023 20:00:00	31.0	2771.3	8.3	04/11/2023 06:00:00	27.6	2680.0	8.2	04/12/2023 16:00:00	40.0	2851.4	7.7
04/09/2023 21:00:00	30.7	2771.3	8.3	04/11/2023 07:00:00	27.4	2678.9	8.3	04/12/2023 17:00:00	37.9	2855.7	7.6
04/09/2023 22:00:00	30.5	2756.4	8.3	04/11/2023 08:00:00	30.1	2680.5	8.3	04/12/2023 18:00:00	33.8	2853.6	7.6
04/09/2023 23:00:00	30.2	2737.2	8.3	04/11/2023 09:00:00	33.2	2682.2	8.3	04/12/2023 19:00:00	31.8	2846.6	7.7
04/10/2023 00:00:00	29.9	2701.9	8.3	04/11/2023 10:00:00	36.3	2689.6	8.2	04/12/2023 20:00:00	29.7	2777.7	7.8
04/10/2023 01:00:00	29.8	2687.5	8.3	04/11/2023 11:00:00	39.4	2724.9	8.1	04/12/2023 21:00:00	29.0	2751.6	7.9
04/10/2023 02:00:00	30.3	2667.2	8.2	04/11/2023 12:00:00	40.0	2795.9	8.0	04/12/2023 22:00:00	28.6	2744.6	7.9
04/10/2023 03:00:00	30.7	2657.0	8.2	04/11/2023 13:00:00	41.1	2801.2	7.9	04/12/2023 23:00:00	28.4	2744.1	7.9

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
04/13/2023 00:00:00	28.1	2742.5	7.9	04/14/2023 10:00:00	30.6	2724.9	8.2	04/15/2023 20:00:00	29.9	2677.9	7.8
04/13/2023 01:00:00	27.8	2743.0	7.9	04/14/2023 11:00:00	30.8	2744.1	8.4	04/15/2023 21:00:00	28.9	2666.7	7.9
04/13/2023 02:00:00	27.4	2743.0	8.0	04/14/2023 12:00:00	31.1	2726.5	8.4	04/15/2023 22:00:00	28.5	2631.4	7.9
04/13/2023 03:00:00	27.2	2742.0	8.0	04/14/2023 13:00:00	31.4	2699.8	8.3	04/15/2023 23:00:00	28.1	2596.2	7.9
04/13/2023 04:00:00	27.3	2740.9	8.0	04/14/2023 14:00:00	31.6	2678.9	8.3	04/16/2023 00:00:00	28.0	2582.8	7.9
04/13/2023 05:00:00	27.8	2741.4	8.0	04/14/2023 15:00:00	31.5	2676.8	8.3	04/16/2023 01:00:00	28.1	2578.0	7.9
04/13/2023 06:00:00	27.3	2741.4	8.0	04/14/2023 16:00:00	31.3	2681.6	8.3	04/16/2023 02:00:00	31.2	2649.6	8.1
04/13/2023 07:00:00	27.3	2742.0	8.0	04/14/2023 17:00:00	31.0	2680.0	8.3	04/16/2023 03:00:00	31.4	2667.7	8.1
04/13/2023 08:00:00	30.4	2743.6	8.0	04/14/2023 18:00:00	30.7	2679.5	8.3	04/16/2023 04:00:00	31.2	2667.7	8.1
04/13/2023 09:00:00	32.4	2741.4	8.1	04/14/2023 19:00:00	30.3	2678.4	8.3	04/16/2023 05:00:00	31.0	2662.4	8.1
04/13/2023 10:00:00	37.5	2754.2	8.0	04/14/2023 20:00:00	29.9	2665.1	8.3	04/16/2023 06:00:00	29.5	2593.5	8.3
04/13/2023 11:00:00	40.3	2837.6	7.9	04/14/2023 21:00:00	29.6	2629.8	8.3	04/16/2023 07:00:00	28.5	2605.8	8.3
04/13/2023 12:00:00	42.4	2854.7	7.7	04/14/2023 22:00:00	29.3	2596.7	8.3	04/16/2023 08:00:00	29.3	2596.7	8.5
04/13/2023 13:00:00	43.2	2865.9	7.7	04/14/2023 23:00:00	29.8	2588.7	8.2	04/16/2023 09:00:00	30.4	2598.8	8.4
04/13/2023 14:00:00	42.8	2874.9	7.5	04/15/2023 00:00:00	30.3	2566.3	8.2	04/16/2023 10:00:00	33.4	2608.5	8.6
04/13/2023 15:00:00	41.8	2879.8	7.5	04/15/2023 01:00:00	30.6	2549.2	8.2	04/16/2023 11:00:00	35.5	2626.6	8.5
04/13/2023 16:00:00	40.7	2883.0	7.5	04/15/2023 02:00:00	30.2	2542.8	8.2	04/16/2023 12:00:00	36.5	2650.1	8.1
04/13/2023 17:00:00	38.9	2883.5	7.5	04/15/2023 03:00:00	28.2	2534.2	8.2	04/16/2023 13:00:00	38.6	2685.4	8.3
04/13/2023 18:00:00	35.8	2880.3	7.6	04/15/2023 04:00:00	27.1	2532.6	8.3	04/16/2023 14:00:00	39.1	2701.9	8.1
04/13/2023 19:00:00	31.7	2873.9	7.6	04/15/2023 05:00:00	26.8	2532.6	8.3	04/16/2023 15:00:00	38.1	2711.5	7.9
04/13/2023 20:00:00	30.7	2866.4	7.7	04/15/2023 06:00:00	26.8	2532.1	8.3	04/16/2023 16:00:00	34.0	2717.9	7.9
04/13/2023 21:00:00	29.8	2847.2	7.8	04/15/2023 07:00:00	26.5	2532.6	8.3	04/16/2023 17:00:00	32.9	2720.1	8.0
04/13/2023 22:00:00	29.3	2779.9	7.8	04/15/2023 08:00:00	29.6	2535.8	8.3	04/16/2023 18:00:00	30.9	2716.3	8.1
04/13/2023 23:00:00	28.9	2769.2	7.8	04/15/2023 09:00:00	32.7	2540.1	8.2	04/16/2023 19:00:00	29.8	2713.1	8.1
04/14/2023 00:00:00	28.4	2768.7	7.8	04/15/2023 10:00:00	35.8	2546.0	8.1	04/16/2023 20:00:00	28.8	2707.3	8.1
04/14/2023 01:00:00	28.1	2765.5	7.9	04/15/2023 11:00:00	38.8	2617.0	8.1	04/16/2023 21:00:00	27.8	2662.9	8.2
04/14/2023 02:00:00	27.9	2763.3	7.9	04/15/2023 12:00:00	41.1	2652.2	8.0	04/16/2023 22:00:00	27.6	2634.6	8.3
04/14/2023 03:00:00	27.9	2761.7	7.9	04/15/2023 13:00:00	42.1	2664.0	7.9	04/16/2023 23:00:00	27.2	2626.1	8.4
04/14/2023 04:00:00	27.9	2761.7	7.9	04/15/2023 14:00:00	42.7	2674.7	7.9	04/17/2023 00:00:00	26.7	2621.3	8.5
04/14/2023 05:00:00	27.6	2761.2	7.9	04/15/2023 15:00:00	42.0	2682.7	7.8	04/17/2023 01:00:00	26.7	2615.4	8.5
04/14/2023 06:00:00	27.7	2761.2	7.9	04/15/2023 16:00:00	40.8	2688.0	7.8	04/17/2023 02:00:00	26.4	2612.2	8.5
04/14/2023 07:00:00	27.6	2760.1	7.9	04/15/2023 17:00:00	37.9	2689.1	7.8	04/17/2023 03:00:00	26.3	2610.6	8.5
04/14/2023 08:00:00	29.7	2761.7	8.0	04/15/2023 18:00:00	34.9	2689.1	7.7	04/17/2023 04:00:00	25.8	2605.2	8.6
04/14/2023 09:00:00	32.8	2760.1	8.0	04/15/2023 19:00:00	31.8	2683.2	7.8	04/17/2023 05:00:00	25.8	2604.2	8.6

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
04/17/2023 06:00:00	25.8	2604.2	8.6	04/18/2023 16:00:00	31.7	2800.7	8.2	04/20/2023 02:00:00	32.5	2740.4	8.0
04/17/2023 07:00:00	26.9	2601.5	8.9	04/18/2023 17:00:00	31.6	2807.7	8.2	04/20/2023 03:00:00	32.6	2771.3	8.0
04/17/2023 08:00:00	30.0	2701.4	8.3	04/18/2023 18:00:00	32.0	2811.4	8.2	04/20/2023 04:00:00	32.5	2761.7	8.0
04/17/2023 09:00:00	29.5	2706.7	8.1	04/18/2023 19:00:00	32.0	2808.2	8.1	04/20/2023 05:00:00	32.3	2691.2	8.0
04/17/2023 10:00:00	29.8	2727.5	8.1	04/18/2023 20:00:00	31.7	2798.6	8.1	04/20/2023 06:00:00	32.3	2666.7	8.0
04/17/2023 11:00:00	30.0	2762.8	8.1	04/18/2023 21:00:00	31.7	2772.9	8.1	04/20/2023 07:00:00	32.1	2657.0	8.0
04/17/2023 12:00:00	30.2	2789.0	8.1	04/18/2023 22:00:00	32.1	2777.2	8.1	04/20/2023 08:00:00	31.9	2657.0	8.0
04/17/2023 13:00:00	30.4	2791.6	8.2	04/18/2023 23:00:00	32.4	2781.5	8.0	04/20/2023 09:00:00	31.7	2670.4	8.1
04/17/2023 14:00:00	31.0	2800.2	8.2	04/19/2023 00:00:00	32.4	2789.5	8.0	04/20/2023 10:00:00	31.6	2705.6	8.1
04/17/2023 15:00:00	31.3	2803.4	8.2	04/19/2023 01:00:00	32.2	2767.6	8.0	04/20/2023 11:00:00	31.6	2732.4	8.1
04/17/2023 16:00:00	31.2	2802.3	8.2	04/19/2023 02:00:00	32.5	2767.1	7.9	04/20/2023 12:00:00	31.6	2729.7	8.1
04/17/2023 17:00:00	31.0	2804.4	8.2	04/19/2023 03:00:00	32.3	2778.3	8.0	04/20/2023 13:00:00	36.7	92.5	8.1
04/17/2023 18:00:00	30.7	2802.8	8.2	04/19/2023 04:00:00	32.0	2774.0	8.0	04/20/2023 14:00:00	42.1	72.2	8.0
04/17/2023 19:00:00	30.3	942.7	8.2	04/19/2023 05:00:00	31.6	2763.3	8.0	04/20/2023 15:00:00	43.0	71.7	7.9
04/17/2023 20:00:00	29.4	1189.5	8.3	04/19/2023 06:00:00	31.8	2752.1	8.0	04/20/2023 16:00:00	41.1	69.5	7.9
04/17/2023 21:00:00	28.6	1223.6	8.3	04/19/2023 07:00:00	32.0	2746.8	7.9	04/20/2023 17:00:00	37.9	65.3	7.9
04/17/2023 22:00:00	28.2	1241.8	8.3	04/19/2023 08:00:00	31.6	2743.0	8.0	04/20/2023 18:00:00	34.9	58.3	7.9
04/17/2023 23:00:00	27.7	1251.9	8.3	04/19/2023 09:00:00	33.3	15.6	8.0	04/20/2023 19:00:00	31.3	51.9	7.9
04/18/2023 00:00:00	27.4	1266.9	8.3	04/19/2023 10:00:00	36.4	0.1	7.8	04/20/2023 20:00:00	30.2	34.3	7.9
04/18/2023 01:00:00	26.5	1273.3	8.3	04/19/2023 11:00:00	38.5	1.2	7.7	04/20/2023 21:00:00	29.6	0.1	7.9
04/18/2023 02:00:00	26.4	1280.3	8.3	04/19/2023 12:00:00	39.5	24.1	7.7	04/20/2023 22:00:00	29.1	0.7	7.9
04/18/2023 03:00:00	26.7	1288.8	8.3	04/19/2023 13:00:00	40.4	60.5	7.6	04/20/2023 23:00:00	28.8	0.7	7.8
04/18/2023 04:00:00	26.5	1295.2	8.3	04/19/2023 14:00:00	41.4	61.0	7.5	04/21/2023 00:00:00	28.7	0.7	7.8
04/18/2023 05:00:00	26.2	1301.6	8.3	04/19/2023 15:00:00	41.1	62.6	7.5	04/21/2023 01:00:00	28.6	0.7	7.8
04/18/2023 06:00:00	25.9	1305.4	8.3	04/19/2023 16:00:00	40.0	60.5	7.5	04/21/2023 02:00:00	28.5	0.1	7.8
04/18/2023 07:00:00	26.0	1310.2	8.3	04/19/2023 17:00:00	37.2	57.8	7.5	04/21/2023 03:00:00	28.4	0.1	7.7
04/18/2023 08:00:00	30.1	1316.0	8.3	04/19/2023 18:00:00	34.1	54.1	7.5	04/21/2023 04:00:00	28.0	0.1	7.7
04/18/2023 09:00:00	34.2	1337.4	8.3	04/19/2023 19:00:00	31.0	49.2	7.5	04/21/2023 05:00:00	27.4	0.1	7.8
04/18/2023 10:00:00	38.3	1443.1	8.2	04/19/2023 20:00:00	30.0	26.8	7.5	04/21/2023 06:00:00	27.4	0.1	7.8
04/18/2023 11:00:00	40.0	1626.9	8.0	04/19/2023 21:00:00	29.3	0.7	7.5	04/21/2023 07:00:00	27.4	0.1	7.8
04/18/2023 12:00:00	41.1	1662.1	8.2	04/19/2023 22:00:00	29.0	0.7	7.5	04/21/2023 08:00:00	30.5	0.1	7.8
04/18/2023 13:00:00	32.0	2801.8	8.1	04/19/2023 23:00:00	28.9	0.7	7.5	04/21/2023 09:00:00	33.6	35.9	7.7
04/18/2023 14:00:00	31.6	2800.2	8.1	04/20/2023 00:00:00	28.8	0.1	7.5	04/21/2023 10:00:00	37.7	56.7	7.7
04/18/2023 15:00:00	31.7	2800.2	8.2	04/20/2023 01:00:00	31.8	2763.9	8.0	04/21/2023 11:00:00	40.0	64.2	7.6

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
04/21/2023 12:00:00	44.2	70.1	7.6	04/22/2023 22:00:00	29.1	3.3	7.8	04/24/2023 08:00:00	31.7	0.1	8.4
04/21/2023 13:00:00	44.4	71.7	7.6	04/22/2023 23:00:00	28.6	0.1	7.8	04/24/2023 09:00:00	32.7	0.1	8.3
04/21/2023 14:00:00	43.3	71.1	7.6	04/23/2023 00:00:00	27.8	0.1	7.9	04/24/2023 10:00:00	36.8	35.4	8.4
04/21/2023 15:00:00	42.8	69.5	7.6	04/23/2023 01:00:00	27.6	0.1	7.9	04/24/2023 11:00:00	37.8	70.6	8.1
04/21/2023 16:00:00	41.7	67.9	7.6	04/23/2023 02:00:00	27.7	0.1	8.0	04/24/2023 12:00:00	43.2	75.4	8.2
04/21/2023 17:00:00	32.5	2709.4	8.2	04/23/2023 03:00:00	27.3	0.1	8.0	04/24/2023 13:00:00	33.8	71.7	8.0
04/21/2023 18:00:00	32.3	2734.5	8.2	04/23/2023 04:00:00	27.3	0.1	8.1	04/24/2023 14:00:00	26.7	1.2	8.0
04/21/2023 19:00:00	32.6	2730.2	8.2	04/23/2023 05:00:00	27.3	0.1	8.1	04/24/2023 15:00:00	34.9	0.7	8.5
04/21/2023 20:00:00	32.5	2725.4	8.2	04/23/2023 06:00:00	27.1	0.1	8.1	04/24/2023 16:00:00	33.8	36.4	7.9
04/21/2023 21:00:00	32.2	2674.7	8.1	04/23/2023 07:00:00	28.1	0.1	8.3	04/24/2023 17:00:00	30.8	61.5	8.2
04/21/2023 22:00:00	32.0	2653.8	8.1	04/23/2023 08:00:00	32.2	2872.8	8.1	04/24/2023 18:00:00	29.7	59.9	8.3
04/21/2023 23:00:00	31.9	2650.1	8.1	04/23/2023 09:00:00	32.7	2872.3	8.1	04/24/2023 19:00:00	28.9	54.6	8.3
04/22/2023 00:00:00	32.3	2661.9	8.1	04/23/2023 10:00:00	33.1	2944.4	8.1	04/24/2023 20:00:00	27.9	41.8	8.3
04/22/2023 01:00:00	32.6	2674.7	8.1	04/23/2023 11:00:00	33.1	2979.6	8.1	04/24/2023 21:00:00	26.9	6.5	8.4
04/22/2023 02:00:00	32.8	2678.9	8.1	04/23/2023 12:00:00	33.1	2985.0	8.2	04/24/2023 22:00:00	26.1	0.1	8.4
04/22/2023 03:00:00	32.5	2675.2	8.1	04/23/2023 13:00:00	33.2	2984.4	8.2	04/24/2023 23:00:00	25.8	0.1	8.5
04/22/2023 04:00:00	32.2	2674.7	8.1	04/23/2023 14:00:00	33.2	2984.4	8.2	04/25/2023 00:00:00	25.7	0.1	8.5
04/22/2023 05:00:00	31.8	2677.3	8.1	04/23/2023 15:00:00	33.2	2983.9	8.2	04/25/2023 01:00:00	26.0	0.1	8.5
04/22/2023 06:00:00	31.9	2701.4	8.1	04/23/2023 16:00:00	33.1	2986.6	8.3	04/25/2023 02:00:00	30.0	2846.1	8.2
04/22/2023 07:00:00	32.3	2725.9	8.1	04/23/2023 17:00:00	32.8	2988.2	8.3	04/25/2023 03:00:00	30.8	2797.5	8.1
04/22/2023 08:00:00	32.6	2731.8	8.1	04/23/2023 18:00:00	32.5	2986.6	8.3	04/25/2023 04:00:00	31.0	2785.2	8.1
04/22/2023 09:00:00	32.4	2728.1	8.1	04/23/2023 19:00:00	32.5	2984.4	8.3	04/25/2023 05:00:00	30.7	2784.7	8.1
04/22/2023 10:00:00	32.2	2764.4	8.1	04/23/2023 20:00:00	32.8	2975.3	8.3	04/25/2023 06:00:00	30.5	2783.6	8.1
04/22/2023 11:00:00	40.0	78.1	8.6	04/23/2023 21:00:00	33.0	2939.6	8.2	04/25/2023 07:00:00	30.2	2779.3	8.1
04/22/2023 12:00:00	43.1	72.2	8.4	04/23/2023 22:00:00	33.3	2920.9	8.2	04/25/2023 08:00:00	30.0	2778.3	8.1
04/22/2023 13:00:00	43.0	71.1	8.1	04/23/2023 23:00:00	33.5	2916.1	8.1	04/25/2023 09:00:00	30.0	2775.1	8.1
04/22/2023 14:00:00	44.0	71.7	8.1	04/24/2023 00:00:00	33.1	2902.7	8.1	04/25/2023 10:00:00	30.5	2768.7	8.2
04/22/2023 15:00:00	43.8	74.4	7.9	04/24/2023 01:00:00	32.6	2904.3	8.2	04/25/2023 11:00:00	31.0	2801.2	8.1
04/22/2023 16:00:00	42.4	76.0	7.8	04/24/2023 02:00:00	32.1	2887.8	8.2	04/25/2023 12:00:00	31.0	2815.7	8.2
04/22/2023 17:00:00	40.0	73.8	7.8	04/24/2023 03:00:00	30.1	32.7	8.3	04/25/2023 13:00:00	31.0	2815.1	8.2
04/22/2023 18:00:00	36.9	71.1	7.5	04/24/2023 04:00:00	28.0	1.7	8.3	04/25/2023 14:00:00	28.0	43.9	8.3
04/22/2023 19:00:00	32.4	63.1	7.6	04/24/2023 05:00:00	27.6	0.1	8.3	04/25/2023 15:00:00	37.2	8.7	8.4
04/22/2023 20:00:00	30.3	55.7	7.6	04/24/2023 06:00:00	27.3	0.1	8.3	04/25/2023 16:00:00	38.2	46.6	8.2
04/22/2023 21:00:00	29.8	30.0	7.8	04/24/2023 07:00:00	27.6	0.1	8.3	04/25/2023 17:00:00	36.1	68.5	8.0

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
04/25/2023 18:00:00	28.9	61.5	8.0	04/27/2023 04:00:00	24.8	0.1	8.1	04/28/2023 14:00:00	31.6	2794.8	6.2
04/25/2023 19:00:00	25.8	26.3	8.1	04/27/2023 05:00:00	25.0	0.1	8.1	04/28/2023 15:00:00	30.6	2805.5	6.5
04/25/2023 20:00:00	24.9	0.1	8.2	04/27/2023 06:00:00	24.6	0.1	8.1	04/28/2023 16:00:00	31.1	2799.1	6.9
04/25/2023 21:00:00	25.1	0.1	8.2	04/27/2023 07:00:00	25.6	0.1	8.1	04/28/2023 17:00:00	35.3	2800.7	7.2
04/25/2023 22:00:00	25.4	0.1	8.3	04/27/2023 08:00:00	28.6	0.1	8.1	04/28/2023 18:00:00	34.0	2800.7	7.0
04/25/2023 23:00:00	25.9	0.1	8.2	04/27/2023 09:00:00	31.7	2.8	8.0	04/28/2023 19:00:00	31.0	2806.6	7.0
04/26/2023 00:00:00	26.4	0.1	8.2	04/27/2023 10:00:00	35.8	0.1	7.9	04/28/2023 20:00:00	29.9	2798.6	7.1
04/26/2023 01:00:00	25.6	0.1	8.2	04/27/2023 11:00:00	38.9	173.7	7.3	04/28/2023 21:00:00	29.1	2756.4	7.1
04/26/2023 02:00:00	25.3	0.1	8.2	04/27/2023 12:00:00	42.2	244.2	7.2	04/28/2023 22:00:00	28.5	2742.0	7.2
04/26/2023 03:00:00	25.5	0.1	8.2	04/27/2023 13:00:00	43.0	252.7	7.1	04/28/2023 23:00:00	28.5	2730.7	7.2
04/26/2023 04:00:00	25.8	0.1	8.2	04/27/2023 14:00:00	42.3	258.1	7.1	04/29/2023 00:00:00	28.4	2718.5	7.4
04/26/2023 05:00:00	25.2	0.1	8.1	04/27/2023 15:00:00	40.0	260.7	7.1	04/29/2023 01:00:00	28.4	2713.1	7.4
04/26/2023 06:00:00	25.0	0.1	8.1	04/27/2023 16:00:00	37.9	260.7	7.2	04/29/2023 02:00:00	27.3	2704.0	7.5
04/26/2023 07:00:00	25.1	0.1	8.1	04/27/2023 17:00:00	37.9	259.7	7.1	04/29/2023 03:00:00	27.1	2694.4	7.5
04/26/2023 08:00:00	27.1	0.7	8.2	04/27/2023 18:00:00	33.8	257.5	7.1	04/29/2023 04:00:00	27.0	2690.2	7.5
04/26/2023 09:00:00	27.7	2.3	8.1	04/27/2023 19:00:00	30.7	252.2	7.1	04/29/2023 05:00:00	27.0	2687.5	7.7
04/26/2023 10:00:00	25.7	0.1	8.0	04/27/2023 20:00:00	29.7	245.2	7.2	04/29/2023 06:00:00	26.7	2683.2	7.7
04/26/2023 11:00:00	26.2	0.1	8.0	04/27/2023 21:00:00	29.1	229.8	7.2	04/29/2023 07:00:00	26.8	2682.7	7.8
04/26/2023 12:00:00	30.4	2719.5	8.1	04/27/2023 22:00:00	28.7	194.5	7.1	04/29/2023 08:00:00	28.8	2717.9	7.4
04/26/2023 13:00:00	30.2	2711.0	8.2	04/27/2023 23:00:00	27.8	159.3	7.1	04/29/2023 09:00:00	28.8	2705.1	8.2
04/26/2023 14:00:00	30.0	2705.6	8.2	04/28/2023 00:00:00	27.4	137.4	7.1	04/29/2023 10:00:00	31.9	2712.6	7.7
04/26/2023 15:00:00	29.9	2705.6	8.2	04/28/2023 01:00:00	27.1	137.4	7.1	04/29/2023 11:00:00	37.0	2714.7	7.5
04/26/2023 16:00:00	29.7	2704.6	8.2	04/28/2023 02:00:00	27.1	134.2	7.1	04/29/2023 12:00:00	40.2	2750.0	7.8
04/26/2023 17:00:00	30.0	2700.3	8.2	04/28/2023 03:00:00	26.7	128.3	7.1	04/29/2023 13:00:00	40.0	2801.2	7.8
04/26/2023 18:00:00	30.3	2692.3	8.2	04/28/2023 04:00:00	26.5	124.0	7.1	04/29/2023 14:00:00	40.8	2812.5	7.7
04/26/2023 19:00:00	30.2	2687.5	8.2	04/28/2023 05:00:00	26.1	121.9	7.1	04/29/2023 15:00:00	41.3	2824.7	7.4
04/26/2023 20:00:00	30.0	2684.8	8.2	04/28/2023 06:00:00	26.0	119.2	7.1	04/29/2023 16:00:00	37.9	2832.2	6.9
04/26/2023 21:00:00	29.7	2684.3	8.2	04/28/2023 07:00:00	26.8	117.6	6.9	04/29/2023 17:00:00	31.8	2752.1	8.4
04/26/2023 22:00:00	28.4	53.0	8.1	04/28/2023 08:00:00	28.8	2520.9	8.2	04/29/2023 18:00:00	31.8	2735.0	8.3
04/26/2023 23:00:00	27.3	17.7	8.3	04/28/2023 09:00:00	29.8	2556.1	8.2	04/29/2023 19:00:00	31.6	2724.3	8.3
04/27/2023 00:00:00	26.3	4.9	8.2	04/28/2023 10:00:00	30.3	2591.4	8.2	04/29/2023 20:00:00	31.4	2696.6	8.3
04/27/2023 01:00:00	25.6	1.7	8.2	04/28/2023 11:00:00	30.5	2596.2	8.2	04/29/2023 21:00:00	31.2	2690.2	8.3
04/27/2023 02:00:00	25.1	0.1	8.1	04/28/2023 12:00:00	30.5	2600.4	8.3	04/29/2023 22:00:00	31.0	2680.0	8.3
04/27/2023 03:00:00	24.9	0.1	8.1	04/28/2023 13:00:00	30.6	14.5	8.0	04/29/2023 23:00:00	30.8	2677.9	8.3

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
04/30/2023 00:00:00	31.0	2663.5	8.3	05/01/2023 10:00:00	34.7	2627.7	8.2	05/02/2023 20:00:00	29.2	0.1	8.2
04/30/2023 01:00:00	31.3	2646.9	8.3	05/01/2023 11:00:00	40.0	2662.9	8.0	05/02/2023 21:00:00	28.7	0.1	8.2
04/30/2023 02:00:00	31.0	2640.5	8.3	05/01/2023 12:00:00	41.1	2698.2	7.9	05/02/2023 22:00:00	27.8	0.1	8.3
04/30/2023 03:00:00	30.7	2631.9	8.3	05/01/2023 13:00:00	37.9	2711.0	7.8	05/02/2023 23:00:00	27.2	0.1	8.3
04/30/2023 04:00:00	29.7	2626.6	8.0	05/01/2023 14:00:00	27.7	2720.6	7.3	05/03/2023 00:00:00	27.2	0.1	8.4
04/30/2023 05:00:00	28.7	2612.7	7.9	05/01/2023 15:00:00	26.7	2650.1	7.4	05/03/2023 01:00:00	26.9	0.1	8.4
04/30/2023 06:00:00	27.7	2603.6	8.1	05/01/2023 16:00:00	28.3	2623.9	7.7	05/03/2023 02:00:00	26.3	0.1	8.4
04/30/2023 07:00:00	27.2	2597.8	8.2	05/01/2023 17:00:00	29.3	2617.5	7.9	05/03/2023 03:00:00	26.2	0.1	8.5
04/30/2023 08:00:00	29.6	2595.6	8.4	05/01/2023 18:00:00	31.3	2629.3	7.9	05/03/2023 04:00:00	26.3	0.1	8.5
04/30/2023 09:00:00	32.7	2666.7	8.5	05/01/2023 19:00:00	30.2	2640.0	7.7	05/03/2023 05:00:00	26.1	0.1	8.5
04/30/2023 10:00:00	32.9	2655.4	7.9	05/01/2023 20:00:00	29.4	2604.7	8.3	05/03/2023 06:00:00	26.1	0.1	8.5
04/30/2023 11:00:00	31.9	2669.9	7.9	05/01/2023 21:00:00	29.1	2598.3	8.3	05/03/2023 07:00:00	26.1	0.1	8.5
04/30/2023 12:00:00	27.7	2643.2	7.8	05/01/2023 22:00:00	29.4	2612.2	8.3	05/03/2023 08:00:00	30.2	0.1	8.8
04/30/2023 13:00:00	24.6	2609.5	7.9	05/01/2023 23:00:00	29.4	2620.2	8.3	05/03/2023 09:00:00	28.2	0.1	8.3
04/30/2023 14:00:00	24.2	2589.2	8.1	05/02/2023 00:00:00	29.3	2621.8	8.3	05/03/2023 10:00:00	28.2	0.1	8.5
04/30/2023 15:00:00	24.3	2578.5	8.2	05/02/2023 01:00:00	29.1	50.3	8.2	05/03/2023 11:00:00	29.2	2805.5	8.4
04/30/2023 16:00:00	24.8	2574.3	8.1	05/02/2023 02:00:00	27.1	7.6	8.4	05/03/2023 12:00:00	29.7	2841.3	8.4
04/30/2023 17:00:00	25.4	2574.8	8.2	05/02/2023 03:00:00	26.1	0.1	8.3	05/03/2023 13:00:00	30.1	2855.2	8.4
04/30/2023 18:00:00	25.5	2574.8	8.2	05/02/2023 04:00:00	25.8	0.1	8.3	05/03/2023 14:00:00	30.2	2861.6	8.4
04/30/2023 19:00:00	25.5	2575.9	8.1	05/02/2023 05:00:00	25.5	0.1	8.3	05/03/2023 15:00:00	30.3	2857.9	8.5
04/30/2023 20:00:00	25.2	2574.3	8.1	05/02/2023 06:00:00	25.6	0.1	8.3	05/03/2023 16:00:00	30.3	2863.2	8.5
04/30/2023 21:00:00	24.9	2572.1	8.1	05/02/2023 07:00:00	26.1	0.1	8.5	05/03/2023 17:00:00	30.3	2870.7	8.5
04/30/2023 22:00:00	24.9	2574.3	8.1	05/02/2023 08:00:00	30.2	0.1	8.8	05/03/2023 18:00:00	30.2	2876.0	8.5
04/30/2023 23:00:00	25.0	2574.3	8.2	05/02/2023 09:00:00	34.3	0.1	8.7	05/03/2023 19:00:00	30.0	2866.4	8.5
05/01/2023 00:00:00	24.9	2573.2	8.1	05/02/2023 10:00:00	37.4	0.1	8.4	05/03/2023 20:00:00	29.7	2865.9	8.5
05/01/2023 01:00:00	24.6	2572.7	8.1	05/02/2023 11:00:00	39.9	35.9	8.1	05/03/2023 21:00:00	29.4	51.4	8.4
05/01/2023 02:00:00	24.8	2572.1	8.2	05/02/2023 12:00:00	41.7	42.8	8.2	05/03/2023 22:00:00	28.5	66.3	8.4
05/01/2023 03:00:00	24.6	2572.1	8.2	05/02/2023 13:00:00	41.7	50.9	8.2	05/03/2023 23:00:00	28.1	55.1	8.4
05/01/2023 04:00:00	24.8	2572.1	8.2	05/02/2023 14:00:00	33.8	48.2	7.6	05/04/2023 00:00:00	27.4	46.0	8.5
05/01/2023 05:00:00	24.8	2572.1	8.2	05/02/2023 15:00:00	32.8	46.0	7.8	05/04/2023 01:00:00	26.9	39.1	8.6
05/01/2023 06:00:00	24.3	2570.0	8.2	05/02/2023 16:00:00	33.4	42.8	8.1	05/04/2023 02:00:00	26.5	33.8	8.6
05/01/2023 07:00:00	25.5	2570.0	8.3	05/02/2023 17:00:00	32.3	34.3	8.1	05/04/2023 03:00:00	26.4	33.2	8.6
05/01/2023 08:00:00	28.6	2573.2	8.4	05/02/2023 18:00:00	31.3	31.6	8.1	05/04/2023 04:00:00	26.5	33.2	8.7
05/01/2023 09:00:00	31.7	2592.4	8.4	05/02/2023 19:00:00	30.2	0.7	8.1	05/04/2023 05:00:00	26.5	34.3	8.7

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
05/04/2023 06:00:00	26.5	34.8	8.7	05/05/2023 16:00:00	32.8	3203.9	8.4	05/07/2023 02:00:00	32.2	3162.3	8.5
05/04/2023 07:00:00	26.3	34.8	8.8	05/05/2023 17:00:00	32.9	3205.0	8.4	05/07/2023 03:00:00	32.4	3146.8	8.4
05/04/2023 08:00:00	31.5	39.1	9.0	05/05/2023 18:00:00	32.9	3211.9	8.4	05/07/2023 04:00:00	32.1	3142.5	8.5
05/04/2023 09:00:00	34.5	74.4	9.1	05/05/2023 19:00:00	32.8	3211.4	8.4	05/07/2023 05:00:00	31.9	3140.9	8.4
05/04/2023 10:00:00	35.6	109.6	8.9	05/05/2023 20:00:00	32.8	3202.3	8.4	05/07/2023 06:00:00	32.3	3137.2	8.4
05/04/2023 11:00:00	40.5	133.6	8.9	05/05/2023 21:00:00	32.8	3192.7	8.4	05/07/2023 07:00:00	32.6	3134.5	8.4
05/04/2023 12:00:00	41.5	148.1	8.8	05/05/2023 22:00:00	32.8	3167.1	8.4	05/07/2023 08:00:00	32.7	3135.0	8.4
05/04/2023 13:00:00	42.5	156.6	8.7	05/05/2023 23:00:00	32.5	3154.3	8.4	05/07/2023 09:00:00	32.8	3170.3	8.4
05/04/2023 14:00:00	43.4	163.0	8.7	05/06/2023 00:00:00	31.1	3143.6	8.4	05/07/2023 10:00:00	33.0	3199.7	8.4
05/04/2023 15:00:00	43.0	167.8	8.5	05/06/2023 01:00:00	29.1	3138.8	8.4	05/07/2023 11:00:00	33.2	3221.5	8.4
05/04/2023 16:00:00	41.8	171.5	8.2	05/06/2023 02:00:00	28.6	3131.3	8.5	05/07/2023 12:00:00	33.5	3235.4	8.4
05/04/2023 17:00:00	32.4	2948.1	8.6	05/06/2023 03:00:00	28.5	3122.2	8.6	05/07/2023 13:00:00	33.8	3246.6	8.4
05/04/2023 18:00:00	32.1	3053.9	8.5	05/06/2023 04:00:00	27.8	3113.7	8.6	05/07/2023 14:00:00	33.9	3255.7	8.4
05/04/2023 19:00:00	31.9	3060.8	8.5	05/06/2023 05:00:00	27.5	3106.7	8.6	05/07/2023 15:00:00	33.9	3265.3	8.5
05/04/2023 20:00:00	31.7	3057.1	8.5	05/06/2023 06:00:00	27.4	3101.9	8.6	05/07/2023 16:00:00	33.8	3270.1	8.5
05/04/2023 21:00:00	31.4	3050.6	8.5	05/06/2023 07:00:00	28.1	3096.0	8.7	05/07/2023 17:00:00	33.5	3271.2	8.5
05/04/2023 22:00:00	31.2	3024.5	8.5	05/06/2023 08:00:00	32.2	3106.7	8.8	05/07/2023 18:00:00	34.4	3270.7	7.2
05/04/2023 23:00:00	30.9	3019.1	8.5	05/06/2023 09:00:00	36.3	3142.0	8.7	05/07/2023 19:00:00	32.4	3264.3	7.5
05/05/2023 00:00:00	30.6	3001.5	8.5	05/06/2023 10:00:00	37.3	3177.2	8.4	05/07/2023 20:00:00	31.3	3255.2	7.6
05/05/2023 01:00:00	30.4	2989.2	8.5	05/06/2023 11:00:00	41.3	3205.5	8.4	05/07/2023 21:00:00	30.4	3247.2	7.7
05/05/2023 02:00:00	29.4	2980.7	8.4	05/06/2023 12:00:00	42.4	3215.7	8.2	05/07/2023 22:00:00	29.7	3239.2	7.8
05/05/2023 03:00:00	28.4	2957.7	8.3	05/06/2023 13:00:00	41.0	3230.6	8.2	05/07/2023 23:00:00	29.3	3217.3	7.9
05/05/2023 04:00:00	28.2	2958.8	8.5	05/06/2023 14:00:00	41.0	3238.6	8.1	05/08/2023 00:00:00	29.3	3201.8	8.0
05/05/2023 05:00:00	28.0	2958.8	8.6	05/06/2023 15:00:00	43.0	3245.0	8.0	05/08/2023 01:00:00	29.1	3188.4	8.1
05/05/2023 06:00:00	28.0	2959.9	8.6	05/06/2023 16:00:00	44.1	3247.7	8.0	05/08/2023 02:00:00	32.1	3177.2	8.4
05/05/2023 07:00:00	27.8	2957.2	8.7	05/06/2023 17:00:00	41.0	3253.6	7.6	05/08/2023 03:00:00	32.6	3172.9	8.3
05/05/2023 08:00:00	32.7	2967.9	8.9	05/06/2023 18:00:00	37.4	3254.1	7.5	05/08/2023 04:00:00	32.5	3168.7	8.3
05/05/2023 09:00:00	34.8	3003.1	9.0	05/06/2023 19:00:00	33.3	3248.8	7.5	05/08/2023 05:00:00	32.3	3167.6	8.3
05/05/2023 10:00:00	37.9	3031.4	8.9	05/06/2023 20:00:00	31.2	3240.8	7.7	05/08/2023 06:00:00	32.0	3162.3	8.3
05/05/2023 11:00:00	32.6	3139.3	8.4	05/06/2023 21:00:00	32.3	3232.2	8.5	05/08/2023 07:00:00	31.8	3158.5	8.3
05/05/2023 12:00:00	32.1	3166.0	8.4	05/06/2023 22:00:00	32.6	3223.1	8.5	05/08/2023 08:00:00	32.1	3155.3	8.2
05/05/2023 13:00:00	32.4	3168.1	8.4	05/06/2023 23:00:00	32.6	3198.6	8.5	05/08/2023 09:00:00	32.3	3180.4	8.2
05/05/2023 14:00:00	32.6	3184.2	8.4	05/07/2023 00:00:00	32.3	3183.6	8.5	05/08/2023 10:00:00	32.6	3215.7	8.1
05/05/2023 15:00:00	32.7	3190.6	8.4	05/07/2023 01:00:00	32.1	3169.2	8.5	05/08/2023 11:00:00	32.9	3232.8	8.1

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
05/08/2023 12:00:00	33.2	3243.4	8.1	05/09/2023 22:00:00	32.9	3210.9	7.9	05/11/2023 08:00:00	31.4	3089.1	7.9
05/08/2023 13:00:00	33.4	3251.5	8.2	05/09/2023 23:00:00	32.8	3202.9	7.9	05/11/2023 09:00:00	31.3	3089.1	7.9
05/08/2023 14:00:00	33.5	3260.5	8.2	05/10/2023 00:00:00	32.8	3186.8	7.8	05/11/2023 10:00:00	31.2	3097.6	8.0
05/08/2023 15:00:00	33.4	3262.7	8.2	05/10/2023 01:00:00	32.6	3176.7	7.8	05/11/2023 11:00:00	31.1	3130.8	8.0
05/08/2023 16:00:00	33.5	3254.7	8.2	05/10/2023 02:00:00	32.1	3159.6	7.8	05/11/2023 12:00:00	31.5	3166.0	8.0
05/08/2023 17:00:00	33.5	3250.9	8.2	05/10/2023 03:00:00	28.0	3145.7	7.0	05/11/2023 13:00:00	31.9	3186.3	8.0
05/08/2023 18:00:00	33.4	3248.3	8.2	05/10/2023 04:00:00	25.9	3124.9	7.3	05/11/2023 14:00:00	32.2	3201.3	8.0
05/08/2023 19:00:00	33.4	3245.0	8.2	05/10/2023 05:00:00	24.9	3108.3	7.7	05/11/2023 15:00:00	32.5	3213.0	8.0
05/08/2023 20:00:00	33.3	3222.1	8.2	05/10/2023 06:00:00	24.8	3092.8	7.8	05/11/2023 16:00:00	32.8	3222.6	8.0
05/08/2023 21:00:00	33.2	3208.7	8.2	05/10/2023 07:00:00	25.1	3091.2	7.8	05/11/2023 17:00:00	32.8	3227.4	8.0
05/08/2023 22:00:00	33.2	3200.7	8.2	05/10/2023 08:00:00	25.0	3083.2	7.9	05/11/2023 18:00:00	32.8	3206.6	8.0
05/08/2023 23:00:00	33.2	3192.2	8.2	05/10/2023 09:00:00	27.7	3080.6	8.0	05/11/2023 19:00:00	32.7	3217.8	8.0
05/09/2023 00:00:00	33.1	3185.8	8.2	05/10/2023 10:00:00	30.8	3083.2	8.1	05/11/2023 20:00:00	32.6	3189.5	8.0
05/09/2023 01:00:00	33.0	3191.1	8.2	05/10/2023 11:00:00	32.8	3118.5	8.0	05/11/2023 21:00:00	32.5	3197.5	8.0
05/09/2023 02:00:00	32.8	3155.3	8.2	05/10/2023 12:00:00	34.9	3153.7	8.0	05/11/2023 22:00:00	32.5	3174.6	8.0
05/09/2023 03:00:00	32.7	3173.5	8.2	05/10/2023 13:00:00	39.0	3175.1	8.1	05/11/2023 23:00:00	32.4	3151.1	8.0
05/09/2023 04:00:00	32.6	3167.1	8.2	05/10/2023 14:00:00	38.1	3192.2	7.9	05/12/2023 00:00:00	32.3	3145.2	7.9
05/09/2023 05:00:00	32.5	3164.9	8.2	05/10/2023 15:00:00	36.1	3206.1	7.7	05/12/2023 01:00:00	32.3	3129.2	7.9
05/09/2023 06:00:00	32.3	3162.3	8.2	05/10/2023 16:00:00	32.0	3211.4	7.5	05/12/2023 02:00:00	32.2	3122.2	7.9
05/09/2023 07:00:00	32.0	3155.9	8.2	05/10/2023 17:00:00	28.9	3204.5	7.6	05/12/2023 03:00:00	32.1	3117.4	7.9
05/09/2023 08:00:00	31.7	3163.9	8.2	05/10/2023 18:00:00	31.0	3178.3	7.9	05/12/2023 04:00:00	32.0	3103.0	7.9
05/09/2023 09:00:00	33.2	3177.2	6.3	05/10/2023 19:00:00	31.5	3161.7	7.8	05/12/2023 05:00:00	31.9	3094.4	7.9
05/09/2023 10:00:00	37.3	3191.1	6.7	05/10/2023 20:00:00	31.3	3151.1	7.9	05/12/2023 06:00:00	31.8	3085.9	7.9
05/09/2023 11:00:00	41.1	3205.5	6.6	05/10/2023 21:00:00	31.2	3142.5	7.8	05/12/2023 07:00:00	31.7	3082.7	7.9
05/09/2023 12:00:00	43.1	3218.9	6.7	05/10/2023 22:00:00	31.5	3137.2	7.8	05/12/2023 08:00:00	31.5	3072.5	7.9
05/09/2023 13:00:00	44.0	3228.0	6.9	05/10/2023 23:00:00	31.7	3116.3	7.8	05/12/2023 09:00:00	31.0	3060.8	8.0
05/09/2023 14:00:00	44.0	3236.0	6.9	05/11/2023 00:00:00	31.9	3115.8	7.8	05/12/2023 10:00:00	30.8	3045.3	8.0
05/09/2023 15:00:00	43.7	3242.4	7.2	05/11/2023 01:00:00	32.0	3111.5	7.8	05/12/2023 11:00:00	30.6	3037.3	8.0
05/09/2023 16:00:00	42.8	3245.0	6.8	05/11/2023 02:00:00	32.0	3105.1	7.8	05/12/2023 12:00:00	30.6	3036.8	8.0
05/09/2023 17:00:00	41.5	3244.5	6.6	05/11/2023 03:00:00	32.0	3096.6	7.8	05/12/2023 13:00:00	30.6	3052.3	8.0
05/09/2023 18:00:00	33.8	3244.0	8.0	05/11/2023 04:00:00	31.9	3098.7	7.9	05/12/2023 14:00:00	30.8	3073.6	8.0
05/09/2023 19:00:00	33.2	3234.9	8.0	05/11/2023 05:00:00	31.8	3098.7	7.9	05/12/2023 15:00:00	33.2	3084.3	6.1
05/09/2023 20:00:00	33.1	3225.3	8.0	05/11/2023 06:00:00	31.6	3096.0	7.9	05/12/2023 16:00:00	37.3	3109.4	6.4
05/09/2023 21:00:00	33.0	3216.7	7.9	05/11/2023 07:00:00	31.5	3093.4	7.9	05/12/2023 17:00:00	35.2	3137.2	6.4

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
05/12/2023 18:00:00	33.2	3148.4	6.4	05/14/2023 04:00:00	28.5	3102.5	7.5	05/15/2023 14:00:00	40.6	3170.8	7.0
05/12/2023 19:00:00	31.1	3144.1	6.6	05/14/2023 05:00:00	28.0	3099.8	7.5	05/15/2023 15:00:00	41.7	3178.3	7.1
05/12/2023 20:00:00	29.1	3124.3	6.8	05/14/2023 06:00:00	27.3	3097.1	7.5	05/15/2023 16:00:00	41.6	3184.2	7.2
05/12/2023 21:00:00	28.0	3112.6	6.9	05/14/2023 07:00:00	27.6	3080.0	7.5	05/15/2023 17:00:00	36.9	3189.5	7.2
05/12/2023 22:00:00	27.6	3097.6	6.9	05/14/2023 08:00:00	30.6	3081.1	7.7	05/15/2023 18:00:00	33.8	3187.4	7.3
05/12/2023 23:00:00	27.4	3087.5	7.0	05/14/2023 09:00:00	28.6	3079.0	7.7	05/15/2023 19:00:00	30.8	3181.0	7.5
05/13/2023 00:00:00	27.0	3075.8	7.2	05/14/2023 10:00:00	32.6	3096.0	7.8	05/15/2023 20:00:00	29.7	3170.3	7.6
05/13/2023 01:00:00	26.9	3070.4	7.2	05/14/2023 11:00:00	36.7	3131.3	7.8	05/15/2023 21:00:00	29.1	3113.7	7.7
05/13/2023 02:00:00	26.8	3062.4	7.4	05/14/2023 12:00:00	38.8	3160.7	7.7	05/15/2023 22:00:00	28.1	3092.3	7.8
05/13/2023 03:00:00	26.8	3057.1	7.3	05/14/2023 13:00:00	40.6	3172.4	7.7	05/15/2023 23:00:00	28.2	3082.2	7.9
05/13/2023 04:00:00	26.9	3053.9	7.5	05/14/2023 14:00:00	41.1	3177.8	7.7	05/16/2023 00:00:00	28.3	3078.4	8.0
05/13/2023 05:00:00	27.2	3051.7	7.4	05/14/2023 15:00:00	40.5	3184.7	7.6	05/16/2023 01:00:00	27.7	3073.6	8.0
05/13/2023 06:00:00	26.9	3051.7	7.5	05/14/2023 16:00:00	40.5	3190.0	7.3	05/16/2023 02:00:00	24.6	3059.7	7.9
05/13/2023 07:00:00	26.8	3048.5	7.6	05/14/2023 17:00:00	37.8	3192.7	7.3	05/16/2023 03:00:00	31.1	3043.7	7.9
05/13/2023 08:00:00	31.9	3052.8	7.7	05/14/2023 18:00:00	34.7	3192.7	7.2	05/16/2023 04:00:00	30.8	3033.0	7.8
05/13/2023 09:00:00	34.0	3088.0	7.4	05/14/2023 19:00:00	31.7	3189.0	7.2	05/16/2023 05:00:00	30.5	3026.6	7.8
05/13/2023 10:00:00	36.0	3117.9	7.2	05/14/2023 20:00:00	30.6	3181.0	7.3	05/16/2023 06:00:00	30.2	3021.3	7.8
05/13/2023 11:00:00	39.1	3153.2	7.3	05/14/2023 21:00:00	31.6	3173.5	7.9	05/16/2023 07:00:00	29.8	3019.7	7.8
05/13/2023 12:00:00	40.3	3166.0	7.1	05/14/2023 22:00:00	31.7	3165.5	7.9	05/16/2023 08:00:00	30.1	3019.7	7.8
05/13/2023 13:00:00	41.3	3177.8	7.1	05/14/2023 23:00:00	31.7	3150.5	7.8	05/16/2023 09:00:00	30.4	3022.9	7.8
05/13/2023 14:00:00	31.0	3191.1	8.0	05/15/2023 00:00:00	31.8	3115.3	7.8	05/16/2023 10:00:00	30.6	3030.9	7.8
05/13/2023 15:00:00	31.1	3195.9	8.0	05/15/2023 01:00:00	31.7	3107.8	7.8	05/16/2023 11:00:00	30.4	3029.8	9.1
05/13/2023 16:00:00	31.4	3198.6	8.0	05/15/2023 02:00:00	31.4	3105.1	7.8	05/16/2023 12:00:00	37.8	527.2	9.6
05/13/2023 17:00:00	31.7	3200.7	8.0	05/15/2023 03:00:00	31.2	3091.8	7.8	05/16/2023 13:00:00	40.0	525.6	9.4
05/13/2023 18:00:00	31.7	3201.3	8.0	05/15/2023 04:00:00	31.0	3085.9	7.9	05/16/2023 14:00:00	41.1	530.4	9.2
05/13/2023 19:00:00	31.6	3198.6	8.0	05/15/2023 05:00:00	30.7	3073.1	7.9	05/16/2023 15:00:00	41.7	534.7	9.1
05/13/2023 20:00:00	31.3	3186.3	7.9	05/15/2023 06:00:00	30.4	3049.0	7.9	05/16/2023 16:00:00	42.1	537.4	8.9
05/13/2023 21:00:00	31.1	3178.8	7.9	05/15/2023 07:00:00	30.1	3040.5	7.9	05/16/2023 17:00:00	40.0	539.0	8.9
05/13/2023 22:00:00	30.8	3172.4	7.9	05/15/2023 08:00:00	30.2	3034.6	7.8	05/16/2023 18:00:00	35.9	538.4	8.9
05/13/2023 23:00:00	30.6	3163.3	7.9	05/15/2023 09:00:00	30.5	3037.8	7.8	05/16/2023 19:00:00	31.8	535.8	9.0
05/14/2023 00:00:00	30.4	3133.4	7.9	05/15/2023 10:00:00	30.6	3034.6	7.8	05/16/2023 20:00:00	30.0	529.9	9.1
05/14/2023 01:00:00	30.1	3108.9	7.9	05/15/2023 11:00:00	30.6	3049.6	7.9	05/16/2023 21:00:00	29.7	525.6	9.1
05/14/2023 02:00:00	29.8	3098.2	7.9	05/15/2023 12:00:00	37.8	3120.1	7.0	05/16/2023 22:00:00	29.2	520.8	9.0
05/14/2023 03:00:00	28.8	3088.6	7.6	05/15/2023 13:00:00	40.0	3155.3	7.1	05/16/2023 23:00:00	28.9	519.2	9.0

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
05/17/2023 00:00:00	29.3	516.5	8.9	05/18/2023 10:00:00	36.2	2957.7	7.2	05/19/2023 20:00:00	31.0	3015.9	8.0
05/17/2023 01:00:00	29.5	517.6	8.9	05/18/2023 11:00:00	38.2	2968.9	7.1	05/19/2023 21:00:00	30.8	3013.3	8.0
05/17/2023 02:00:00	29.1	514.9	8.8	05/18/2023 12:00:00	39.2	2980.2	7.0	05/19/2023 22:00:00	30.6	3012.7	8.0
05/17/2023 03:00:00	28.5	513.3	8.8	05/18/2023 13:00:00	41.1	2992.4	7.0	05/19/2023 23:00:00	30.4	3010.6	8.0
05/17/2023 04:00:00	28.2	513.3	8.8	05/18/2023 14:00:00	40.7	3001.0	7.0	05/20/2023 00:00:00	30.2	3011.7	8.0
05/17/2023 05:00:00	28.2	511.7	8.8	05/18/2023 15:00:00	36.3	3044.2	7.8	05/20/2023 01:00:00	30.0	3005.8	8.0
05/17/2023 06:00:00	27.6	508.5	8.8	05/18/2023 16:00:00	40.0	3079.5	7.7	05/20/2023 02:00:00	29.1	44.4	8.2
05/17/2023 07:00:00	28.1	506.9	8.8	05/18/2023 17:00:00	40.7	3101.4	7.6	05/20/2023 03:00:00	28.7	19.3	8.1
05/17/2023 08:00:00	29.0	505.3	8.8	05/18/2023 18:00:00	37.9	3109.4	7.6	05/20/2023 04:00:00	28.3	15.6	8.1
05/17/2023 09:00:00	31.1	508.0	8.7	05/18/2023 19:00:00	32.8	3110.5	7.5	05/20/2023 05:00:00	28.1	12.9	8.0
05/17/2023 10:00:00	31.1	2641.6	8.3	05/18/2023 20:00:00	31.8	3106.2	7.5	05/20/2023 06:00:00	27.5	2.8	8.0
05/17/2023 11:00:00	31.1	2785.8	7.8	05/18/2023 21:00:00	30.8	3097.1	7.5	05/20/2023 07:00:00	28.8	0.1	8.1
05/17/2023 12:00:00	31.5	2789.0	7.8	05/18/2023 22:00:00	30.2	3087.0	7.5	05/20/2023 08:00:00	31.9	30.0	8.3
05/17/2023 13:00:00	31.8	2788.4	7.8	05/18/2023 23:00:00	29.8	3082.7	7.5	05/20/2023 09:00:00	32.9	45.5	8.2
05/17/2023 14:00:00	31.8	2790.6	7.9	05/19/2023 00:00:00	29.6	3076.8	7.5	05/20/2023 10:00:00	36.0	51.4	8.3
05/17/2023 15:00:00	31.8	2793.2	7.9	05/19/2023 01:00:00	28.9	3073.6	7.5	05/20/2023 11:00:00	37.0	57.3	8.3
05/17/2023 16:00:00	31.7	2790.6	8.0	05/19/2023 02:00:00	28.9	3068.3	7.4	05/20/2023 12:00:00	39.0	64.7	7.8
05/17/2023 17:00:00	31.6	2791.6	8.0	05/19/2023 03:00:00	28.9	3064.5	7.4	05/20/2023 13:00:00	40.1	67.4	7.8
05/17/2023 18:00:00	31.4	2791.6	8.0	05/19/2023 04:00:00	28.4	3062.4	7.4	05/20/2023 14:00:00	40.9	70.6	7.7
05/17/2023 19:00:00	31.1	2792.2	8.0	05/19/2023 05:00:00	28.1	3059.7	7.4	05/20/2023 15:00:00	41.0	72.2	7.6
05/17/2023 20:00:00	30.7	2793.2	8.0	05/19/2023 06:00:00	27.5	3052.8	7.4	05/20/2023 16:00:00	41.4	73.3	7.6
05/17/2023 21:00:00	30.9	2800.2	7.9	05/19/2023 07:00:00	29.0	3054.9	7.3	05/20/2023 17:00:00	40.0	73.8	7.6
05/17/2023 22:00:00	31.3	2819.9	7.8	05/19/2023 08:00:00	32.1	3054.4	7.3	05/20/2023 18:00:00	36.9	73.3	7.6
05/17/2023 23:00:00	31.6	2846.6	7.8	05/19/2023 09:00:00	34.1	3054.9	7.2	05/20/2023 19:00:00	32.8	69.0	7.6
05/18/2023 00:00:00	31.8	2877.1	7.8	05/19/2023 10:00:00	35.1	3062.9	7.2	05/20/2023 20:00:00	31.8	64.7	7.8
05/18/2023 01:00:00	32.1	2908.1	7.8	05/19/2023 11:00:00	36.7	3074.1	7.1	05/20/2023 21:00:00	30.8	61.5	7.9
05/18/2023 02:00:00	32.3	2938.0	7.8	05/19/2023 12:00:00	38.7	3088.0	7.1	05/20/2023 22:00:00	30.0	57.8	8.0
05/18/2023 03:00:00	32.2	2965.7	7.9	05/19/2023 13:00:00	40.7	3097.6	7.0	05/20/2023 23:00:00	29.5	54.6	8.1
05/18/2023 04:00:00	31.7	2962.5	7.9	05/19/2023 14:00:00	40.4	3106.7	7.0	05/21/2023 00:00:00	30.2	2946.0	8.3
05/18/2023 05:00:00	29.7	2954.5	7.9	05/19/2023 15:00:00	41.4	3113.7	7.0	05/21/2023 01:00:00	30.8	2953.5	8.0
05/18/2023 06:00:00	28.6	2947.6	7.9	05/19/2023 16:00:00	41.7	3120.1	7.0	05/21/2023 02:00:00	30.8	2957.2	8.0
05/18/2023 07:00:00	29.0	2939.0	7.7	05/19/2023 17:00:00	40.0	3122.7	7.0	05/21/2023 03:00:00	30.6	2952.9	8.0
05/18/2023 08:00:00	32.1	2942.8	7.4	05/19/2023 18:00:00	31.5	3006.9	8.0	05/21/2023 04:00:00	30.4	2955.1	8.0
05/18/2023 09:00:00	34.1	2949.7	7.3	05/19/2023 19:00:00	31.2	3015.4	8.0	05/21/2023 05:00:00	30.3	2951.8	8.0

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
05/21/2023 06:00:00	30.1	2949.7	8.0	05/22/2023 16:00:00	40.0	114.9	8.0	05/24/2023 02:00:00	30.9	3218.9	8.3
05/21/2023 07:00:00	30.3	2943.3	8.0	05/22/2023 17:00:00	36.9	116.0	7.7	05/24/2023 03:00:00	31.1	3198.0	8.3
05/21/2023 08:00:00	30.8	2954.5	8.0	05/22/2023 18:00:00	31.7	3205.5	8.2	05/24/2023 04:00:00	28.9	22.0	8.2
05/21/2023 09:00:00	31.2	3021.8	8.0	05/22/2023 19:00:00	31.7	3225.8	8.2	05/24/2023 05:00:00	26.8	0.1	8.1
05/21/2023 10:00:00	31.7	3040.5	8.0	05/22/2023 20:00:00	31.8	3246.6	8.2	05/24/2023 06:00:00	25.8	0.1	8.1
05/21/2023 11:00:00	32.1	3061.3	8.0	05/22/2023 21:00:00	31.6	3211.9	8.2	05/24/2023 07:00:00	26.8	0.1	8.1
05/21/2023 12:00:00	32.2	3059.2	8.1	05/22/2023 22:00:00	31.3	3212.5	8.2	05/24/2023 08:00:00	28.9	0.1	8.0
05/21/2023 13:00:00	32.3	3058.1	8.1	05/22/2023 23:00:00	31.5	3189.0	8.2	05/24/2023 09:00:00	30.9	0.1	8.0
05/21/2023 14:00:00	37.4	126.7	8.1	05/23/2023 00:00:00	30.3	7.1	8.2	05/24/2023 10:00:00	35.0	0.7	8.0
05/21/2023 15:00:00	41.1	110.7	8.1	05/23/2023 01:00:00	29.3	0.1	8.3	05/24/2023 11:00:00	37.1	35.4	7.9
05/21/2023 16:00:00	42.1	112.8	7.5	05/23/2023 02:00:00	28.6	0.1	8.3	05/24/2023 12:00:00	34.0	28.4	7.8
05/21/2023 17:00:00	39.0	111.2	7.4	05/23/2023 03:00:00	28.2	0.1	8.3	05/24/2023 13:00:00	30.9	0.1	7.8
05/21/2023 18:00:00	35.9	108.5	7.4	05/23/2023 04:00:00	28.1	0.1	8.3	05/24/2023 14:00:00	30.4	0.1	7.7
05/21/2023 19:00:00	32.6	105.3	7.4	05/23/2023 05:00:00	27.8	0.1	8.3	05/24/2023 15:00:00	30.6	0.7	7.7
05/21/2023 20:00:00	30.6	101.6	7.5	05/23/2023 06:00:00	27.8	0.1	8.3	05/24/2023 16:00:00	31.0	0.7	7.8
05/21/2023 21:00:00	30.0	99.5	7.5	05/23/2023 07:00:00	27.9	0.1	8.2	05/24/2023 17:00:00	32.0	20.9	7.8
05/21/2023 22:00:00	30.0	97.8	7.5	05/23/2023 08:00:00	31.0	0.7	8.3	05/24/2023 18:00:00	31.3	34.3	7.8
05/21/2023 23:00:00	29.9	95.7	7.4	05/23/2023 09:00:00	33.0	19.3	8.3	05/24/2023 19:00:00	30.2	27.4	7.7
05/22/2023 00:00:00	29.8	95.2	7.4	05/23/2023 10:00:00	32.9	45.0	8.2	05/24/2023 20:00:00	29.2	2.3	7.7
05/22/2023 01:00:00	29.5	92.0	7.4	05/23/2023 11:00:00	33.4	55.7	8.2	05/24/2023 21:00:00	28.9	0.7	7.7
05/22/2023 02:00:00	29.5	92.5	7.5	05/23/2023 12:00:00	34.4	65.3	8.1	05/24/2023 22:00:00	28.2	0.1	7.7
05/22/2023 03:00:00	29.4	86.6	7.5	05/23/2023 13:00:00	34.5	67.9	8.1	05/24/2023 23:00:00	27.8	0.1	7.7
05/22/2023 04:00:00	28.9	75.4	7.6	05/23/2023 14:00:00	34.9	71.1	8.1	05/25/2023 00:00:00	27.6	0.1	7.7
05/22/2023 05:00:00	29.4	77.0	7.6	05/23/2023 15:00:00	36.0	74.4	8.1	05/25/2023 01:00:00	27.5	0.1	7.7
05/22/2023 06:00:00	29.5	84.5	7.6	05/23/2023 16:00:00	36.4	75.4	8.0	05/25/2023 02:00:00	27.5	0.1	7.7
05/22/2023 07:00:00	29.5	88.2	7.7	05/23/2023 17:00:00	36.6	77.6	8.0	05/25/2023 03:00:00	27.6	0.7	7.7
05/22/2023 08:00:00	30.4	84.5	7.8	05/23/2023 18:00:00	34.5	78.6	7.9	05/25/2023 04:00:00	27.3	0.1	7.7
05/22/2023 09:00:00	32.5	94.1	7.8	05/23/2023 19:00:00	31.4	75.4	7.9	05/25/2023 05:00:00	27.3	0.1	7.7
05/22/2023 10:00:00	36.6	103.2	7.8	05/23/2023 20:00:00	30.4	69.0	7.8	05/25/2023 06:00:00	27.4	0.1	7.7
05/22/2023 11:00:00	37.6	107.5	7.7	05/23/2023 21:00:00	29.8	58.3	7.9	05/25/2023 07:00:00	27.5	0.1	7.7
05/22/2023 12:00:00	38.6	110.7	7.6	05/23/2023 22:00:00	31.5	3272.8	8.1	05/25/2023 08:00:00	28.5	0.1	7.7
05/22/2023 13:00:00	39.9	112.3	7.8	05/23/2023 23:00:00	31.3	3237.6	8.2	05/25/2023 09:00:00	29.5	0.1	7.7
05/22/2023 14:00:00	38.8	112.3	7.7	05/24/2023 00:00:00	31.0	3211.4	8.3	05/25/2023 10:00:00	32.6	6.0	7.7
05/22/2023 15:00:00	39.2	113.3	7.8	05/24/2023 01:00:00	30.6	3215.1	8.3	05/25/2023 11:00:00	35.7	41.8	7.6

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
05/25/2023 12:00:00	30.3	3158.0	7.6	05/26/2023 22:00:00	30.0	3230.6	7.4	05/28/2023 08:00:00	24.6	3271.2	7.6
05/25/2023 13:00:00	30.4	3183.1	7.5	05/26/2023 23:00:00	29.9	3225.8	7.4	05/28/2023 09:00:00	26.7	3257.9	7.7
05/25/2023 14:00:00	30.8	3200.7	7.5	05/27/2023 00:00:00	29.7	3221.5	7.5	05/28/2023 10:00:00	27.3	3262.7	7.7
05/25/2023 15:00:00	31.0	3217.8	7.5	05/27/2023 01:00:00	29.6	3196.4	7.5	05/28/2023 11:00:00	29.4	3264.3	7.7
05/25/2023 16:00:00	31.1	3221.5	7.4	05/27/2023 02:00:00	29.6	3193.8	7.5	05/28/2023 12:00:00	33.5	3304.3	7.7
05/25/2023 17:00:00	30.9	3197.5	7.3	05/27/2023 03:00:00	29.4	3157.5	7.5	05/28/2023 13:00:00	36.6	3316.1	7.7
05/25/2023 18:00:00	30.8	3203.9	7.3	05/27/2023 04:00:00	27.4	3170.8	7.5	05/28/2023 14:00:00	38.6	3339.6	7.6
05/25/2023 19:00:00	30.6	3180.4	7.3	05/27/2023 05:00:00	26.3	3135.6	7.5	05/28/2023 15:00:00	39.7	3356.1	7.5
05/25/2023 20:00:00	30.3	3174.0	7.3	05/27/2023 06:00:00	26.5	3122.2	7.5	05/28/2023 16:00:00	38.7	3366.8	7.2
05/25/2023 21:00:00	30.1	3167.1	7.4	05/27/2023 07:00:00	26.5	3109.4	7.5	05/28/2023 17:00:00	35.6	3370.5	7.2
05/25/2023 22:00:00	29.9	3153.2	7.4	05/27/2023 08:00:00	27.5	3106.7	7.6	05/28/2023 18:00:00	33.5	3365.7	7.2
05/25/2023 23:00:00	29.8	3144.6	7.5	05/27/2023 09:00:00	30.5	3218.9	7.7	05/28/2023 19:00:00	30.4	3358.8	7.2
05/26/2023 00:00:00	30.5	3131.8	7.5	05/27/2023 10:00:00	30.8	3289.4	7.7	05/28/2023 20:00:00	29.7	3347.1	7.3
05/26/2023 01:00:00	31.1	3122.7	7.5	05/27/2023 11:00:00	31.2	3307.5	7.5	05/28/2023 21:00:00	29.7	3340.6	7.4
05/26/2023 02:00:00	31.2	3108.9	7.5	05/27/2023 12:00:00	31.5	3321.4	7.4	05/28/2023 22:00:00	29.2	3323.6	7.4
05/26/2023 03:00:00	30.9	3099.8	7.5	05/27/2023 13:00:00	31.4	3325.2	7.4	05/28/2023 23:00:00	28.9	3303.8	7.4
05/26/2023 04:00:00	28.8	3097.6	7.6	05/27/2023 14:00:00	31.4	3334.8	7.4	05/29/2023 00:00:00	28.4	3309.1	7.4
05/26/2023 05:00:00	27.8	3117.9	7.7	05/27/2023 15:00:00	31.3	3321.4	7.3	05/29/2023 01:00:00	26.3	3273.9	7.4
05/26/2023 06:00:00	27.1	3099.8	7.7	05/27/2023 16:00:00	31.2	3335.3	7.3	05/29/2023 02:00:00	25.3	3260.0	7.4
05/26/2023 07:00:00	28.0	3093.4	7.7	05/27/2023 17:00:00	31.1	3332.1	7.3	05/29/2023 03:00:00	24.5	3233.8	7.4
05/26/2023 08:00:00	31.1	3132.4	7.7	05/27/2023 18:00:00	30.8	3320.9	7.2	05/29/2023 04:00:00	24.6	3225.3	7.5
05/26/2023 09:00:00	35.2	3167.6	7.8	05/27/2023 19:00:00	31.1	3302.2	7.1	05/29/2023 05:00:00	28.9	3181.5	7.8
05/26/2023 10:00:00	36.2	3193.2	7.7	05/27/2023 20:00:00	31.5	3310.2	7.2	05/29/2023 06:00:00	29.8	3216.7	7.9
05/26/2023 11:00:00	37.9	3213.0	7.6	05/27/2023 21:00:00	31.8	3326.2	7.3	05/29/2023 07:00:00	30.0	3221.0	8.0
05/26/2023 12:00:00	38.9	3223.1	7.5	05/27/2023 22:00:00	31.5	3328.4	7.3	05/29/2023 08:00:00	29.9	3299.5	8.1
05/26/2023 13:00:00	39.8	3234.9	7.5	05/27/2023 23:00:00	31.2	3313.9	7.4	05/29/2023 09:00:00	29.8	3312.3	8.2
05/26/2023 14:00:00	40.0	3245.6	7.4	05/28/2023 00:00:00	30.9	3304.9	7.4	05/29/2023 10:00:00	29.6	3340.1	8.3
05/26/2023 15:00:00	40.9	3253.6	7.3	05/28/2023 01:00:00	30.6	3300.1	7.4	05/29/2023 11:00:00	29.5	3358.3	8.2
05/26/2023 16:00:00	41.7	3257.9	7.2	05/28/2023 02:00:00	29.6	3297.4	7.4	05/29/2023 12:00:00	34.6	3319.8	8.2
05/26/2023 17:00:00	39.5	3258.4	7.2	05/28/2023 03:00:00	29.0	3283.5	7.5	05/29/2023 13:00:00	34.3	3337.4	8.0
05/26/2023 18:00:00	37.5	3260.0	7.2	05/28/2023 04:00:00	28.2	3266.9	7.5	05/29/2023 14:00:00	28.2	3325.7	7.9
05/26/2023 19:00:00	33.4	3257.9	7.1	05/28/2023 05:00:00	28.3	3269.6	7.5	05/29/2023 15:00:00	26.1	3309.7	7.8
05/26/2023 20:00:00	31.3	3249.3	7.2	05/28/2023 06:00:00	26.0	3299.5	7.5	05/29/2023 16:00:00	25.8	3282.4	7.9
05/26/2023 21:00:00	30.3	3240.2	7.2	05/28/2023 07:00:00	25.0	3283.5	7.5	05/29/2023 17:00:00	25.4	3270.7	8.0

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
05/29/2023 18:00:00	25.8	3264.8	8.1	05/31/2023 04:00:00	27.8	3216.7	8.1	06/01/2023 14:00:00	40.0	3339.0	7.8
05/29/2023 19:00:00	25.7	3272.8	8.1	05/31/2023 05:00:00	27.4	3213.0	8.1	06/01/2023 15:00:00	40.9	3341.7	7.8
05/29/2023 20:00:00	25.5	3281.4	8.1	05/31/2023 06:00:00	27.4	3214.6	8.1	06/01/2023 16:00:00	41.1	3345.4	7.8
05/29/2023 21:00:00	25.7	3287.8	8.1	05/31/2023 07:00:00	27.8	3210.3	8.1	06/01/2023 17:00:00	37.9	3349.2	7.7
05/29/2023 22:00:00	26.0	3291.0	8.2	05/31/2023 08:00:00	29.9	3210.9	8.2	06/01/2023 18:00:00	34.9	3346.5	7.6
05/29/2023 23:00:00	25.9	3295.8	8.2	05/31/2023 09:00:00	33.0	3219.4	8.2	06/01/2023 19:00:00	31.8	3338.0	7.6
05/30/2023 00:00:00	25.9	3292.6	8.2	05/31/2023 10:00:00	34.0	3254.7	8.1	06/01/2023 20:00:00	30.7	3301.1	7.7
05/30/2023 01:00:00	26.1	3293.6	8.2	05/31/2023 11:00:00	34.2	3279.2	8.1	06/01/2023 21:00:00	29.9	3265.9	7.8
05/30/2023 02:00:00	25.1	3299.0	8.1	05/31/2023 12:00:00	35.2	3314.5	8.1	06/01/2023 22:00:00	29.5	3233.8	7.9
05/30/2023 03:00:00	24.8	3300.1	8.1	05/31/2023 13:00:00	37.3	3323.6	8.1	06/01/2023 23:00:00	29.7	3232.2	8.0
05/30/2023 04:00:00	24.6	3294.2	8.1	05/31/2023 14:00:00	37.8	3328.9	8.0	06/02/2023 00:00:00	29.8	3245.0	8.0
05/30/2023 05:00:00	24.6	3290.4	8.1	05/31/2023 15:00:00	38.8	3336.9	7.9	06/02/2023 01:00:00	30.8	3246.1	8.1
05/30/2023 06:00:00	24.8	3287.8	8.1	05/31/2023 16:00:00	38.5	3341.2	7.8	06/02/2023 02:00:00	31.4	3244.5	8.2
05/30/2023 07:00:00	28.9	3268.0	8.1	05/31/2023 17:00:00	38.7	3345.4	7.8	06/02/2023 03:00:00	31.1	3233.3	8.2
05/30/2023 08:00:00	29.2	3289.4	8.2	05/31/2023 18:00:00	35.9	3348.7	7.7	06/02/2023 04:00:00	30.8	3232.2	8.2
05/30/2023 09:00:00	29.5	3292.6	8.4	05/31/2023 19:00:00	31.8	3340.6	7.6	06/02/2023 05:00:00	29.4	3179.9	8.2
05/30/2023 10:00:00	29.6	3271.7	8.4	05/31/2023 20:00:00	29.7	3323.0	7.7	06/02/2023 06:00:00	28.4	3232.2	8.2
05/30/2023 11:00:00	29.8	3236.5	8.2	05/31/2023 21:00:00	29.5	3287.8	7.8	06/02/2023 07:00:00	28.9	3219.9	8.2
05/30/2023 12:00:00	29.8	3282.4	7.8	05/31/2023 22:00:00	29.6	3252.5	7.8	06/02/2023 08:00:00	31.0	3224.2	8.3
05/30/2023 13:00:00	29.9	3302.7	7.7	05/31/2023 23:00:00	30.6	3241.3	7.7	06/02/2023 09:00:00	35.1	3294.7	8.3
05/30/2023 14:00:00	30.0	3338.0	7.8	06/01/2023 00:00:00	30.8	3237.0	7.7	06/02/2023 10:00:00	37.1	3318.2	8.2
05/30/2023 15:00:00	30.1	3347.1	7.4	06/01/2023 01:00:00	30.8	3228.5	7.7	06/02/2023 11:00:00	37.7	3330.0	8.2
05/30/2023 16:00:00	30.1	3351.3	7.4	06/01/2023 02:00:00	30.6	3225.8	7.7	06/02/2023 12:00:00	39.4	3338.0	8.1
05/30/2023 17:00:00	29.9	3326.2	7.5	06/01/2023 03:00:00	30.4	3224.2	7.8	06/02/2023 13:00:00	40.0	3346.0	8.0
05/30/2023 18:00:00	29.4	3262.1	7.7	06/01/2023 04:00:00	30.2	3235.4	7.7	06/02/2023 14:00:00	40.9	3355.6	8.0
05/30/2023 19:00:00	29.3	3272.8	7.9	06/01/2023 05:00:00	30.0	3224.8	7.8	06/02/2023 15:00:00	41.5	3362.5	7.9
05/30/2023 20:00:00	30.3	3240.8	7.9	06/01/2023 06:00:00	29.8	3216.7	7.8	06/02/2023 16:00:00	41.1	3364.7	7.9
05/30/2023 21:00:00	30.7	3232.2	7.9	06/01/2023 07:00:00	29.5	3206.1	7.8	06/02/2023 17:00:00	39.0	3365.2	7.8
05/30/2023 22:00:00	30.5	3239.7	7.9	06/01/2023 08:00:00	29.3	3194.8	8.0	06/02/2023 18:00:00	35.9	3360.4	7.8
05/30/2023 23:00:00	30.0	3160.1	7.9	06/01/2023 09:00:00	30.2	3219.4	8.2	06/02/2023 19:00:00	31.8	3351.9	7.7
05/31/2023 00:00:00	29.0	3176.7	8.1	06/01/2023 10:00:00	36.4	3289.9	8.3	06/02/2023 20:00:00	31.1	3331.6	7.8
05/31/2023 01:00:00	28.5	3202.3	8.1	06/01/2023 11:00:00	37.4	3304.3	8.2	06/02/2023 21:00:00	31.9	3332.6	7.8
05/31/2023 02:00:00	28.3	3218.9	8.1	06/01/2023 12:00:00	38.4	3316.6	8.1	06/02/2023 22:00:00	32.2	3262.1	7.9
05/31/2023 03:00:00	28.4	3219.4	8.2	06/01/2023 13:00:00	40.0	3329.4	7.9	06/02/2023 23:00:00	32.2	3248.3	8.0

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
06/03/2023 00:00:00	32.0	3245.6	8.0	06/04/2023 10:00:00	37.3	3268.5	7.8	06/05/2023 20:00:00	28.6	3241.3	7.3
06/03/2023 01:00:00	31.7	3242.9	8.0	06/04/2023 11:00:00	38.0	3285.6	7.8	06/05/2023 21:00:00	28.4	3228.5	7.3
06/03/2023 02:00:00	31.4	3218.3	8.0	06/04/2023 12:00:00	38.5	3295.2	7.7	06/05/2023 22:00:00	28.7	3220.5	7.3
06/03/2023 03:00:00	31.7	3216.2	8.0	06/04/2023 13:00:00	40.0	3304.3	7.6	06/05/2023 23:00:00	28.8	3225.8	7.3
06/03/2023 04:00:00	31.8	3203.4	8.1	06/04/2023 14:00:00	40.0	3312.3	7.6	06/06/2023 00:00:00	28.9	3223.7	7.3
06/03/2023 05:00:00	31.5	3186.3	8.1	06/04/2023 15:00:00	39.5	3313.4	7.5	06/06/2023 01:00:00	28.5	3227.4	7.3
06/03/2023 06:00:00	31.2	3168.1	8.1	06/04/2023 16:00:00	36.4	3314.5	7.5	06/06/2023 02:00:00	27.8	3216.2	7.3
06/03/2023 07:00:00	30.9	3161.2	7.4	06/04/2023 17:00:00	36.1	3307.0	7.5	06/06/2023 03:00:00	28.9	3194.8	6.6
06/03/2023 08:00:00	31.5	3161.7	7.2	06/04/2023 18:00:00	35.1	3305.9	7.6	06/06/2023 04:00:00	29.3	3045.8	6.7
06/03/2023 09:00:00	35.6	3191.6	7.2	06/04/2023 19:00:00	32.0	3303.8	7.6	06/06/2023 05:00:00	29.3	2833.8	6.7
06/03/2023 10:00:00	37.7	3226.9	7.0	06/04/2023 20:00:00	31.0	3291.5	7.6	06/06/2023 06:00:00	29.3	2841.3	6.7
06/03/2023 11:00:00	38.6	3262.1	7.1	06/04/2023 21:00:00	30.1	3289.4	7.6	06/06/2023 07:00:00	29.1	2822.6	6.7
06/03/2023 12:00:00	39.6	3281.9	7.1	06/04/2023 22:00:00	29.7	3286.2	7.7	06/06/2023 08:00:00	29.1	2806.6	6.7
06/03/2023 13:00:00	40.5	3293.6	7.2	06/04/2023 23:00:00	29.5	3282.4	7.7	06/06/2023 09:00:00	29.2	2798.0	6.7
06/03/2023 14:00:00	41.5	3302.7	7.3	06/05/2023 00:00:00	29.1	3278.2	7.7	06/06/2023 10:00:00	29.2	2762.8	6.7
06/03/2023 15:00:00	41.7	3310.7	7.2	06/05/2023 01:00:00	29.0	3269.6	7.7	06/06/2023 11:00:00	29.5	2727.5	6.8
06/03/2023 16:00:00	41.1	3315.0	7.2	06/05/2023 02:00:00	28.5	3268.0	7.7	06/06/2023 12:00:00	29.8	2744.6	6.9
06/03/2023 17:00:00	39.3	3315.0	7.3	06/05/2023 03:00:00	28.4	3261.6	7.6	06/06/2023 13:00:00	30.4	2779.9	6.9
06/03/2023 18:00:00	37.3	3316.1	7.3	06/05/2023 04:00:00	28.0	3226.4	7.6	06/06/2023 14:00:00	30.4	2815.1	6.9
06/03/2023 19:00:00	32.1	3310.7	7.3	06/05/2023 05:00:00	27.8	3215.1	7.6	06/06/2023 15:00:00	30.4	2850.9	6.9
06/03/2023 20:00:00	31.1	3301.7	7.4	06/05/2023 06:00:00	27.8	3207.7	7.6	06/06/2023 16:00:00	30.5	2863.2	6.9
06/03/2023 21:00:00	30.2	3289.4	7.5	06/05/2023 07:00:00	28.6	3190.0	7.6	06/06/2023 17:00:00	30.3	2870.1	6.8
06/03/2023 22:00:00	29.7	3218.9	7.6	06/05/2023 08:00:00	32.7	3197.5	7.7	06/06/2023 18:00:00	30.2	2850.4	6.8
06/03/2023 23:00:00	29.4	3202.3	7.7	06/05/2023 09:00:00	33.7	3220.5	7.6	06/06/2023 19:00:00	30.0	2846.1	6.6
06/04/2023 00:00:00	28.9	3195.9	7.7	06/05/2023 10:00:00	35.0	3241.8	7.6	06/06/2023 20:00:00	29.1	2841.8	6.6
06/04/2023 01:00:00	28.9	3219.4	7.8	06/05/2023 11:00:00	36.0	3260.5	7.5	06/06/2023 21:00:00	29.0	2838.1	6.5
06/04/2023 02:00:00	29.0	3214.6	7.8	06/05/2023 12:00:00	37.1	3283.5	7.5	06/06/2023 22:00:00	28.5	2824.7	6.5
06/04/2023 03:00:00	28.9	3212.5	7.8	06/05/2023 13:00:00	36.9	3295.2	7.3	06/06/2023 23:00:00	28.2	2819.4	6.5
06/04/2023 04:00:00	28.6	3193.2	7.8	06/05/2023 14:00:00	33.8	3302.2	7.3	06/07/2023 00:00:00	28.2	2817.8	6.5
06/04/2023 05:00:00	28.2	3188.4	7.9	06/05/2023 15:00:00	30.0	3302.7	7.3	06/07/2023 01:00:00	28.3	2810.9	6.6
06/04/2023 06:00:00	28.0	3187.4	7.9	06/05/2023 16:00:00	30.0	3267.5	7.2	06/07/2023 02:00:00	28.1	2814.1	6.6
06/04/2023 07:00:00	28.1	3183.1	7.9	06/05/2023 17:00:00	31.0	3253.1	7.3	06/07/2023 03:00:00	28.0	2799.1	6.6
06/04/2023 08:00:00	33.2	3200.2	7.9	06/05/2023 18:00:00	31.1	3274.4	7.3	06/07/2023 04:00:00	27.8	2799.6	6.6
06/04/2023 09:00:00	35.3	3233.3	7.9	06/05/2023 19:00:00	29.4	3251.5	7.3	06/07/2023 05:00:00	27.8	2799.1	6.7

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
06/07/2023 06:00:00	27.6	2799.6	6.7	06/08/2023 16:00:00	35.0	2971.1	7.1	06/10/2023 02:00:00	30.7	3107.3	8.1
06/07/2023 07:00:00	27.7	2799.1	6.7	06/08/2023 17:00:00	34.0	2966.3	7.0	06/10/2023 03:00:00	30.6	3112.1	8.1
06/07/2023 08:00:00	30.8	2801.2	6.8	06/08/2023 18:00:00	31.9	2965.2	7.0	06/10/2023 04:00:00	30.4	3091.8	8.1
06/07/2023 09:00:00	32.8	2807.7	6.8	06/08/2023 19:00:00	29.9	2959.9	7.0	06/10/2023 05:00:00	30.2	3076.3	8.1
06/07/2023 10:00:00	33.8	2829.6	6.8	06/08/2023 20:00:00	29.1	2956.7	6.9	06/10/2023 06:00:00	28.9	3.3	8.1
06/07/2023 11:00:00	33.8	2844.0	6.7	06/08/2023 21:00:00	29.0	2950.2	7.1	06/10/2023 07:00:00	28.0	0.1	8.1
06/07/2023 12:00:00	35.9	2870.7	6.8	06/08/2023 22:00:00	28.9	2944.9	7.2	06/10/2023 08:00:00	29.1	0.1	8.1
06/07/2023 13:00:00	35.9	2887.8	6.7	06/08/2023 23:00:00	28.4	2912.3	7.1	06/10/2023 09:00:00	32.1	0.1	8.0
06/07/2023 14:00:00	37.2	2884.6	6.7	06/09/2023 00:00:00	27.7	2900.0	7.2	06/10/2023 10:00:00	36.2	0.1	7.9
06/07/2023 15:00:00	39.2	2897.9	6.7	06/09/2023 01:00:00	27.8	2900.6	7.2	06/10/2023 11:00:00	35.2	0.1	7.9
06/07/2023 16:00:00	36.2	2904.9	6.5	06/09/2023 02:00:00	26.8	2883.5	7.3	06/10/2023 12:00:00	30.9	0.1	7.8
06/07/2023 17:00:00	33.1	2911.8	6.4	06/09/2023 03:00:00	26.9	2875.5	7.3	06/10/2023 13:00:00	31.9	0.1	7.8
06/07/2023 18:00:00	31.0	2907.5	6.3	06/09/2023 04:00:00	27.1	2870.7	7.4	06/10/2023 14:00:00	32.9	0.1	7.8
06/07/2023 19:00:00	30.0	2894.2	6.4	06/09/2023 05:00:00	27.5	2873.3	7.4	06/10/2023 15:00:00	30.9	0.1	7.8
06/07/2023 20:00:00	29.0	2865.9	6.4	06/09/2023 06:00:00	27.5	2873.3	7.4	06/10/2023 16:00:00	30.3	0.1	7.8
06/07/2023 21:00:00	28.6	2849.3	6.9	06/09/2023 07:00:00	27.6	2863.7	7.4	06/10/2023 17:00:00	30.3	0.1	7.8
06/07/2023 22:00:00	29.6	2842.4	7.9	06/09/2023 08:00:00	29.7	2853.0	8.0	06/10/2023 18:00:00	29.3	0.1	7.8
06/07/2023 23:00:00	30.0	2831.2	7.9	06/09/2023 09:00:00	30.2	2841.8	7.8	06/10/2023 19:00:00	28.3	0.1	7.8
06/08/2023 00:00:00	30.3	2824.2	7.9	06/09/2023 10:00:00	30.3	2839.7	7.8	06/10/2023 20:00:00	27.4	0.1	7.8
06/08/2023 01:00:00	30.4	2819.4	7.9	06/09/2023 11:00:00	30.4	2852.5	7.8	06/10/2023 21:00:00	29.5	0.1	8.0
06/08/2023 02:00:00	30.4	2820.5	7.9	06/09/2023 12:00:00	30.4	2839.7	7.8	06/10/2023 22:00:00	30.4	3112.6	8.0
06/08/2023 03:00:00	30.3	2845.6	7.9	06/09/2023 13:00:00	30.5	2849.3	7.8	06/10/2023 23:00:00	30.2	3101.4	8.0
06/08/2023 04:00:00	30.1	2826.3	7.9	06/09/2023 14:00:00	30.6	2854.7	7.7	06/11/2023 00:00:00	30.0	3087.5	8.0
06/08/2023 05:00:00	30.0	2814.1	7.9	06/09/2023 15:00:00	30.7	3096.6	8.1	06/11/2023 01:00:00	29.8	3082.2	8.0
06/08/2023 06:00:00	29.8	2818.3	7.9	06/09/2023 16:00:00	30.8	3106.2	8.1	06/11/2023 02:00:00	29.6	3072.0	8.0
06/08/2023 07:00:00	29.6	2817.3	7.9	06/09/2023 17:00:00	30.8	3109.9	8.1	06/11/2023 03:00:00	29.3	3058.1	8.0
06/08/2023 08:00:00	29.8	2849.8	7.9	06/09/2023 18:00:00	30.9	3119.0	8.1	06/11/2023 04:00:00	29.1	3056.0	8.0
06/08/2023 09:00:00	30.2	2885.1	7.8	06/09/2023 19:00:00	30.8	3107.3	8.1	06/11/2023 05:00:00	29.3	3052.3	8.0
06/08/2023 10:00:00	30.1	2898.4	7.8	06/09/2023 20:00:00	30.8	3095.5	8.1	06/11/2023 06:00:00	29.8	3036.2	7.9
06/08/2023 11:00:00	30.2	2933.7	7.9	06/09/2023 21:00:00	30.8	3096.6	8.1	06/11/2023 07:00:00	30.1	3042.6	7.9
06/08/2023 12:00:00	30.2	2950.8	7.9	06/09/2023 22:00:00	30.8	3113.7	8.1	06/11/2023 08:00:00	29.9	8.7	8.0
06/08/2023 13:00:00	36.6	2961.5	7.7	06/09/2023 23:00:00	30.7	3117.4	8.1	06/11/2023 09:00:00	29.9	0.1	8.0
06/08/2023 14:00:00	37.6	2968.9	7.5	06/10/2023 00:00:00	30.7	3113.1	8.1	06/11/2023 10:00:00	32.0	0.1	8.0
06/08/2023 15:00:00	36.0	2973.7	7.1	06/10/2023 01:00:00	30.7	3111.0	8.1	06/11/2023 11:00:00	28.9	0.1	8.0

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
06/11/2023 12:00:00	32.0	0.1	8.0	06/12/2023 22:00:00	28.0	0.1	7.8	06/14/2023 08:00:00	29.9	2940.6	7.8
06/11/2023 13:00:00	35.1	0.1	7.9	06/12/2023 23:00:00	27.8	0.1	7.8	06/14/2023 09:00:00	30.1	2952.4	7.8
06/11/2023 14:00:00	36.1	0.1	7.9	06/13/2023 00:00:00	27.7	0.1	7.8	06/14/2023 10:00:00	30.0	2955.1	7.8
06/11/2023 15:00:00	35.5	0.1	7.8	06/13/2023 01:00:00	27.7	0.1	7.8	06/14/2023 11:00:00	30.0	2965.7	7.8
06/11/2023 16:00:00	34.0	0.1	7.8	06/13/2023 02:00:00	27.8	0.1	7.8	06/14/2023 12:00:00	30.2	2976.4	7.9
06/11/2023 17:00:00	31.9	0.1	7.8	06/13/2023 03:00:00	29.5	3048.5	7.9	06/14/2023 13:00:00	30.2	2985.5	7.9
06/11/2023 18:00:00	30.9	0.1	7.8	06/13/2023 04:00:00	29.8	3052.3	7.9	06/14/2023 14:00:00	30.4	2990.8	7.9
06/11/2023 19:00:00	28.8	0.1	7.8	06/13/2023 05:00:00	30.0	3037.8	7.9	06/14/2023 15:00:00	30.4	2989.8	7.9
06/11/2023 20:00:00	27.8	0.1	7.8	06/13/2023 06:00:00	30.0	3036.2	7.9	06/14/2023 16:00:00	30.8	2984.4	7.9
06/11/2023 21:00:00	27.8	0.1	7.8	06/13/2023 07:00:00	29.9	3030.4	7.9	06/14/2023 17:00:00	31.2	2995.1	7.8
06/11/2023 22:00:00	27.6	0.1	7.9	06/13/2023 08:00:00	29.7	3031.4	7.9	06/14/2023 18:00:00	31.6	3001.0	7.8
06/11/2023 23:00:00	29.7	3078.4	7.9	06/13/2023 09:00:00	29.6	3035.2	7.9	06/14/2023 19:00:00	31.5	2998.3	7.8
06/12/2023 00:00:00	30.2	3049.6	7.9	06/13/2023 10:00:00	29.7	3052.8	7.9	06/14/2023 20:00:00	31.1	2985.0	7.7
06/12/2023 01:00:00	30.0	3045.8	7.9	06/13/2023 11:00:00	30.1	3063.5	7.9	06/14/2023 21:00:00	30.1	12.9	7.8
06/12/2023 02:00:00	30.1	3026.1	7.9	06/13/2023 12:00:00	30.4	3081.6	7.9	06/14/2023 22:00:00	29.1	0.1	7.8
06/12/2023 03:00:00	29.9	3028.2	7.9	06/13/2023 13:00:00	30.4	3090.7	8.0	06/14/2023 23:00:00	28.8	0.1	7.8
06/12/2023 04:00:00	29.7	3028.8	7.9	06/13/2023 14:00:00	30.6	3097.1	8.0	06/15/2023 00:00:00	28.8	0.1	7.7
06/12/2023 05:00:00	29.4	3040.5	7.9	06/13/2023 15:00:00	30.6	3101.4	8.1	06/15/2023 01:00:00	28.4	0.1	7.7
06/12/2023 06:00:00	29.1	3036.2	7.9	06/13/2023 16:00:00	30.5	3099.2	8.1	06/15/2023 02:00:00	28.1	0.1	7.7
06/12/2023 07:00:00	28.7	3025.0	8.0	06/13/2023 17:00:00	32.5	3028.8	8.1	06/15/2023 03:00:00	27.8	0.1	7.7
06/12/2023 08:00:00	30.5	12.9	8.0	06/13/2023 18:00:00	31.7	3038.9	8.0	06/15/2023 04:00:00	27.7	0.1	7.7
06/12/2023 09:00:00	33.6	0.1	8.0	06/13/2023 19:00:00	30.7	3029.8	8.0	06/15/2023 05:00:00	27.4	0.1	7.7
06/12/2023 10:00:00	35.6	7.1	7.9	06/13/2023 20:00:00	29.7	3022.9	7.9	06/15/2023 06:00:00	27.1	0.1	7.7
06/12/2023 11:00:00	36.3	16.1	7.8	06/13/2023 21:00:00	28.9	3010.1	7.9	06/15/2023 07:00:00	26.6	0.1	7.7
06/12/2023 12:00:00	36.6	19.9	7.7	06/13/2023 22:00:00	28.7	2995.1	7.9	06/15/2023 08:00:00	28.6	0.1	7.7
06/12/2023 13:00:00	37.5	25.8	7.7	06/13/2023 23:00:00	28.5	2995.6	7.9	06/15/2023 09:00:00	31.7	0.1	7.7
06/12/2023 14:00:00	36.1	26.8	7.6	06/14/2023 00:00:00	28.6	2991.9	7.9	06/15/2023 10:00:00	34.8	0.1	7.6
06/12/2023 15:00:00	34.2	25.2	7.6	06/14/2023 01:00:00	28.7	3001.5	7.9	06/15/2023 11:00:00	35.8	0.1	7.6
06/12/2023 16:00:00	32.1	23.1	7.7	06/14/2023 02:00:00	28.5	2990.8	7.9	06/15/2023 12:00:00	38.3	0.1	7.5
06/12/2023 17:00:00	31.1	20.9	7.7	06/14/2023 03:00:00	28.4	2995.6	7.9	06/15/2023 13:00:00	37.5	0.1	7.4
06/12/2023 18:00:00	30.7	13.5	7.7	06/14/2023 04:00:00	28.0	2994.6	7.9	06/15/2023 14:00:00	37.7	0.1	7.4
06/12/2023 19:00:00	29.7	0.1	7.7	06/14/2023 05:00:00	27.9	2985.5	7.9	06/15/2023 15:00:00	38.7	0.7	7.4
06/12/2023 20:00:00	28.6	0.1	7.7	06/14/2023 06:00:00	27.8	2981.2	7.9	06/15/2023 16:00:00	31.5	3090.7	8.0
06/12/2023 21:00:00	28.3	0.1	7.8	06/14/2023 07:00:00	28.9	2976.4	7.9	06/15/2023 17:00:00	31.2	3108.3	8.1

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
06/15/2023 18:00:00	31.1	3109.4	8.1	06/17/2023 04:00:00	30.9	3104.1	7.9	06/18/2023 14:00:00	33.7	2913.4	7.6
06/15/2023 19:00:00	30.8	3104.1	8.0	06/17/2023 05:00:00	30.6	3112.6	7.9	06/18/2023 15:00:00	35.8	2922.5	7.5
06/15/2023 20:00:00	30.5	7.6	8.1	06/17/2023 06:00:00	30.2	3089.6	7.9	06/18/2023 16:00:00	32.7	2919.8	7.5
06/15/2023 21:00:00	29.5	0.1	8.1	06/17/2023 07:00:00	30.0	3085.4	7.9	06/18/2023 17:00:00	30.6	2922.5	7.4
06/15/2023 22:00:00	28.8	0.1	8.0	06/17/2023 08:00:00	31.0	3.9	7.8	06/18/2023 18:00:00	29.6	2920.3	7.4
06/15/2023 23:00:00	28.4	0.1	7.9	06/17/2023 09:00:00	35.1	0.1	7.9	06/18/2023 19:00:00	28.7	2915.0	7.4
06/16/2023 00:00:00	28.2	0.1	7.8	06/17/2023 10:00:00	39.2	5.5	7.8	06/18/2023 20:00:00	28.2	2902.2	7.4
06/16/2023 01:00:00	28.1	0.1	7.8	06/17/2023 11:00:00	38.5	10.3	7.7	06/18/2023 21:00:00	27.8	2888.8	7.4
06/16/2023 02:00:00	28.2	0.1	7.8	06/17/2023 12:00:00	37.8	23.1	7.5	06/18/2023 22:00:00	27.6	2878.7	7.4
06/16/2023 03:00:00	28.2	0.1	7.7	06/17/2023 13:00:00	38.5	25.8	7.5	06/18/2023 23:00:00	27.4	2881.9	7.4
06/16/2023 04:00:00	28.1	0.1	7.7	06/17/2023 14:00:00	38.7	26.8	7.4	06/19/2023 00:00:00	27.2	2870.7	7.4
06/16/2023 05:00:00	27.7	0.1	7.7	06/17/2023 15:00:00	39.1	27.9	7.4	06/19/2023 01:00:00	27.0	2860.5	7.4
06/16/2023 06:00:00	27.8	0.1	7.7	06/17/2023 16:00:00	39.3	28.4	7.4	06/19/2023 02:00:00	26.8	2849.8	7.4
06/16/2023 07:00:00	27.6	0.1	7.7	06/17/2023 17:00:00	37.2	26.3	7.4	06/19/2023 03:00:00	26.3	2831.2	7.4
06/16/2023 08:00:00	31.7	0.1	7.8	06/17/2023 18:00:00	34.1	22.5	7.5	06/19/2023 04:00:00	26.0	2825.8	7.4
06/16/2023 09:00:00	32.8	0.1	7.8	06/17/2023 19:00:00	31.1	16.7	7.5	06/19/2023 05:00:00	26.1	2819.9	7.4
06/16/2023 10:00:00	37.9	0.1	7.8	06/17/2023 20:00:00	30.0	12.4	7.6	06/19/2023 06:00:00	26.2	2820.5	7.4
06/16/2023 11:00:00	37.3	0.1	7.7	06/17/2023 21:00:00	29.9	0.1	7.6	06/19/2023 07:00:00	26.5	2818.3	7.4
06/16/2023 12:00:00	37.3	4.4	7.6	06/17/2023 22:00:00	26.9	0.1	7.6	06/19/2023 08:00:00	27.2	2821.5	7.3
06/16/2023 13:00:00	37.7	8.1	7.4	06/17/2023 23:00:00	26.8	0.1	7.7	06/19/2023 09:00:00	30.2	2826.9	7.3
06/16/2023 14:00:00	38.7	10.3	7.4	06/18/2023 00:00:00	27.0	0.1	7.7	06/19/2023 10:00:00	30.6	2862.7	7.3
06/16/2023 15:00:00	38.8	11.9	7.3	06/18/2023 01:00:00	27.0	0.1	7.7	06/19/2023 11:00:00	32.7	2878.7	7.3
06/16/2023 16:00:00	38.8	12.9	7.3	06/18/2023 02:00:00	31.2	2891.0	7.9	06/19/2023 12:00:00	34.7	2899.5	7.2
06/16/2023 17:00:00	35.8	11.9	7.3	06/18/2023 03:00:00	31.6	2889.4	7.9	06/19/2023 13:00:00	37.8	2918.2	7.2
06/16/2023 18:00:00	33.7	9.7	7.3	06/18/2023 04:00:00	31.4	2896.8	7.9	06/19/2023 14:00:00	38.8	2937.4	7.2
06/16/2023 19:00:00	31.7	3208.2	7.9	06/18/2023 05:00:00	31.1	2870.7	7.9	06/19/2023 15:00:00	30.3	2989.2	8.0
06/16/2023 20:00:00	31.4	3209.8	8.0	06/18/2023 06:00:00	28.6	2867.5	8.0	06/19/2023 16:00:00	30.2	3012.2	8.0
06/16/2023 21:00:00	31.6	3185.2	8.0	06/18/2023 07:00:00	27.6	2846.6	8.1	06/19/2023 17:00:00	30.6	3026.1	8.0
06/16/2023 22:00:00	31.7	3167.6	8.0	06/18/2023 08:00:00	27.4	2840.8	8.0	06/19/2023 18:00:00	30.7	3057.6	8.0
06/16/2023 23:00:00	31.5	3160.7	8.0	06/18/2023 09:00:00	30.3	2834.9	7.9	06/19/2023 19:00:00	30.5	3068.8	8.0
06/17/2023 00:00:00	31.3	3154.8	8.0	06/18/2023 10:00:00	33.4	2848.8	7.9	06/19/2023 20:00:00	30.3	3057.6	8.0
06/17/2023 01:00:00	31.3	3119.5	8.0	06/18/2023 11:00:00	34.4	2884.6	7.7	06/19/2023 21:00:00	30.1	3052.3	8.0
06/17/2023 02:00:00	31.3	3097.6	7.9	06/18/2023 12:00:00	32.1	2889.9	7.7	06/19/2023 22:00:00	30.5	3077.9	7.9
06/17/2023 03:00:00	31.1	3089.6	7.9	06/18/2023 13:00:00	33.1	2894.7	7.6	06/19/2023 23:00:00	30.9	3102.5	7.9

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
06/20/2023 00:00:00	31.2	3109.9	7.9	06/21/2023 10:00:00	36.2	3198.0	7.7	06/22/2023 20:00:00	30.2	3106.7	7.9
06/20/2023 01:00:00	31.4	3126.0	7.9	06/21/2023 11:00:00	37.2	3230.1	7.6	06/22/2023 21:00:00	29.8	3001.0	7.9
06/20/2023 02:00:00	31.7	3123.8	7.9	06/21/2023 12:00:00	37.5	3252.5	7.4	06/22/2023 22:00:00	28.4	2965.7	7.9
06/20/2023 03:00:00	31.7	3114.7	7.9	06/21/2023 13:00:00	38.1	3263.2	7.4	06/22/2023 23:00:00	27.4	2948.1	8.0
06/20/2023 04:00:00	31.4	3112.1	7.9	06/21/2023 14:00:00	38.8	3270.7	7.4	06/23/2023 00:00:00	26.9	2933.7	7.9
06/20/2023 05:00:00	31.2	3110.5	7.9	06/21/2023 15:00:00	37.2	3276.6	7.3	06/23/2023 01:00:00	26.5	2927.3	7.9
06/20/2023 06:00:00	30.9	3119.5	7.9	06/21/2023 16:00:00	34.1	3273.9	7.3	06/23/2023 02:00:00	26.1	2917.7	7.8
06/20/2023 07:00:00	30.6	3113.1	7.9	06/21/2023 17:00:00	31.1	3232.8	8.0	06/23/2023 03:00:00	26.0	2913.9	7.7
06/20/2023 08:00:00	30.2	3108.3	7.9	06/21/2023 18:00:00	30.4	3197.5	8.0	06/23/2023 04:00:00	26.0	2910.7	7.7
06/20/2023 09:00:00	33.7	3170.3	8.0	06/21/2023 19:00:00	30.4	3169.7	8.1	06/23/2023 05:00:00	26.2	2908.6	7.7
06/20/2023 10:00:00	38.8	3205.5	7.8	06/21/2023 20:00:00	30.5	3145.7	8.1	06/23/2023 06:00:00	26.5	2904.3	7.6
06/20/2023 11:00:00	35.7	3229.6	7.7	06/21/2023 21:00:00	30.5	3143.6	8.1	06/23/2023 07:00:00	27.1	2903.8	7.6
06/20/2023 12:00:00	35.2	3237.0	7.6	06/21/2023 22:00:00	30.5	3132.9	8.1	06/23/2023 08:00:00	30.1	2905.4	7.5
06/20/2023 13:00:00	34.9	3244.5	7.6	06/21/2023 23:00:00	30.2	3125.4	8.1	06/23/2023 09:00:00	33.2	2910.7	7.4
06/20/2023 14:00:00	35.9	3247.2	7.6	06/22/2023 00:00:00	29.9	3115.3	8.1	06/23/2023 10:00:00	30.0	2981.2	7.9
06/20/2023 15:00:00	35.6	3251.5	7.5	06/22/2023 01:00:00	29.6	3098.7	8.1	06/23/2023 11:00:00	29.7	3004.7	8.0
06/20/2023 16:00:00	36.0	3253.6	7.5	06/22/2023 02:00:00	29.5	3096.6	8.1	06/23/2023 12:00:00	30.0	3027.7	8.0
06/20/2023 17:00:00	35.0	3257.9	7.5	06/22/2023 03:00:00	29.7	3065.6	8.1	06/23/2023 13:00:00	30.2	3041.0	8.1
06/20/2023 18:00:00	31.9	3256.3	7.5	06/22/2023 04:00:00	29.6	3074.7	8.2	06/23/2023 14:00:00	30.4	3050.1	8.1
06/20/2023 19:00:00	29.9	3248.8	7.5	06/22/2023 05:00:00	29.3	3055.5	8.2	06/23/2023 15:00:00	30.5	3057.1	8.1
06/20/2023 20:00:00	28.9	3233.3	7.6	06/22/2023 06:00:00	29.1	3045.3	8.1	06/23/2023 16:00:00	37.7	3064.0	8.1
06/20/2023 21:00:00	28.2	3217.3	7.6	06/22/2023 07:00:00	29.0	3029.8	8.1	06/23/2023 17:00:00	37.2	3067.2	8.0
06/20/2023 22:00:00	27.8	3203.9	7.6	06/22/2023 08:00:00	28.8	3025.0	8.1	06/23/2023 18:00:00	36.6	3065.6	7.8
06/20/2023 23:00:00	27.7	3185.8	7.6	06/22/2023 09:00:00	28.7	3025.5	8.1	06/23/2023 19:00:00	33.5	3060.8	7.8
06/21/2023 00:00:00	27.8	3178.8	7.6	06/22/2023 10:00:00	28.7	3027.7	8.0	06/23/2023 20:00:00	30.4	3049.0	7.7
06/21/2023 01:00:00	27.6	3169.7	7.6	06/22/2023 11:00:00	29.0	3027.7	8.0	06/23/2023 21:00:00	29.4	3029.3	7.7
06/21/2023 02:00:00	26.7	3143.0	7.7	06/22/2023 12:00:00	29.4	3098.7	7.9	06/23/2023 22:00:00	28.8	3001.5	7.7
06/21/2023 03:00:00	26.5	3139.8	7.7	06/22/2023 13:00:00	29.7	3134.5	7.9	06/23/2023 23:00:00	28.7	2985.5	7.9
06/21/2023 04:00:00	26.5	3136.1	7.7	06/22/2023 14:00:00	29.8	3156.4	7.9	06/24/2023 00:00:00	28.5	2981.8	7.9
06/21/2023 05:00:00	26.5	3134.0	7.7	06/22/2023 15:00:00	29.7	3159.6	7.9	06/24/2023 01:00:00	28.4	2962.0	7.8
06/21/2023 06:00:00	26.1	3134.0	7.7	06/22/2023 16:00:00	30.0	3168.1	7.8	06/24/2023 02:00:00	28.4	2951.3	7.8
06/21/2023 07:00:00	26.2	3131.8	7.7	06/22/2023 17:00:00	30.4	3172.9	7.8	06/24/2023 03:00:00	29.4	2942.2	8.0
06/21/2023 08:00:00	28.0	3130.8	7.7	06/22/2023 18:00:00	30.5	3176.7	7.9	06/24/2023 04:00:00	30.0	2942.2	8.1
06/21/2023 09:00:00	32.1	3127.0	7.7	06/22/2023 19:00:00	30.5	3142.0	7.8	06/24/2023 05:00:00	30.0	2939.0	8.1

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH	Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
06/24/2023 06:00:00	29.9	2933.7	8.1	06/25/2023 16:00:00	33.9	3177.8	7.3	06/27/2023 02:00:00	29.8	138.4	8.3
06/24/2023 07:00:00	29.7	2947.0	8.1	06/25/2023 17:00:00	31.8	3107.3	8.1	06/27/2023 03:00:00	30.3	137.9	8.3
06/24/2023 08:00:00	29.8	2935.3	8.1	06/25/2023 18:00:00	31.0	3093.9	8.2	06/27/2023 04:00:00	30.4	137.4	8.3
06/24/2023 09:00:00	29.7	2936.9	8.1	06/25/2023 19:00:00	31.0	3098.7	8.1	06/27/2023 05:00:00	30.3	135.8	8.3
06/24/2023 10:00:00	29.7	2972.1	8.0	06/25/2023 20:00:00	30.8	3098.2	8.1	06/27/2023 06:00:00	30.0	138.4	8.4
06/24/2023 11:00:00	29.8	3000.4	8.0	06/25/2023 21:00:00	30.5	3104.6	8.1	06/27/2023 07:00:00	29.8	135.2	8.6
06/24/2023 12:00:00	30.0	3070.4	8.1	06/25/2023 22:00:00	30.3	3103.5	8.1	06/27/2023 08:00:00	29.5	135.8	8.6
06/24/2023 13:00:00	30.1	3140.9	8.1	06/25/2023 23:00:00	30.4	3092.8	8.1	06/27/2023 09:00:00	31.1	136.3	8.6
06/24/2023 14:00:00	30.5	3156.9	8.1	06/26/2023 00:00:00	30.6	3075.2	8.1	06/27/2023 10:00:00	37.3	139.0	8.4
06/24/2023 15:00:00	31.1	3166.0	8.0	06/26/2023 01:00:00	30.8	3065.1	8.1	06/27/2023 11:00:00	34.0	144.8	8.3
06/24/2023 16:00:00	31.4	3172.4	8.1	06/26/2023 02:00:00	30.6	3057.1	8.1	06/27/2023 12:00:00	39.1	148.1	8.1
06/24/2023 17:00:00	32.1	3177.8	8.2	06/26/2023 03:00:00	30.4	3033.6	8.1	06/27/2023 13:00:00	39.0	152.3	8.1
06/24/2023 18:00:00	33.1	3176.7	8.1	06/26/2023 04:00:00	30.1	3025.5	8.1	06/27/2023 14:00:00	37.3	151.8	8.1
06/24/2023 19:00:00	32.3	3171.3	8.1	06/26/2023 05:00:00	29.8	3006.3	8.1	06/27/2023 15:00:00	32.1	150.7	8.0
06/24/2023 20:00:00	30.2	3162.3	8.0	06/26/2023 06:00:00	28.7	3004.2	8.0	06/27/2023 16:00:00	35.1	149.1	8.2
06/24/2023 21:00:00	29.5	3151.6	8.0	06/26/2023 07:00:00	27.7	3010.6	8.0	06/27/2023 17:00:00	36.2	149.7	8.2
06/24/2023 22:00:00	29.0	3138.2	7.9	06/26/2023 08:00:00	30.1	3006.3	7.9	06/27/2023 18:00:00	34.1	149.1	8.1
06/24/2023 23:00:00	28.7	3119.0	7.9	06/26/2023 09:00:00	34.2	3076.8	7.8	06/27/2023 19:00:00	31.0	148.1	8.2
06/25/2023 00:00:00	28.0	3093.9	7.9	06/26/2023 10:00:00	36.2	3093.9	7.7	06/27/2023 20:00:00	30.0	147.0	8.2
06/25/2023 01:00:00	27.6	3074.7	7.9	06/26/2023 11:00:00	34.1	3106.2	8.0	06/27/2023 21:00:00	31.0	146.4	8.3
06/25/2023 02:00:00	27.7	3054.4	7.9	06/26/2023 12:00:00	36.1	3115.3	7.8	06/27/2023 22:00:00	31.2	145.4	8.4
06/25/2023 03:00:00	27.6	3057.6	7.8	06/26/2023 13:00:00	37.2	3123.8	7.8	06/27/2023 23:00:00	31.0	144.8	8.4
06/25/2023 04:00:00	27.6	3044.8	7.8	06/26/2023 14:00:00	31.5	3127.6	7.7	06/28/2023 00:00:00	30.8	144.3	8.4
06/25/2023 05:00:00	26.9	3042.6	7.8	06/26/2023 15:00:00	35.6	3127.6	7.7	06/28/2023 01:00:00	30.6	142.2	8.4
06/25/2023 06:00:00	26.6	3035.7	7.8	06/26/2023 16:00:00	36.6	155.5	8.1	06/28/2023 02:00:00	30.4	134.7	8.4
06/25/2023 07:00:00	27.0	3034.6	7.8	06/26/2023 17:00:00	36.6	147.5	8.0	06/28/2023 03:00:00	30.7	133.6	8.4
06/25/2023 08:00:00	30.0	3048.0	7.7	06/26/2023 18:00:00	35.6	148.1	7.9	06/28/2023 04:00:00	31.0	132.6	8.4
06/25/2023 09:00:00	34.1	3083.2	7.7	06/26/2023 19:00:00	32.5	146.4	8.0	06/28/2023 05:00:00	30.8	132.6	8.4
06/25/2023 10:00:00	36.2	3118.5	7.6	06/26/2023 20:00:00	31.5	144.3	8.0	06/28/2023 06:00:00	30.4	132.0	8.5
06/25/2023 11:00:00	37.2	3136.1	7.5	06/26/2023 21:00:00	30.5	143.2	8.1	06/28/2023 07:00:00	30.1	131.5	8.5
06/25/2023 12:00:00	37.7	3148.9	7.5	06/26/2023 22:00:00	29.6	142.2	8.1	06/28/2023 08:00:00	29.8	132.0	8.4
06/25/2023 13:00:00	38.8	3158.0	7.4	06/26/2023 23:00:00	29.0	141.1	8.1	06/28/2023 09:00:00	33.8	134.2	8.3
06/25/2023 14:00:00	40.0	3166.0	7.4	06/27/2023 00:00:00	28.7	140.0	8.1	06/28/2023 10:00:00	35.9	138.4	8.2
06/25/2023 15:00:00	39.0	3172.4	7.3	06/27/2023 01:00:00	28.8	139.5	8.2	06/28/2023 11:00:00	32.7	139.5	8.1

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
06/28/2023 12:00:00	34.7	141.6	7.9
06/28/2023 13:00:00	26.5	138.4	8.0
06/28/2023 14:00:00	26.0	134.2	8.1
06/28/2023 15:00:00	28.1	131.0	8.2
06/28/2023 16:00:00	29.1	129.9	8.3
06/28/2023 17:00:00	29.9	132.6	8.3
06/28/2023 18:00:00	28.9	133.1	8.2
06/28/2023 19:00:00	28.3	132.6	8.2
06/28/2023 20:00:00	27.9	131.0	8.2
06/28/2023 21:00:00	27.6	129.9	8.2
06/28/2023 22:00:00	30.7	129.4	8.2
06/28/2023 23:00:00	31.0	129.9	8.2
06/29/2023 00:00:00	30.9	127.2	8.2
06/29/2023 01:00:00	30.7	125.6	8.2
06/29/2023 02:00:00	30.5	123.5	8.1
06/29/2023 03:00:00	30.3	121.9	8.2
06/29/2023 04:00:00	30.0	119.7	8.2
06/29/2023 05:00:00	30.2	127.8	8.2
06/29/2023 06:00:00	30.6	123.5	8.2
06/29/2023 07:00:00	30.8	121.3	8.2
06/29/2023 08:00:00	30.5	115.5	8.2
06/29/2023 09:00:00	30.3	116.5	8.2
06/29/2023 10:00:00	32.4	129.9	8.1
06/29/2023 11:00:00	36.5	134.7	7.9
06/29/2023 12:00:00	34.4	139.5	7.7
06/29/2023 13:00:00	38.5	141.1	7.7
06/29/2023 14:00:00	39.5	142.7	7.6
06/29/2023 15:00:00	32.3	141.6	7.7
06/29/2023 16:00:00	32.3	3421.8	8.0
06/29/2023 17:00:00	31.4	3450.1	7.7
06/29/2023 18:00:00	31.2	3456.0	7.6
06/29/2023 19:00:00	30.5	3455.5	7.4
06/29/2023 20:00:00	29.5	3452.8	7.4
06/29/2023 21:00:00	28.8	3450.7	7.5

Date Time	TEMP (°C)	CONDUCT (us/cm)	pH
06/29/2023 22:00:00	28.4	3449.1	7.4
06/29/2023 23:00:00	28.2	3446.9	7.5
06/30/2023 00:00:00	28.2	3445.9	7.5
06/30/2023 01:00:00	28.1	3444.2	7.5
06/30/2023 02:00:00	27.9	3443.2	7.5
06/30/2023 03:00:00	27.8	3443.7	7.5
06/30/2023 04:00:00	28.0	3441.0	7.5
06/30/2023 05:00:00	27.8	3440.0	7.5
06/30/2023 06:00:00	27.7	3439.4	7.5
06/30/2023 07:00:00	27.6	3437.8	7.5
06/30/2023 08:00:00	30.2	3472.6	7.9
06/30/2023 09:00:00	31.2	3464.0	8.0
06/30/2023 10:00:00	31.2	3459.7	8.0
06/30/2023 11:00:00	31.4	3456.0	8.0
06/30/2023 12:00:00	31.7	3448.5	8.0
06/30/2023 13:00:00	31.9	3449.1	8.0
06/30/2023 14:00:00	32.1	3448.5	8.0
06/30/2023 15:00:00	32.2	3452.8	8.0
06/30/2023 16:00:00	32.0	3453.9	8.1
06/30/2023 17:00:00	31.7	3455.5	8.1
06/30/2023 18:00:00	31.4	3454.9	8.1
06/30/2023 19:00:00	31.6	3444.2	8.0
06/30/2023 20:00:00	31.9	3440.5	8.0
06/30/2023 21:00:00	32.3	3444.2	8.0
06/30/2023 22:00:00	31.9	3440.0	8.0
06/30/2023 23:00:00	30.4	132.6	8.1

ภาคผนวก ค-4

ผลตรวจวิเคราะห์คุณภาพน้ำใต้ดินก่อนเริ่มดำเนินโครงการ



Analysis / Test Report

Client : Nexif Ratch Energy Rayong Co., Ltd.
222 Moo 5, T.Nonglajok, A.Bankhai, Rayong Thailand 21120
P/O : PO-2106-0003
Project Name :
Project Location :

Lot ID: 2191211
Date Received : Aug 16, 2021
Date Reported : Aug 27, 2021
Report Number : 2058291-1

Page 1 of 3

Sample Number : 2191211-1
Sampled Date : Aug 16, 2021 10:00 AM
Sample Description : Groundwater
Location : บึงวัดเรณูนครของสวนอุตสาหกรรมฯ ทางทิศตะวันออกของโครงการ
Date Analysis Commenced : Aug 17, 2021
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
Conductivity at 25 Degree C	micromhos/cm	-	0.5	855	No Standard	No Standard	Based on APHA (2017), 2510 B	Rayong
pH at 25 degree C	-	-	-	6.3	7.0-8.5	6.5-9.2	Based on APHA (2017), 4500-H (B)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	524	≤600	≤1200	Based on APHA (2017), 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	232	No Standard	No Standard	Based on APHA (2017), 2540 D	Rayong
Water Level	m	-	-	7.06	No Standard	No Standard	Water Level Meter	Bangkok

Guideline : Notification of the Ministry of Natural Resource and Environment, dated March 24, B.E.2551 (2008), published in the Royal Government Gazette, Vol. 125, Part 85 D, dated May 21, B.E.2551 (2008).
(1) Suitable Allowance, (2) Maximum allowable.

Sampled By : Chainusorn Lertnanthakunchai

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Siriluk P.

Siriluk Puengpang
Supervisor

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

ADDRESS 104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan, Khet Suan Luang, Bangkok 10250 Thailand | PHONE +66 0 2760 3000 | FAX +66 0 2760 3197
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Life Sciences

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Analysis / Test Report

Client : Nexif Ratch Energy Rayong Co., Ltd.
222 Moo 5, T.Nonglajok, A.Bankhai, Rayong Thailand 21120
P/O : PO-2106-0003
Project Name :
Project Location :

Lot ID: 2191211
Date Received : Aug 16, 2021
Date Reported : Aug 27, 2021
Report Number : 2058291-1

Page 2 of 3

Sample Number : 2191211-2
Sampled Date : Aug 16, 2021 10:45 AM
Sample Description : Groundwater
Location : บึงวัดเรณูนครของสวนอุตสาหกรรมฯ ทางทิศใต้
Date Analysis Commenced : Aug 17, 2021
Condition of Sample : Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)

Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
Conductivity at 25 Degree C	micromhos/cm	-	0.5	43.8	No Standard	No Standard	Based on APHA (2017), 2510 B	Rayong
pH at 25 degree C	-	-	-	4.8	7.0-8.5	6.5-9.2	Based on APHA (2017), 4500-H (B)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	37	≤600	≤1200	Based on APHA (2017), 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	18	No Standard	No Standard	Based on APHA (2017), 2540 D	Rayong
Water Level	m	-	-	3.07	No Standard	No Standard	Water Level Meter	Bangkok

Guideline : Notification of the Ministry of Natural Resource and Environment, dated March 24, B.E.2551 (2008), published in the Royal Government Gazette, Vol. 125, Part 85 D, dated May 21, B.E.2551 (2008).
(1) Suitable Allowance, (2) Maximum allowable.

Sampled By : Chainusorn Lertnanthakunchai

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

Approved by

Siriluk P.

Siriluk Puengpang
Supervisor

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

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S:\Reports\AL_2GL.rpt (4:34PM)



Analysis / Test Report

Client : Nexif Ratch Energy Rayong Co., Ltd.

222 Moo 5, T.Nonglalo, A.Bankhai, Rayong Thailand 21120

P/O : PO-2106-0003

Project Name :

Project Location :

Lot ID: 2191211

Date Received : Aug 16, 2021

Date Reported : Aug 27, 2021

Report Number : 2058291-1

Page 3 of 3

Sample Number	2191211-3							
Sampled Date	Aug 16, 2021 11:35 AM							
Sample Description	Groundwater							
Location	GW6 : รั้วโครงการระยะที่ 2 ทางทิศตะวันออก							
Date Analysis Commenced	Aug 17, 2021							
Condition of Sample	Contained in one plastic bottle, sample containers comply to pretreatment - preservation standards (APHA, USEPA)							
Analyte	Unit	LOD	LOQ (LOR)	Result	Guideline (1)	Guideline (2)	Method	Testing Location
Water Testing								
Conductivity at 25 Degree C	micromhos/cm	-	0.5	111	No Standard	No Standard	Based on APHA (2017), 2510 B	Rayong
pH at 25 degree C	-	-	-	5.9	7.0-8.5	6.5-9.2	Based on APHA (2017), 4500-H (B)	Rayong
Total Dissolved Solids Dried at 180 degree C	mg/L	-	5	67	≤600	≤1200	Based on APHA (2017), 2540 C	Rayong
Total Suspended Solids Dried at 103-105 degree C	mg/L	-	5	135	No Standard	No Standard	Based on APHA (2017), 2540 D	Rayong
Water Level	m	-	-	-3.50	No Standard	No Standard	Water Level Meter	Bangkok

Guideline : Notification of the Ministry of Natural Resource and Environment, dated March 24, B.E.2551 (2008), published in the Royal Government Gazette, Vol. 125, Part 85 D, dated May 21, B.E.2551 (2008).
(1) Suitable Allowance, (2) Maximum allowable.

Sampled By : Chainusorn Lertnanthakunchai

Remark :

- LOD : Limit of Detection
- "<" : Lower than LOQ (Limit of Quantitation) / LOR (Limit of Reporting)

The above results are valid only for the analyzed/tested sample(s) as indicated in this report. No part of this report or certificate may be reproduced in any form without written consent from the Laboratory. ALS Laboratory Group (Thailand) strongly recommends that this report is not reproduced except in full.

Approved by

Siriluk P.

Siriluk Puengpang
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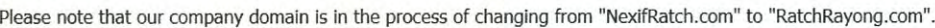
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ภาคผนวก ค-5

ชี้แจงผลการพิจารณาความเห็นต่อรายงานการปฏิบัติตาม
มาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และ
มาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม
ฉบับประจำเดือนกรกฎาคม-ธันวาคม 2565





เลขที่ : RER-ERC-01/23

บริษัท ราช เอ็นเนอร์จี้ ระยอง จำกัด
เลขที่ 222 หมู่ 5 ตำบลหนองละลอก
อำเภอบ้านค่าย จังหวัดระยอง 21120

วันที่ 26 มิถุนายน 2566

เรื่อง : ขอชี้แจงผลการตรวจสอบรายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม
และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

เรียน : เลขาธิการสำนักงานคณะกรรมการกำกับกิจการพลังงาน

สิ่งที่ส่งมาด้วย : 1.หนังสือชี้แจง 1 ชุด
2.งานวิจัย pH น้ำใต้ดิน จ.ระยอง 1 ชุด
3.ผลการตรวจวัดคุณภาพน้ำใต้ดินก่อนระยะดำเนินการ 1 ชุด

“บริษัท เน็กซ์ซิฟ ราช เอ็นเนอร์จี้ ระยอง จำกัด” ซึ่งเป็นผู้ดำเนินโครงการ โรงไฟฟ้าพลังงานความร้อนร่วม โครงการระยะที่ 2 (ครั้งที่ 3) “โครงการ โรงไฟฟ้าพลังงานความร้อนร่วม โครงการระยะที่ 2 (ครั้งที่ 3) ตั้งอยู่ที่ 222 หมู่ที่ 5 ตำบลหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง 21120 ปัจจุบันได้ทำการจดทะเบียนเปลี่ยนชื่อบริษัทฯ เป็น “บริษัท ราช เอ็นเนอร์จี้ ระยอง จำกัด”

ขอ นำส่งรายละเอียดชี้แจงผลการพิจารณาความเห็นต่อรายงานผลการปฏิบัติตามมาตรการป้องกันและแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม โครงการโรงไฟฟ้าพลังงานความร้อนร่วม โครงการระยะที่ 2 (ระยะดำเนินการ) ของบริษัท เน็กซ์ซิฟ ราช เอ็นเนอร์จี้ ระยอง จำกัด ตั้งอยู่ที่สวนอุตสาหกรรม เอส เอส พี ระยอง ตำบลหนองละลอก อำเภอบ้านค่าย จังหวัดระยอง ฉบับประจำเดือนกรกฎาคม-ธันวาคม พ.ศ. ๒๕๖๕ ดังเอกสารแนบท้าย

จึงเรียนมาเพื่อทราบ และบริษัทฯ ขอขอบพระคุณเป็นอย่างสูงมา ณ โอกาสนี้



ขอแสดงความนับถือ

ลงชื่อ:

(นายธนบดี ประทุมรัตน์)

กรรมการบริษัท

สิ่งที่ส่งมาด้วย

รายละเอียดชี้แจงผลการพิจารณาความเห็นต่อรายงานผลการปฏิบัติตามมาตรการป้องกัน
และแก้ไขผลกระทบสิ่งแวดล้อม และมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

โครงการโรงไฟฟ้าพลังความร้อนร่วม โครงการระยะที่ ๒ (ระยะดำเนินการ)

ของบริษัท เน็กซ์ซีฟ ราช เอ็นเนอจี ระยองจำกัด

ตั้งอยู่ที่สวนอุตสาหกรรม เอส เอส พี ระยอง ตำบลหนองละคร อำเภอบ้านค่าย จังหวัดระยอง

ฉบับประจำเดือนกรกฎาคม-ธันวาคม พ.ศ. ๒๕๖๕

๑. ผลการตรวจวัดตามมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม

ผลการตรวจวัดตามมาตรการติดตามตรวจสอบผลกระทบสิ่งแวดล้อม ไม่เป็นไปตามที่กำหนดไว้ในรายงาน
การประเมินผลกระทบสิ่งแวดล้อม ได้แก่

๑.๑ ผลการตรวจวิเคราะห์คุณภาพน้ำใต้ดิน เมื่อวันที่ ๑๗ พฤศจิกายน ๒๕๖๕ มีความเป็นกรด-ด่าง (pH)
ต่ำกว่าเกณฑ์อนุโลมสูงสุด ตามประกาศกระทรวงทรัพยากรธรรมชาติและสิ่งแวดล้อม เรื่อง กำหนดหลักเกณฑ์และ
มาตรการในทางวิชาการสำหรับการป้องกันด้านสาธารณสุขและการป้องกัน ในเรื่องสิ่งแวดล้อมเป็นพิษ พ.ศ.
๒๕๕๑ กำหนดค่าระหว่าง ๖.๕-๙.๒ บริเวณสถานีต่อไปนี้

- บริเวณริมถนนของสวนอุตสาหกรรมฯ ทางทิศตะวันตกเฉียงเหนือของโครงการ GW๑ มีค่าเท่ากับ ๖.๓
- บริเวณริมรั้วโครงการระยะที่ ๒ ทางทิศใต้ GW๕ มีค่าเท่ากับ ๔.๖
- บริเวณริมรั้วโครงการระยะที่ ๒ ทางทิศตะวันออก GW๖ มีค่าเท่ากับ ๕.๖

ชี้แจงการดำเนินงานของโครงการ

๑.๑ จากผลการตรวจวัดคุณภาพน้ำใต้ดินของโครงการพบว่า ค่าความเป็นกรด-ด่าง (pH) ทั้ง 3 สถานี
ได้แก่ บริเวณเหนือน้ำ GW๑ : ริมถนนของสวนอุตสาหกรรมฯ ทางทิศตะวันตกเฉียงเหนือของโครงการ และบริเวณ
ท้ายน้ำ GW๕ : ริมรั้วโครงการระยะที่ ๒ ทางทิศใต้ และ GW๖ : ริมรั้วโครงการระยะที่ ๒ ทางทิศตะวันออก
(ตำแหน่งการตรวจวัดแสดงดังรูปที่ ๑) ที่มีค่าไม่เป็นไปตามมาตรฐานของประกาศกระทรวงทรัพยากรธรรมชาติและ
สิ่งแวดล้อม เรื่อง กำหนดหลักเกณฑ์และมาตรการในทางวิชาการสำหรับการป้องกันด้านสาธารณสุขและการ
ป้องกัน ในเรื่องสิ่งแวดล้อมเป็นพิษ พ.ศ. ๒๕๕๑ ซึ่งกำหนดให้มีค่าเกณฑ์อนุโลมสูงสุดที่ระหว่าง ๖.๕-๙.๒

สิ่งที่ส่งมาด้วย

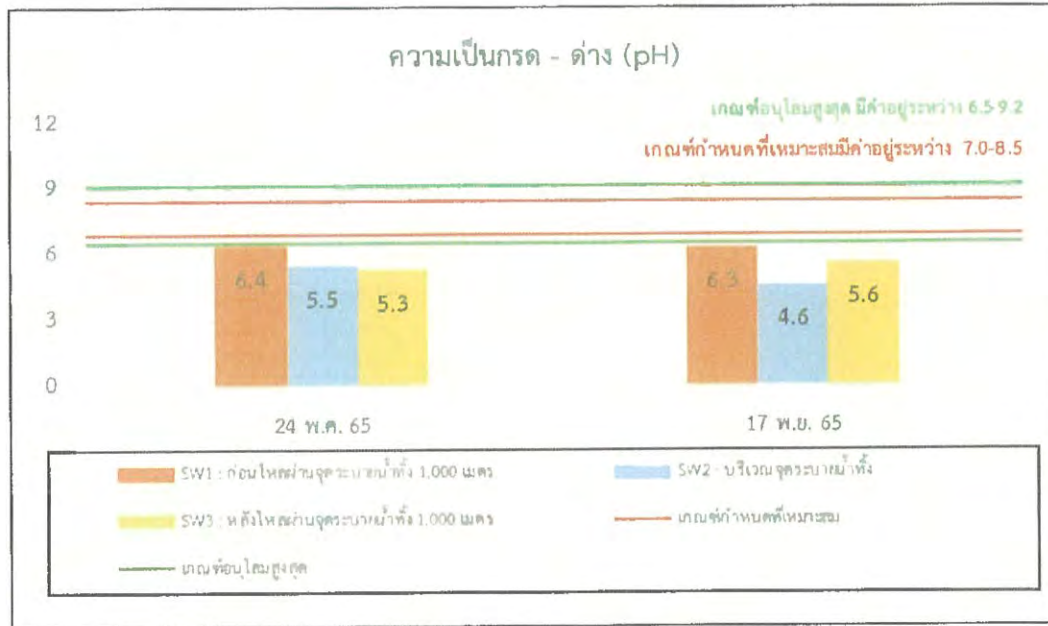


รูปที่ ๑ ตำแหน่งการตรวจวัดคุณภาพน้ำใต้ดิน

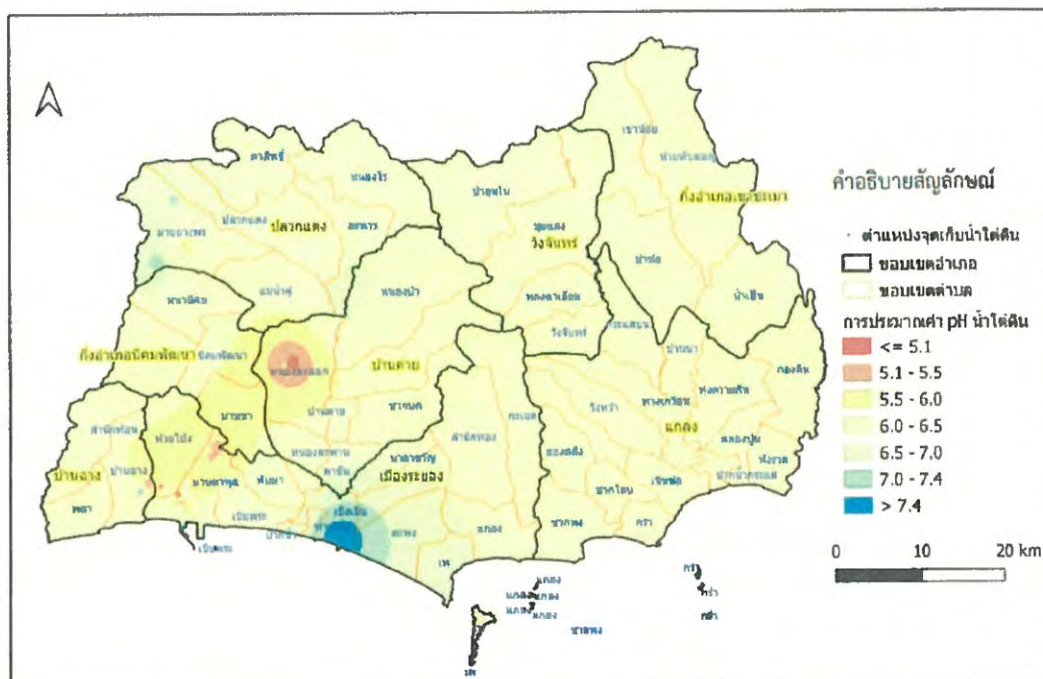
จากผลการตรวจวัดคุณภาพน้ำใต้ดินของโครงการตั้งแต่ระยะก่อสร้างจนเริ่มดำเนินการ ในปี พ.ศ. ๒๕๖๕ พบว่า ค่าความเป็นกรด-ด่าง (pH) มีแนวโน้มต่ำกว่าเกณฑ์ฯ ในทุกสถานี แสดงดังรูปที่ ๑ ซึ่งสอดคล้องกับข้อมูลสภาพพื้นที่เดิมของจังหวัดระยองดินมีค่าความเป็นกรดจัด (กรมพัฒนาที่ดิน, 2561) เมื่อฝนตกสามารถทำให้เกิดการชะล้างสารละลายลงสู่ น้ำใต้ดินได้ ซึ่งจากงานวิจัยพบว่าน้ำใต้ดินบริเวณพื้นที่ตำบลหนองละลอก ส่วนใหญ่จะมีค่าความเป็นกรด-ด่าง (pH) อยู่ระหว่าง <5.1-6.5 (อริยะ คล้ายแก้ว (2564). รายงานการค้นคว้าอิสระ : แนวทางการกำหนดแก้ไขเกณฑ์ค่าพีเอช (pH) น้ำใต้ดินตามประกาศกระทรวงอุตสาหกรรม ของจังหวัดระยอง, วิทยาศาสตร์มหาบัณฑิต (การจัดการสิ่งแวดล้อม), สถาบันบัณฑิตพัฒนบริหารศาสตร์) แสดงดังรูปที่ ๒ และ เอกสารแนบที่ ๑

ทั้งนี้โครงการได้ทำการตรวจสอบและเฝ้าระวังการรั่วไหลภายในพื้นที่โครงการอย่างสม่ำเสมอ เช่น บริเวณที่มีการจัดเก็บสารเคมี กากของเสีย บริเวณบ่อน้ำต่างๆ และบริเวณที่คาดว่าจะเกิดการรั่วไหลของสารเคมีได้ เพื่อป้องกันการปนเปื้อนลงสู่ดินและน้ำใต้ดิน

สิ่งที่ส่งมาด้วย



รูปที่ ๒ กราฟแสดงสรุปผลการตรวจวิเคราะห์ค่าความเป็นกรดต่างของคุณภาพน้ำใต้ดิน



รูปที่ ๒ แสดงการประมาณค่าความเป็นกรด-ด่าง (pH) ในน้ำใต้ดิน ของจังหวัดระยอง

ภาคผนวก ค-6

บันทึกสถิติอุบัติเหตุ

Accident statistics report

No.	Detail	2023														Accumulate
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD	since last LT	
1	Employee															
1.1	Average number of employees	19	16	19	16	19	21							110		
1.2	Risk days / Man-day	556	497	604	480	586	648							3,371		
1.3	Risk hours / Man-hour	5,373	4,642	5,854	4,655	5,411	6,095							32,030		
1.4	Number of Fatal accidents	0	0	0	0	0	0							0		
1.5	Number of Accident bodily injuries > 1 lost workday	0	0	0	0	0	0							0		
1.6	Number of work leave days	0	0	0	0	0	0							0		
1.7	Number of injuries requiring first aid	0	0	0	0	0	0							0		
1.8	Number of injuries requiring doctor assistance	0	0	0	0	0	0							0		
1.9	Number of days worked since last lost workday injury. (beginning with next shift worked after lost time accident)	31	28	31	30	31	30							181		
1.10	Date of last lost work day injury	NA	NA	NA	NA	NA	NA							NA		
2	Contractor															
2.1	Average number of contractors per day	26	14	18	19	14	18							109		
2.2	Risk days / Man-day	824	441	588	575	433	573							3,434		
2.3	Risk hours / Man-hour	6,244	3,351	4,721	4,944	3,628	4,707							27,595		
2.4	Number of Fatal accidents	0	0	0	0	0	0							0		
2.5	Number of Accident bodily injuries > 1 lost workday	0	0	0	0	0	0							0		
2.6	Number of work leave days	0	0	0	0	0	0							0		
2.7	Number of injuries requiring first aid	0	0	0	0	0	0							0		
2.8	Number of injuries requiring doctor assistance	0	0	0	0	0	0							0		
2.9	Number of days worked since last lost workday injury. (beginning with next shift worked after lost time accident)	31	28	31	30	31	30							181		
2.10	Date of last lost work day injury	NA	NA	NA	NA	NA	NA							NA		

อุบัติเหตุเป็นศูนย์

ZERO ACCIDENT

เป้าหมาย

TARGET

365

วัน

DAYS

จำนวนวันทำงานสูงสุดที่ไม่เกิดอุบัติเหตุถึงขั้นหยุดงาน

MAXIMUM WORKING DAYS WITHOUT ACCIDENT

427

วัน

DAYS

จำนวนวันทำงานมาแล้วที่ไม่เกิดอุบัติเหตุถึงขั้นหยุดงาน

WORKING DAYS WITHOUT ACCIDENT

181

วัน

DAYS

วันที่ปัจจุบัน 30 มิถุนายน 2566

ภาคผนวก ง

ใบรับรองการสอบเทียบเครื่องมือ

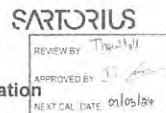


Location	Barometer	Temperature	Digital Temperature	Humidity	Error	MPPE	Pass / Fail
	°C	°C	°C	%			
Steak	0	0	0	0	<1	Pass	
	25	25	25	0	<1	Pass	
	50	50	50	0	<1	Pass	
	100	100	0	0	<1	Pass	
	150	150	0	0	<1	Pass	
	200	200	0	0	<1	Pass	
	250	250	0	0	<1	Pass	
	300	300	0	0	<1	Pass	
	500	500	0	0	<1	Pass	
Probe	100	100	0	0	<1	Pass	
	120	120	0	0	<1	Pass	
	140	140	0	0	<1	Pass	
Oven	120	120	0	0	<1	Pass	
	140	140	0	0	<1	Pass	
Filter	100	100	0	0	<1	Pass	
	120	120	0	0	<1	Pass	
	140	140	0	0	<1	Pass	
Exit	0	0	0	0	<1	Pass	
	10	10	0	0	<1	Pass	
	20	20	0	0	<1	Pass	
Melox	0	0	0	0	<1	Pass	
	25	25	0	0	<1	Pass	
	50	50	0	0	<1	Pass	
AUX1	0	0	0	0	<1	Pass	
	25	25	0	0	<1	Pass	
	50	50	0	0	<1	Pass	

Calculated by	Approved by
Mr. Saket Phansopkar	Mr. Manoj Kumar
Cell: 982010181	Period: (1)
FORM NO. T-50-01	REVISION NO. / ISSUE DATE: 01/01/2011



Parameter (Radiation/w/m ²)	Actual Fluoresce (in w/m ²)				Actual Fluoresce at STP (in w/m ²)
	1	2	3	Avg.	
1000	1422.1	1416.5	1418.8	1418.7	986.7
1500	1538.8	1534.5	1537.4	1535.7	1043.7
2000	2020.8	2019.8	2018.2	2019.2	1372.9
2500	2519.4	2521.8	2519.8	2519.8	1681.9
3000	3021.8	3018.7	3019.8	3019.8	1994.2



Measurement Method UKAS Publication Ref :Lab 14
The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor ($k=2$) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The calibration certificate documents the traceability to National Standards, which realise the unit of measurement according to the International Standard System of Units (SI). Report of Tolerance came from list of Statutory Metres Specifications.

This certificate relate and apply this equipment only
This certificate may not be reproduced other than in full except with
the prior written approval of the Verification Operation Division
Sartorius (Thailand) Co., Ltd

Mr. Chendai Inimani (Technical Manager)



Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	120.00	99.50	-0.50	-0.50	101.10	1.10	1.10
2	200.00	194.70	-1.30	-0.65	201.20	1.20	0.60
3	300.00	296.80	-1.20	-0.40	301.10	1.10	0.37
4	400.00	394.00	-2.00	-0.50	402.00	2.00	0.50
AVERAGE (%)				-0.30			0.33



MULTIPOINT CALIBRATION REPORT

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	99.60	-0.40	-0.40	101.00	1.00	1.00
2	200.00	198.30	-1.70	-0.85	201.10	1.10	0.55
3	300.00	298.80	-1.20	-0.40	301.50	1.50	0.50
4	400.00	398.20	-1.80	-0.45	402.30	2.30	0.58
	AVERAGE (%)			-0.40			0.55



MULTIPOINT CALIBRATION REPORT

Point	CALIBRATION RESULTS						
	Ideal	Actual NO	Error NO	%Error NO	Actual NOx	Error NOx	%Error NOx
ZERO	0.00	0.10	0.10	0.10	0.10	0.10	0.10
1	100.00	98.70	-1.30	-1.30	100.40	0.40	0.40
2	200.00	197.80	-2.20	-1.10	201.50	1.50	0.75
3	300.00	298.10	-1.90	-0.63	302.20	2.20	0.73
4	400.00	398.50	-1.50	-0.38	401.40	1.40	0.35
	AVERAGE (%)			-0.66			0.47



MULTIPOINT CALIBRATION REPORT

Point	CALIBRATION RESULTS			
	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	98.60	-1.20	-1.20
2	200.00	198.60	-1.40	-0.70
3	300.00	298.30	-1.70	-0.57
4	400.00	397.60	-2.40	-0.60
	AVERAGE (%)			-0.59



FORM NO: F-08-058 REVISION NO. - ISSUE DATE: 02/04/11

RYG EN0003

Sartorius (Thailand) Co., Ltd.
129 Rama 9 Road, Huaykwang, Huaykwang, Bangkok 10110
Tel: +66 2643 8381 & Fax: +66 2645 8287, e-mail: service.thailand@sartorius.com

SARTORIUS

Model Number	MSE224S-100-DU	Certificate No.	23BCI0115
Description	Analytical Balance	Issued Date	Friday, March 03, 2023
Serial Number	0031709552	Reference No	204833
ID No	RYG_EN0003		
Manufacturer	Sartorius	Page No.	2 of 2

Calibration Results : Without Adjustment

Repeatability		Eccentricity (Off-center loading error)	
The repeatability is the ability of a sample instrument to display nearly identical results under constant test conditions after the same load without a measurement's center is placed regularly on the weighing pan or the weighing instrument. The standard deviation is used to represent repeatability quantitatively.		The center loading error is parallel by the difference between the reading of the load in 100 g and 10 g of mass standard placed at the center of the weighing pan and between each of four standard mass standard points placed randomly accessible.	
Nominal Value (Low Load)	20.0000 100.0000	Nominal value	100 g
20 g	20.0001 100.0000	Tolerance	0.0004 g
Tolerance	10.0000 200.0001		
0.0001 g	70.0000 200.0000		
	70.0000 200.0001		
Nominal Value (High Load)	70.0001 200.0000		
200 g	20.0000 700.0000		
Tolerance	10.0000 700.0000		
0.0001 g	20.0000 200.0001		
	20.0001 200.0000		
Standard Deviation	0.00004 0.00005		

Linearity
The linearity, also called linearity error, describes the deviation of the characteristic curve of a weighing instrument from the linear slope.

Tolerance 0.0002 g					
Humal Value	Conventional Mass Value	Displayed Value	Deviation	Uncertainty	
10	0.0100	0.0100	0.0000	0.0015	
0.01	0.0000	0.0000	0.0000	0.0003	
0.5	0.0000	0.0000	0.0000	0.0003	
0.1	0.0000	0.0000	0.0000	0.0003	
0.3	0.0000	0.0000	0.0000	0.0003	
1	0.0000	0.0000	0.0000	0.0004	
5	0.0000	0.0000	0.0000	0.0004	
10	0.0000	0.0000	0.0000	0.0004	
20	0.0000	0.0000	0.0000	0.0004	
50	0.0000	0.0000	0.0000	0.0005	
100	0.0000	0.0000	0.0000	0.0005	
200	0.0000	0.0000	0.0000	0.0005	

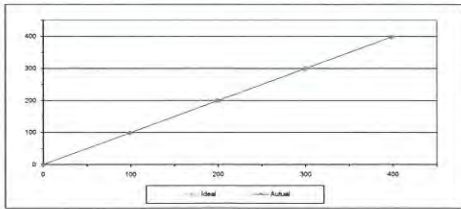
509 PM 33 03 February 2022



MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jan-23	Equipment Name	BO2 Analyzer
Manufacturer	Teledyne API	Model	T100
Serial No.	8061	Equipment ID	RYG-F80634
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	56.3	Cylinder No.	GN027222
Cylinder Pressure (psi)	1800	Certified By	Algas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	99.80	-0.20	-0.20
2	200.00	198.70	-1.30	-0.65
3	300.00	298.30	-1.70	-0.57
4	400.00	397.30	-2.70	-0.67
AVERAGE (%)				-0.60



Calibrated By: *(Signature)*
(Mr. Jirananee Saitam)
Field Environmental Scientist (I)

Approved By: *(Signature)*
(Mr. Sanyuthi Jirananee)
Assistant General Manager

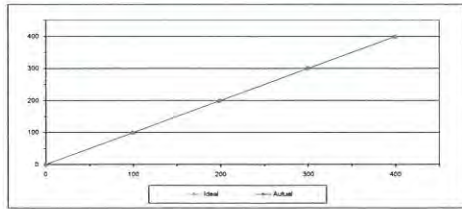
ALS Laboratory Group
FORM NO. F-06-056 REVISION NO. - ISSUE DATE: 02/04/22



MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jan-23	Equipment Name	BO2 Analyzer
Manufacturer	HORIBA	Model	APSA-370
Serial No.	8HC0DQJF	Equipment ID	RYG-F80630
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	56.3	Cylinder No.	GN027222
Cylinder Pressure (psi)	1800	Certified By	Algas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	99.10	-0.90	-0.90
2	200.00	198.00	-2.00	-1.00
3	300.00	299.00	-1.00	-0.33
4	400.00	398.50	-1.50	-0.38
AVERAGE (%)				-0.60



Calibrated By: *(Signature)*
(Mr. Jirananee Saitam)
Field Environmental Scientist (I)

Approved By: *(Signature)*
(Mr. Sanyuthi Jirananee)
Assistant General Manager

ALS Laboratory Group
FORM NO. F-06-056 REVISION NO. - ISSUE DATE: 02/04/22



Accredited calibration laboratory
ISO/IEC 17025:2017
NO. 106/16/1025
CALIBRATION 0367

Approved measurement laboratory
Calibration services department

Certificate Number
CL-011-66

CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

MEASUREMENT ITEM	Gas analyser
MANUFACTURER	Novatek
MODEL/TYPE	Sensor: WS-027 Data logger: 200 WS-2301
SERIAL NUMBER	8061
BY NUMBER	RYG-F80634
CONDITION AS RECEIVED	Used from
CUSTOMER	ALS Laboratory Group (Thailand) Co., Ltd. 104 Phatthana Road, Phatthana Road, Khwaeng Suan Luang, Khet Suan Luang, Bangkok 10250 Thailand
RECEIVED DATE	16 Jan 2023
MEASUREMENT DATE	16 Jan 2023
ISSUE DATE	20 Jan 2023

ENVIRONMENTAL CONDITIONS:	
Ambient condition in the laboratory are as follows:	
Temperature	23.0 ± 1.0 °C
Relative Humidity	55.0 ± 1.0 %RH
Atmospheric Pressure	1013.0 ± 1.0 hPa

PLACE OF CALIBRATION: Effect-type wind tunnel of Jirananee Associates Co., Ltd.

CALIBRATION CONDITIONS: Wind tunnel cross section area: 900 cm²
Wind direction: Frontal flow
Diameter of measuring pipe: 100 mm
Backsight type of test object: 0.111

Preconditioning: 24 hours at ambient conditions.
Measurement Condition: The average values during measurement are (22.5 °C, 52.8 %RH and 1013.2 hPa).

TABULATION OF RESULTS: The table on next page give the measured values.

Calibrated by: *(Signature)*
(Mr. Sanyuthi Jirananee)
Calibration Services Manager

Remarks: The calibration area of the wind tunnel.
The calibration area of the test object include measuring pipe.
The calibration area of the test object include measuring pipe.
The calibration area of the test object include measuring pipe.

THIS CERTIFICATE OF CALIBRATION MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY



Accredited calibration laboratory
ISO/IEC 17025:2017
NO. 106/16/1025
CALIBRATION 0367

Approved measurement laboratory
Calibration services department

Certificate Number
CL-011-66

CERTIFICATE OF CALIBRATION

Page 2 of 2 Pages

Point	Temp. wind tunnel	Temp. room	Error	%Error
1	23.00	23.40	0.40	0.40
2	23.00	23.40	0.40	0.40
3	23.00	23.40	0.40	0.40
4	23.00	23.40	0.40	0.40
5	23.00	23.40	0.40	0.40
6	23.00	23.40	0.40	0.40
7	23.00	23.40	0.40	0.40
8	23.00	23.40	0.40	0.40
9	23.00	23.40	0.40	0.40
10	23.00	23.40	0.40	0.40
11	23.00	23.40	0.40	0.40
12	23.00	23.40	0.40	0.40
13	23.00	23.40	0.40	0.40
14	23.00	23.40	0.40	0.40
15	23.00	23.40	0.40	0.40
16	23.00	23.40	0.40	0.40
17	23.00	23.40	0.40	0.40
18	23.00	23.40	0.40	0.40
19	23.00	23.40	0.40	0.40
20	23.00	23.40	0.40	0.40
21	23.00	23.40	0.40	0.40
22	23.00	23.40	0.40	0.40
23	23.00	23.40	0.40	0.40
24	23.00	23.40	0.40	0.40
25	23.00	23.40	0.40	0.40
26	23.00	23.40	0.40	0.40
27	23.00	23.40	0.40	0.40
28	23.00	23.40	0.40	0.40
29	23.00	23.40	0.40	0.40
30	23.00	23.40	0.40	0.40
31	23.00	23.40	0.40	0.40
32	23.00	23.40	0.40	0.40
33	23.00	23.40	0.40	0.40
34	23.00	23.40	0.40	0.40
35	23.00	23.40	0.40	0.40
36	23.00	23.40	0.40	0.40
37	23.00	23.40	0.40	0.40
38	23.00	23.40	0.40	0.40
39	23.00	23.40	0.40	0.40
40	23.00	23.40	0.40	0.40
41	23.00	23.40	0.40	0.40
42	23.00	23.40	0.40	0.40
43	23.00	23.40	0.40	0.40
44	23.00	23.40	0.40	0.40
45	23.00	23.40	0.40	0.40
46	23.00	23.40	0.40	0.40
47	23.00	23.40	0.40	0.40
48	23.00	23.40	0.40	0.40
49	23.00	23.40	0.40	0.40
50	23.00	23.40	0.40	0.40
51	23.00	23.40	0.40	0.40
52	23.00	23.40	0.40	0.40
53	23.00	23.40	0.40	0.40
54	23.00	23.40	0.40	0.40
55	23.00	23.40	0.40	0.40
56	23.00	23.40	0.40	0.40
57	23.00	23.40	0.40	0.40
58	23.00	23.40	0.40	0.40
59	23.00	23.40	0.40	0.40
60	23.00	23.40	0.40	0.40
61	23.00	23.40	0.40	0.40
62	23.00	23.40	0.40	0.40
63	23.00	23.40	0.40	0.40
64	23.00	23.40	0.40	0.40
65	23.00	23.40	0.40	0.40
66	23.00	23.40	0.40	0.40
67	23.00	23.40	0.40	0.40
68	23.00	23.40	0.40	0.40
69	23.00	23.40	0.40	0.40
70	23.00	23.40	0.40	0.40
71	23.00	23.40	0.40	0.40
72	23.00	23.40	0.40	0.40
73	23.00	23.40	0.40	0.40
74	23.00	23.40	0.40	0.40
75	23.00	23.40	0.40	0.40
76	23.00	23.40	0.40	0.40
77	23.00	23.40	0.40	0.40
78	23.00	23.40	0.40	0.40
79	23.00	23.40	0.40	0.40
80	23.00	23.40	0.40	0.40
81	23.00	23.40	0.40	0.40
82	23.00	23.40	0.40	0.40
83	23.00	23.40	0.40	0.40
84	23.00	23.40	0.40	0.40
85	23.00	23.40	0.40	0.40
86	23.00	23.40	0.40	0.40
87	23.00	23.40	0.40	0.40
88	23.00	23.40	0.40	0.40
89	23.00	23.40	0.40	0.40
90	23.00	23.40	0.40	0.40
91	23.00	23.40	0.40	0.40
92	23.00	23.40	0.40	0.40
93	23.00	23.40	0.40	0.40
94	23.00	23.40	0.40	0.40
95	23.00	23.40	0.40	0.40
96	23.00	23.40	0.40	0.40
97	23.00	23.40	0.40	0.40
98	23.00	23.40	0.40	0.40
99	23.00	23.40	0.40	0.40
100	23.00	23.40	0.40	0.40

Remarks: Calibration results only valid for the stated circumstances and environmental conditions during which calibration took place.
Velocity of standard: 1.0 m/s
Velocity of test object: 1.0 m/s

PHOTO OF CALIBRATION SET UP



Calibration set up of the gas analyser in the wind tunnel of Jirananee Associates Co., Ltd. The gas analyser shown may differ from the calibrated one. The calibration set up is not to be used for the calibration.

THIS CERTIFICATE OF CALIBRATION MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY



MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jan-23	Equipment Name	BO2 Analyzer
Manufacturer	HORIBA	Model	APSA-370
Serial No.	8HC0DQJF	Equipment ID	RYG-F80630
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	56.3	Cylinder No.	GN027222
Cylinder Pressure (psi)	1800	Certified By	Algas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

Point	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10
1	100.00	99.10	-0.90	-0.90
2	200.00	198.00	-2.00	-1.00
3	300.00	299.00	-1.00	-0.33
4	400.00	398.50	-1.50	-0.38
AVERAGE (%)				-0.60



Calibrated By: *(Signature)*
(Mr. Sanyuthi Jirananee)
Calibration Services Manager

ALS Laboratory Group
FORM NO. F-06-056 REVISION NO. - ISSUE DATE: 02/04/22



Accredited calibration laboratory
ISO/IEC 17025:2017
NO. 106/16/1025
CALIBRATION 0367

Approved measurement laboratory
Calibration services department

Certificate Number
CL-011-66

CERTIFICATE OF CALIBRATION

Page 1 of 2 Pages

MEASUREMENT ITEM	Gas analyser
MANUFACTURER	Novatek
MODEL/TYPE	Sensor: WS-027 Data logger: 200 WS-2301
SERIAL NUMBER	8061
BY NUMBER	RYG-F80634
CONDITION AS RECEIVED	Used from
CUSTOMER	ALS Laboratory Group (Thailand) Co., Ltd. 104 Phatthana Road, Phatthana Road, Khwaeng Suan Luang, Khet Suan Luang, Bangkok 10250 Thailand
RECEIVED DATE	16 Jan 2023
MEASUREMENT DATE	16 Jan 2023
ISSUE DATE	20 Jan 2023

ENVIRONMENTAL CONDITIONS:	
Ambient condition in the laboratory are as follows:	
Temperature	23.0 ± 1.0 °C
Relative Humidity	55.0 ± 1.0 %RH
Atmospheric Pressure	1013.0 ± 1.0 hPa

PLACE OF CALIBRATION: Effect-type wind tunnel of Jirananee Associates Co., Ltd.

CALIBRATION CONDITIONS: Wind tunnel cross section area: 900 cm²
Wind direction: Frontal flow
Diameter of measuring pipe: 100 mm
Backsight type of test object: 0.111

Preconditioning: 24 hours at ambient conditions.
Measurement Condition: The average values during measurement are (22.5 °C, 52.8 %RH and 1013.2 hPa).

TABULATION OF RESULTS: The table on next page give the measured values.

Calibrated by: *(Signature)*
(Mr. Sanyuthi Jirananee)
Calibration Services Manager

Remarks: The calibration area of the wind tunnel.
The calibration area of the test object include measuring pipe.
The calibration area of the test object include measuring pipe.
The calibration area of the test object include measuring pipe.

THIS CERTIFICATE OF CALIBRATION MAY NOT BE REPRODUCED EXCEPT IN FULL UNLESS PERMISSION FOR REPRODUCTION HAS BEEN OBTAINED IN WRITING FROM THE LABORATORY



MULTIPOINT CALIBRATION REPORT

Calibration Date	4-Jan-23	Equipment Name	BO2 Analyzer
Manufacturer	Teledyne API	Model	T100
Serial No.	8061	Equipment ID	RYG-F80634
Calibrator Manufacturer	Teledyne API	Model	700
Serial No.	947		
Std. Gas Concentration (PPM)	56.3	Cylinder No.	GN027222
Cylinder Pressure (psi)	1800	Certified By	Algas Inc.
Certified Date	9-Feb-22	Expired Date	9-Feb-30

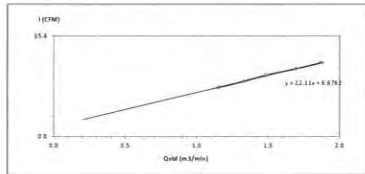
Point	Ideal	Actual	Error	%Error
ZERO	0.00	0.10	0.10	0.10



High Volume Air Sampler Calibration Worksheet

Project Site:	Real Ratch Energy Rayong Co., Ltd.	Barometric Pressure (mm Hg):	752
Calibrate Location:	AL1, Samutprakan	Temperature (°C):	32
Calibrate Date:	17 Mar 23	High Volume ID:	RYG-F50170
Calibration Sheet No.:	C-170323-BKK-F50170	High Volume Model:	TE-50170
Calibrator ID:	RYG-F50205	High Volume S/N:	4895
Calibrator Model:	TE-5020A	Calibrator Slope:	1.50765
Calibrator S/N:	1166	Calibrator Intercept:	-0.02192

Test No.	Delta H ₂ O (inch)	Q _{air} (m ³ /min)	T-Chart (CFM)	Linear Regression
1	3.2	1.1315	42	Slope: 33.897
2	3.6	1.2299	46	Intercept: 0.9784
3	4.2	1.4054	48	Correlation Coefficient: 0.9991
4	4.6	1.4918	44	
5	5.2	1.6715	48	



Calibrated by: SITHIPORN

(Mr. Sittawat Somsawat)
Field Scientist (1)

Approved by: [Signature]

(Mr. Noppapong Jantarasarn)
Senior Field Coordinator Scientist (1)

FORM NO. F-66-074 REVISION NO.: ISSUE DATE: 14/01/19

Sartorius (Thailand) Co., Ltd.
129 Rama 9 Road, Huaykhong, Bangkok 10310
Tel: +66 2043 831-1 Fax: +66 2043 831-7 e-mail: service.thailand@sartorius.comSARTORIUS
REVIEW BY: [Signature]
APPROVED BY: [Signature]
NEXT CAL DATE: 10/03/24

Model Number: LA130S-F
Description: Analytical Balance
Serial Number: 25409604
ID No: RYG_EN0001
Manufacturer: Sartorius

Certificate No: 23BC0110
Issued Date: Friday, March 03, 2023
Reference No: 204833

Page No: 1 of 2

Customer Name: A.S. Laboratory Group (Thailand) Co. Ltd. (Rayong Branch)
616/10 Moo 5 T Maenam Khu, A Phuk Daeng, Rayong 21140, Thailand

Calibrated Place: A.S. Laboratory Group (Thailand) Co., Ltd. (Balance Room)
616/10 Moo 5 T Maenam Khu, A Phuk Daeng, Rayong 21140, Thailand

Calibrated By: Mr. Chuchai Inthara
Calibration Date: Wednesday, March 01, 2023

Calibration Procedure No.: This calibration was conducted by using in-house calibration procedure number (WI-003) Based on UKAS LAB 14: 2019

Metrological data
Capacity: 150 g Readability: 0.0001 g
Ambient Conditions
Temperature: 24.2 °C ± 5.0 °C
Humidity: 60.0 % RH ± 10.0 % RH
Pressure: ±

Reasons for calibration
☐ New Installation ☐ Service / Repair ☐ No Calibration / Maintenance ☐ Equipment Condition ☐ Daily Operation ☐ Other

Measurement Method: UKAS Publication Ref: Lab 14
The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The calibration certificate documents the traceability to National Standards, which realize the unit of measurement according to the International Standard System of Units (SI). Report of Tolerance same form (ref) of Sartorius Metrological Specifications

Traceability:

Model Number	Description	Traceability	Certificate No	Date Due
YC5011-S22-00	Sartorius weight set 1mg - 1000g E2 YC5011-S22-00	SPC-RT	C0221565	14-Sep-2023
MH8-352SD	Humidity/Brometer/Temp. Luton MH8-352SD	DKSH	C1922044	5-Sep-2023

This certificate relates and apply this equipment only.
This certificate may not be reproduced other than in full except with the prior written approval of the Verification Operation Division, Sartorius (Thailand) Co., Ltd.

SARTORIUS
M. Chuchai Inthara (Technical Manager)

SOP FM 33: 03 February 2022

Sartorius (Thailand) Co., Ltd.
129 Rama 9 Road, Huaykhong, Bangkok 10310
Tel: +66 2043 831-1 Fax: +66 2043 831-7 e-mail: service.thailand@sartorius.com



Certificate of Calibration

Model Number: LA130S-F
Description: Analytical Balance
Serial Number: 25409604
ID No: RYG_EN0001
Manufacturer: Sartorius

Certificate No: 23BC0110
Issued Date: Friday, March 03, 2023
Reference No: 204833

Page No: 2 of 2

Calibration Results : Without Adjustment

Repeatability					Eccentricity (Off-center loading error)				
The repeatability is the ability of a weighing instrument to display nearly identical readings under constant conditions when the same load is weighed a measured series is placed repeatedly on the weighing pan and between each of four additional series is placed repeatedly on the weighing pan. The standard deviation, s, is used.					The off-center loading error is caused by the difference between the resultant of the load, i.e. 10% of the maximum capacity, placed in the middle of the weighing pan and between each of four additional series is placed on the weighing pan. The standard deviation, s, is used.				
Nominal Value (Low Load)	10 g	10.0000	10.0000	0.0000	Nominal Value	50 g	50	5	
Tolerance	0.0001 g	10.0000	10.0000	0.0000	Tolerance	0.0004 g	0.0004	0.0004	
	0.0001 g	10.0000	10.0000	0.0000				Difference	
Nominal Value (High Load)	100 g	100.0000	100.0000	0.0000		1	2	0.0000	
Tolerance	0.0001 g	100.0000	100.0000	0.0000			3	0.0000	
0.0001 g	0.0001 g	100.0000	100.0000	0.0000			4	0.0000	
	0.0001 g	100.0000	100.0000	0.0000		5	6	0.0000	
Standard Deviation	0.00009	0.00009	0.00009	0.00009					
Linearity									
The linearity, also called linearity error, describes the deviation of the characteristic curve of a weighing instrument from the linear slope.									
Tolerance	0.0002 g								
Nominal Value	Conventional Mass Value	Displayed Value	Deviation	Uncertainty					
0.01	0.0100	0.0100	0.0000	0.0000					
0.1	0.1000	0.1000	0.0000	0.0000					
1	1.0000	1.0000	0.0000	0.0000					
10	10.0000	10.0000	0.0000	0.0000					
100	100.0000	100.0000	0.0000	0.0000					
1000	1000.0000	1000.0000	0.0000	0.0000					

End of Report

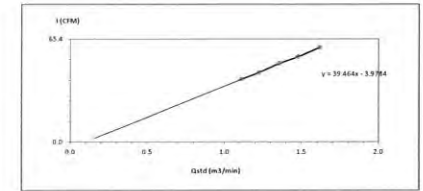
SOP FM 33: 03 February 2022



High Volume Air Sampler Calibration Worksheet

Project Site:	Real Ratch Energy Rayong Co., Ltd.	Barometric Pressure (mm Hg):	752
Calibrate Location:	AL1, Samutprakan	Temperature (°C):	32
Calibrate Date:	17 Mar 23	High Volume ID:	BKK-F50170
Calibration Sheet No.:	C-170323-BKK-F50170	High Volume Model:	TE-50170
Calibrator ID:	RYG-F50205	High Volume S/N:	4895
Calibrator Model:	TE-5020A	Calibrator Slope:	1.50765
Calibrator S/N:	1166	Calibrator Intercept:	-0.02192

Test No.	Delta H ₂ O (inch)	Q _{air} (m ³ /min)	T-Chart (CFM)	Linear Regression
1	2.8	1.1117	40	Slope: 39.4641
2	3.4	1.2216	44	Intercept: -0.9784
3	4.2	1.3578	50	Correlation Coefficient: 0.9991
4	5.0	1.4787	54	
5	6.0	1.6179	60	



Calibrated by: SITHIPORN

(Mr. Sittawat Somsawat)
Field Scientist (1)

Approved by: [Signature]

(Mr. Noppapong Jantarasarn)
Senior Field Coordinator Scientist (1)

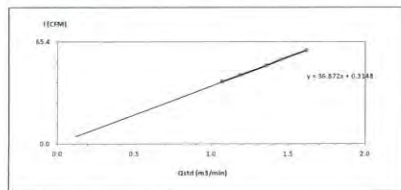
FORM NO. F-66-073 REVISION NO.: ISSUE DATE: 14/01/19



High Volume Air Sampler Calibration Worksheet

Project Site:	Real Ratch Energy Rayong Co., Ltd.	Barometric Pressure (mm Hg):	752
Calibrate Location:	AL1, Samutprakan	Temperature (°C):	32
Calibrate Date:	17 Mar 23	High Volume ID:	BKK-F50170
Calibration Sheet No.:	C-170323-BKK-F50170	High Volume Model:	TE-50170
Calibrator ID:	RYG-F50205	High Volume S/N:	4895
Calibrator Model:	TE-5020A	Calibrator Slope:	1.50765
Calibrator S/N:	1166	Calibrator Intercept:	-0.02192

Test No.	Delta H ₂ O (inch)	Q _{air} (m ³ /min)	T-Chart (CFM)	Linear Regression
1	2.8	1.1117	40	Slope: 39.4641
2	3.4	1.2216	44	Intercept: -0.9784
3	4.2	1.3578	50	Correlation Coefficient: 0.9991
4	5.0	1.4787	54	
5	6.0	1.6179	60	



Calibrated by: SITHIPORN

(Mr. Sittawat Somsawat)
Field Scientist (1)

Approved by: [Signature]

(Mr. Noppapong Jantarasarn)
Senior Field Coordinator Scientist (1)

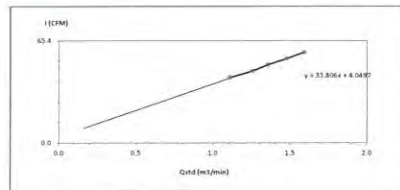
FORM NO. F-66-073 REVISION NO.: ISSUE DATE: 14/01/19



High Volume Air Sampler Calibration Worksheet

Project Site:	Real Ratch Energy Rayong Co., Ltd.	Barometric Pressure (mm Hg):	752
Calibrate Location:	AL1, Samutprakan	Temperature (°C):	32
Calibrate Date:	17 Mar 23	High Volume ID:	RYG-F50170
Calibration Sheet No.:	C-170323-BKK-F50170	High Volume Model:	TE-50170
Calibrator ID:	RYG-F50205	High Volume S/N:	4895
Calibrator Model:	TE-5020A	Calibrator Slope:	1.50765
Calibrator S/N:	1166	Calibrator Intercept:	-0.02192

Test No.	Delta H ₂ O (inch)	Q _{air} (m ³ /min)	T-Chart (CFM)	Linear Regression
1	2.8	1.1117	42	Slope: 33.897
2	3.6	1.2299	46	Intercept: 0.9784
3	4.2	1.3578	50	Correlation Coefficient: 0.9991
4	5.0	1.4787	54	
5	5.8	1.5910	58	



Calibrated by: SITHIPORN

(Mr. Sittawat Somsawat)
Field Scientist (1)

Approved by: [Signature]

(Mr. Noppapong Jantarasarn)
Senior Field Coordinator Scientist (1)

FORM NO. F-66-073 REVISION NO.: ISSUE DATE: 14/01/19

SITHIPORN ASSOCIATES CO.,LTD.
CALIBRATION LABORATORY401-401/19 Siphorn Rd., Bangyuan, Bangkok 10700 THAILAND
Tel: 02-2433-8600 Fax: 02-2433-1679 e-mail: center@sihphorn.com Http://www.sihphorn.comCert. No.: ACC23005
Pages: 1 of 3

Calibration Certificate

Equipment: SOUND CALIBRATOR
Manufacturer: RION
Model: NC-75
Serial No.: 35007736
ID No.: RYG-F50496

Condition As Found: GOOD

Customer: A.S. LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATHANAKAN 40, PHATHANAKAN ROAD,
KHAOFAENG PHATHANAKAN, KHAOFAENG 10400,
BANGKOK, 10250 THAILAND.

Location: (25.0 ± 3.3) °C
Ambient Temperature: (101.3 ± 3.3) kPa
Pressure: (50.0 ± 20.3) %
Relative Humidity:

Received Date: 06 JANUARY 2023
Calibration Date: 17 JANUARY 2023
Date of Issue: 19 JANUARY 2023

Calibrated by: Nubakorn Phiphavan

Approved by: [Signature]

(Thamkul Petchurak)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory

01-TS12-04-04-020644

SITHIPORN SITHIPORN ASSOCIATES CO.,LTD.
CALIBRATION LABORATORY

Continuation of Calibration Certificate

Cert. No.: ACC23005
Job No.: VC66AC0024
Pages: 2 of 3

Calibration Procedure: CPAC-03

Calibration Method: This equipment was calibrated by based on IEC-60942-2003 Standard.
The sound pressure level, frequency and total distortion of the sound calibrator was measured using the reference microphone.

Condition of this result of calibration:

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33511B	MY52302742	EF-0008-22	04-Feb-23
Digital Multimeter	33461A	MY53220104	EEL_BP_03-02-85	09-Feb-23
Digital Multimeter	33461A	MY53220076	EEL_BP_03-02-85	09-Feb-23
Digital Multimeter	33461A	MY66024273	EEL_BP_05-02-85	09-Feb-23
Programmable Attenuator	NAI-1070	62100114	EF-0009-22	07-Feb-23
Condenser Microphone	4000	297590	AA-1013-22	24-Feb-23
Measuring Amplifier	NA-42KA	34560495	AA-3005-22	22-Feb-23
Audio Analyzer	AVR-3360A	V74B0609	EF-0010-22	07-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is transferable to the international system of unit maintained at:

3.1 National Institute of Metrology (Thailand)

3.2 Thailand Institute of Scientific and Technological Research (TISTR)

01-TS12-04-04-020644

Continuation of Calibration Certificate

Cert. No. : ACC23805
Job No. : VC64AC0604
Pages : 3 of 3

Result of calibration :

1. Sound pressure level

Specified sound pressure level (dB)	Measured value (dB)	Deviated value (dB)	Uncertainty (dB)	Tolerance limit (dB)
94	93.98	-0.02	0.14	0.40

2. Frequency

Specified Frequency (Hz)	Measured value (Hz)	Deviated value (%)	Uncertainty (%)	Tolerance limit (%)
1000	1000.0	0.0	0.1	1.0

3. Total distortion

Measured value (%)	Uncertainty (%)	Tolerance limit (%)
0.35	0.10	3.0

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k=2$ or any value following calculation providing a level of confidence of approximately 95 %.

End of Calibration Certificate

QE-TS12-04-04-02064

Continuation of Calibration Certificate

Cert. No. : ACL22115
Job No. : VC65AC0660
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.95)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
18.0

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	15.8
C-weight	20.3
Flat	25.8

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 94 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
125	0.7	0.7	0.7	±1.5
1000	0.1	0.1	0.1	±1.0
8000	-1.5	-1.5	-1.5	±5.0

491-45111 Siphon Rd, Jangpura, Bangkok 10700 THAILAND
Tel:0-24353800 Fax:0-2431-1679 e-mail:calcenter@sithiporn.com http://www.sithiporn.comCert. No. : ACL22115
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42 / Microphone UC-52 / Preamplifier NH-24
Serial No. : 00734223 / 157777 / 22653
ID No. : RYG F50029

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATHANAKAN 40, PHATHANAKAN ROAD,
KIWAENG PHATHANAKAN, KHEE SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location :
Ambient Temperature : (23.0 ± 3.3) °C
Pressure : (101.3 ± 3.3) kPa
Relative Humidity : (50.0 ± 2.0) %
Received Date : 17 MAY 2022
Calibration Date : 24-27 MAY 2022
Date of Issue : 30 MAY 2022

Calibrated by : Nakhon Pitsuppan

Approved by :

T. Pichai
(Thanikul Pichai)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

QE-TS12-04-04-02064

Continuation of Calibration Certificate

Cert. No. : ACL22115
Job No. : VC65AC0660
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	-0.2	-0.1	±2.0
125	-0.1	0.0	0.0	±1.5
250	0.0	0.0	-0.1	±1.5
500	0.0	0.0	-0.1	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.0	0.0	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	0.0	±1.1
C-weight	94.0	0.0	±0.2
Flat	94.0	0.0	±0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	±1.1
Slow	94.0	0.0	±0.1
Imp	94.0	0.0	±0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.3

Continuation of Calibration Certificate

Cert. No. : ACL22115
Job No. : VC65AC0660
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).
The SLM had tests in Acoustical and Electrical signal tests of frequency weighting with Acoustic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0007-22	04-Feb-23
Waveform Generator	33511B	MY52302742	EF-0008-22	04-Feb-23
Digital Multimeter	33461A	MY53220104	EEL-BP_040265	09-Feb-23
Digital Multimeter	33461A	MY53220676	EEL-BP_030265	09-Feb-23
Digital Multimeter	34461A	MY60024273	EEL-BP_050265	09-Feb-23
Programmable Attenuator	MA1-1070	42100114	FF-0009-22	07-Feb-23
Condenser Microphone	4190	2977900	AA-1013-22	24-Feb-23
Measuring Amplifier	NA-42KA1	34560495	AA-3005-22	22-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QE-TS12-04-04-02064

Continuation of Calibration Certificate

Cert. No. : ACL22115
Job No. : VC65AC0660
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	132.9	-0.1	±1.1
132.0	131.9	-0.1	±1.1
131.0	130.9	-0.1	±1.1
129.0	128.9	-0.1	±1.1
128.0	127.9	-0.1	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
29.0	29.9	-0.1	±1.1
24.0	24.9	-0.1	±1.1
19.0	19.9	-0.1	±1.1
14.0	14.9	-0.1	±1.1
9.0	9.9	-0.1	±1.1
4.0	4.9	-0.1	±1.1

Continuation of Calibration Certificate

Cert. No. : ACL22115
Job No. : VC65AC0660
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	—	0.2	N/A
2. Self-generated noise	✓	—	0.2	N/A
3. Acoustical signal tests of frequency weightings	✓	—	0.3	0.6
125 Hz	✓	—	0.3	0.6
1000 Hz	✓	—	0.3	0.6
8000 Hz	✓	—	0.3	0.7
4. Electrical signal tests of frequency weightings	✓	—	0.3	0.6
For 10 Hz to 4 kHz	✓	—	0.3	0.7
For ~ 4 kHz to 10 kHz	✓	—	0.3	0.6
For ~ 10 kHz to 20 kHz	—	—	—	1.0
5. Frequency and time weightings at 1 kHz	✓	—	0.2	0.2
6. Long-term stability	✓	—	0.1	0.1
7. Level linearity on the reference level range	✓	—	0.2	0.3
8. Level linearity including the level range control	✓	—	0.2	0.3
9. Tone burst response	✓	—	0.2	0.3
10. Peak C sound level	✓	—	0.2	0.35
11. Overload indication	✓	—	0.2	0.25
12. High level stability	✓	—	0.1	0.1

QE-TS12-04-04-02064

Continuation of Calibration Certificate

Cert. No. : ACL22115
Job No. : VC65AC0660
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Tone burst response

Time Weighting	Tone burst duration, Th (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	±1.5 ; ±5.0
	2	8	117.0	116.9	-0.1	±1.0 ; ±2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	±1.5 ; ±5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.8	-0.2	±1.5 ; ±5.0
SEL	2	8	108.0	108.0	0.0	±1.0 ; ±2.5
	200	800	128.0	128.0	0.0	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L _{peak} (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	—
One	136.4	135.8	-0.6	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	—
Positive half cycle	135.4	135.1	-0.3	±2.0
Negative half cycle	135.4	135.1	-0.3	±2.0

QE-TS12-04-04-02064

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Continuation of Calibration Certificate

Cert. No. : ACL22115
Job No. : VC65AC0060
Pages : 8 of 8151-451/1 Sindhorn Rd.,Bangumru, Bangkok 10700 THAILAND
Tel:0-2415-8010 Fax:0-2415-1679 e-mail:calcenter@sithiporn.com http://www.sithiporn.comCert. No. : ACL23041
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42/ Microphone UC-52 / Pyramplifier NH-24
Serial No. : 00734221 / 145286 / 34371
ID No. : RYG J50027

Condition As Found : GOOD

Customer : AUS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHUATONG PHATTHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location :
Ambient Temperature : (23.0 ± 1) °C
Pressure : (101.3 ± 1) kPa
Relative Humidity : (50.0 ± 20) %

Received Date : 06 JANUARY 2023
Calibration Date : 13-18 JANUARY 2023
Date of Issue : 19 JANUARY 2023

Calibrated by : Nithakorn Pongpauan

Approved by : T. Petchu
(Thaimak Petchu)

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11. Overload indication

Measured value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle	
39.6	39.6	0.0 ±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$ or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

QF-TS12-04-04-029664

QF-TS12-04-04-029664

Continuation of Calibration Certificate

Cert. No. : ACL23041
Job No. : VC66AC0024
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.95)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
17.1

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	13.4
C-weight	19.6
Flat	25.5

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)
	Flat C-weight A-weight Acceptance Limits
125	0.4 0.4 0.4 ±1.5
1000	0.1 0.1 0.1 ±1.0
8000	1.5 1.6 1.6 ±5.0

Continuation of Calibration Certificate

Cert. No. : ACL23041
Job No. : VC66AC0024
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)
	Flat C-weight A-weight Acceptance Limits
63	0.0 0.0 0.0 ±2.0
125	0.0 0.0 0.0 ±1.5
250	0.0 0.0 0.0 ±1.5
500	0.0 0.1 0.0 ±1.5
1000	0.0 0.0 0.0 ±1.0
2000	0.0 0.1 0.0 ±2.0
4000	0.0 0.0 0.0 ±3.0
8000	0.0 0.1 0.1 ±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	0.0	-
C-weight	94.0	0.0	±0.2
Flat	94.0	0.0	±0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	
Slow	94.0	0.0	±0.1
Leg	94.0	0.0	±0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.3

Continuation of Calibration Certificate

Cert. No. : ACL23041
Job No. : VC66AC0024
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).

The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY58017078	EF-0007-22	04-Feb-23
Waveform Generator	33511B	MY53002742	EF-0008-22	04-Feb-23
Digital Multimeter	33461A	MY53220104	EEL-HP-04/0265	09-Feb-23
Digital Multimeter	33461A	MY53220076	EEL-HP-03/0265	09-Feb-23
Digital Multimeter	33461A	MY60024733	EEL-HP-05/0265	09-Feb-23
Programmable Attenuator	MAT-1070	62100114	EF-0009-22	07-Feb-23
Condenser Microphone	4180	2977900	AA-1013-22	24-Feb-23
Measuring Amplifier	NA-42KA1	34580495	AA-3005-22	22-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-029664

Continuation of Calibration Certificate

Cert. No. : ACL23041
Job No. : VC66AC0024
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.3
136.0	136.0	0.0	±1.3
135.0	135.0	0.0	±1.3
134.0	134.0	0.0	±1.3
133.0	133.0	0.0	±1.3
132.0	132.0	0.0	±1.3
131.0	131.0	0.0	±1.3
129.0	129.0	0.0	±1.3
124.0	124.0	0.0	±1.3
119.0	119.0	0.0	±1.3
114.0	114.0	0.0	±1.3
109.0	109.0	0.0	±1.3
104.0	104.0	0.0	±1.3
99.0	99.0	0.0	±1.3
94.0	94.0	0.0	±1.3
89.0	89.0	0.0	±1.3
84.0	84.0	0.0	±1.3
79.0	79.0	0.0	±1.3
74.0	74.0	0.0	±1.3
69.0	69.0	0.0	±1.3
64.0	64.0	0.0	±1.3
59.0	59.0	0.0	±1.3
54.0	54.0	0.0	±1.3
49.0	49.0	0.0	±1.3
44.0	44.0	0.0	±1.3
39.0	39.0	-0.1	±1.3
34.0	33.9	-0.1	±1.3
30.0	29.9	-0.1	±1.3
29.0	28.9	-0.1	±1.3
28.0	27.9	-0.1	±1.3
27.0	26.9	-0.1	±1.3
26.0	25.9	-0.1	±1.3
25.0	24.8	-0.2	±1.3

Continuation of Calibration Certificate

Cert. No. : ACL23041
Job No. : VC66AC0024
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings				
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings				
For 10 Hz to 4 kHz	✓	-	0.3	0.6
For 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long-term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C sound level	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

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Continuation of Calibration Certificate

Cert. No. : ACL23041
Job No. : VC66AC0024
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.3

9. Tone burst response

Time Weighting	Tone burst duration, Th (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5, -5.0
	2	8	117.0	117.0	0.0	1.0, -2.5
	200	800	134.0	134.1	0.1	±1.0
Slow	2	8	108.0	108.0	0.0	1.5, -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5, -5.0
SEL	2	8	108.0	108.0	0.0	1.0, -2.5
	200	800	128.0	128.1	0.1	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lpeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.0	-0.4	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

QF-TS12-04-04-029664

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Continuation of Calibration Certificate

Cert. No. : ACL22195
Job No. : VC65AC0081
Pages : 8 of 8

11. Overload indication

Measured value (dB)		Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle		
89.6	89.6	0.0	±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k=2$ or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

451-451/1 Sithiporn Rd., Bangchuan, Bangkok 10700 THAILAND
Tel: 0-2435-8800 Fax: 0-2431-4679 e-mail: calcenter@sithiporn.com http://www.sithiporn.comCert. No. : ACL22195
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42 Microphone UC-52 / Preamplifier NH-24
Serial No. : 00597169 / 150411 / 88181
ID No. : RYG J50438

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHWAENG PHATTHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location :
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 3) kPa
Relative Humidity : (50.0 ± 20) %

Received Date : 08 SEPTEMBER 2022
Calibration Date : 07-09 SEPTEMBER 2022
Date of Issue : 14 SEPTEMBER 2022

Calibrated by : Nafukorn Pitsupaisan

Approved by : *T. Petchu*
(Thanakul Petchu)

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QP-TS12-04-04-02064

Continuation of Calibration Certificate

Cert. No. : ACL22195
Job No. : VC65AC0081
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.8 (93.95)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
15.1

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	13.1
C-weight	19.3
Flat	24.8

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			Acceptance Limits
	Flat	C-weight	A-weight	
125	0.1	0.1	0.1	±1.5
1000	0.0	0.0	0.0	±1.0
8000	1.2	1.3	1.2	±5.0

Continuation of Calibration Certificate

Cert. No. : ACL22195
Job No. : VC65AC0081
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	-0.1	-0.1	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	0.0	-
C-weight	94.0	0.0	±0.2
Flat	94.0	0.0	±0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	-
Slow	94.0	0.0	±0.1
Leq	94.0	0.0	±0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.3

Continuation of Calibration Certificate

Cert. No. : ACL22195
Job No. : VC65AC0081
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).

The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	3121RA	MY48017076	IF-6007-22	04-Feb-23
Waveform Generator	3151FB	MY53202742	IF-6008-22	04-Feb-23
Digital Multimeter	3346IA	MY53202064	EEL-HP 04/0265	09-Feb-23
Digital Multimeter	3346IA	MY53202076	FFI-HP 05/0265	09-Feb-23
Digital Multimeter	3446IA	MY60024273	EEL-HP 05/0265	09-Feb-23
Programmable Attenuator	MAT-1070	62100114	EF-0009-22	07-Feb-23
Condenser Microphone	4180	29790014	AA-1013-22	24-Feb-23
Measuring Amplifier	NA-42KAI	34560495	AA/3005-22	22-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at:

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QP-TS12-04-04-02064

Continuation of Calibration Certificate

Cert. No. : ACL22195
Job No. : VC65AC0081
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	53.9	-0.1	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
30.0	30.0	0.0	±1.1
29.0	29.0	0.0	±1.1
28.0	28.0	0.0	±1.1
27.0	27.0	0.0	±1.1
26.0	26.0	0.0	±1.1
25.0	25.0	0.0	±1.1

Continuation of Calibration Certificate

Cert. No. : ACL22195
Job No. : VC65AC0081
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings	✓	-	0.3	0.6
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings	✓	-	0.3	0.6
For 10 Hz to 4 kHz	✓	-	0.3	0.7
For > 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long-term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C sound level	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

QP-TS12-04-04-02064

Continuation of Calibration Certificate

Cert. No. : ACL22195
Job No. : VC65AC0081
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.8 (93.95)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
15.1

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	13.1
C-weight	19.3
Flat	24.8

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			Acceptance Limits
	Flat	C-weight	A-weight	
125	0.1	0.1	0.1	±1.5
1000	0.0	0.0	0.0	±1.0
8000	1.2	1.3	1.2	±5.0

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Continuation of Calibration Certificate

Cert. No. : ACL22195
Job No. : VC65AC0081
Pages : 8 of 8

11. Overload indication

Measured value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle	
89.5	89.6	0.1
		±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$ or any value following calculation providing a level of confidence of approximately 95 %

End of Calibration Certificate

QE-TS12-04-04-02664

Continuation of Calibration Certificate

Cert. No. : ACL23045
Job No. : VC66AC0024
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
93.9 (93.95)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
14.8

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	9.9
C-weight	16.8
Flat	22.8

3. Acoustic signal tests of frequency weightings

Meter free-field acoustic response at a level of 94 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits (dB)
125	0.4	0.4	0.4	±1.5
1000	0.1	0.1	0.1	±1.0
8000	-2.0	-1.9	-1.9	±5.0

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451-451/1 Srinthom Rd.,Bangsumu, Bangkok 10700 THAILAND
Tel:0-2431-8800 Fax:0-2431-1629 e-mail:calcenter@sihphom.com http://www.sihphom.comCert. No. : ACL23045
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NR-42 / Microphone UC-52 / Pre-amplifier NH-24
Serial No. : 09090074 / 198467 / 01736
ID No. : RYG T50495

Condition As Found : GOOD

Customer : S.I.S. LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHUANG PHATTHANAKAN, KHUANG LUANG,
BANGKOK, 10250 THAILAND.

Location :
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 1) kPa
Relative Humidity : (50.0 ± 20) %

Received Date : 06 JANUARY 2023
Calibration Date : 13-18 JANUARY 2023
Date of Issue : 19 JANUARY 2023

Calibrated by : Nubakorn Phitpanthan

Approved by : *T. Petchu*
(Thanakul Petchu)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

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Continuation of Calibration Certificate

Cert. No. : ACL23045
Job No. : VC66AC0024
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighing network response with relative to 1 kHz:

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits (dB)
63	-0.1	-0.1	-0.1	±2.0
125	0.0	0.0	0.0	±1.5
250	0.0	-0.1	-0.1	±1.5
500	0.0	0.0	-0.1	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.0	0.0	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz:

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	0.0	±0.2
C-weight	94.0	0.0	±0.2
Flat	94.0	0.0	±0.2

5.2 Time weighting at 1 kHz:

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	±0.1
Slow	94.0	0.0	±0.1
Leq	94.0	0.0	±0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.3

QE-TS12-04-04-02664

Continuation of Calibration Certificate

Cert. No. : ACL23045
Job No. : VC66AC0024
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).

The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Acoustic chamber and Reference Standard Instruments.

For test results of each item were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0007-22	04-Feb-23
Waveform Generator	33511B	MY52302742	EF-0008-22	04-Feb-23
Digital Multimeter	33461A	MY51220104	EEL-BP-04-0265	09-Feb-23
Digital Multimeter	33461A	MY53270976	EEL-BP-03-0265	09-Feb-23
Digital Multimeter	34481A	MY60024273	EEL-BP-03-0265	09-Feb-23
Programmable Attenuator	MAT 1070	62100114	EF-0020-22	07-Feb-23
Condenser Microphone	4180	2977900	AA-1013-22	24-Feb-23
Measuring Amplifier	NA-42KAI	34560495	AA-3005-22	22-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at

3.1 National Institute of Metrology (Thailand).

3.2 Thailand Institute of Scientific and Technological Research (TISTR).

QE-TS12-04-04-02664

Continuation of Calibration Certificate

Cert. No. : ACL23045
Job No. : VC66AC0024
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.1	0.1	±1.1
136.0	136.1	0.1	±1.1
135.0	135.1	0.1	±1.1
134.0	134.1	0.1	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.1	0.1	±1.1
124.0	124.0	0.0	±1.1
119.0	119.1	0.1	±1.1
114.0	114.1	0.1	±1.1
109.0	109.1	0.1	±1.1
104.0	104.1	0.1	±1.1
99.0	99.1	0.1	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
30.0	30.0	0.0	±1.1
29.0	28.9	-0.1	±1.1
28.0	27.9	-0.1	±1.1
27.0	26.9	-0.1	±1.1
26.0	25.9	-0.1	±1.1
25.0	24.8	-0.2	±1.1

QE-TS12-04-04-02664

Continuation of Calibration Certificate

Cert. No. : ACL23045
Job No. : VC66AC0024
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings	✓	-	0.3	0.6
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings	✓	-	0.3	0.6
For 10 Hz to 4 kHz	✓	-	0.3	0.7
For > 4 kHz to 10 kHz	✓	-	0.3	1.0
For > 10 kHz to 20 kHz	✓	-	0.2	0.2
5. Frequency and time weightings at 1 kHz	✓	-	0.1	0.1
6. Long-term stability	✓	-	0.2	0.3
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C sound level	✓	-	0.2	0.25
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

QE-TS12-04-04-02664

Continuation of Calibration Certificate

Cert. No. : ACL23045
Job No. : VC66AC0024
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Tone burst response

Time Weighting	Tone burst duration, T _b (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	107.9	-0.1	1.5; -5.0
	2	8	117.0	117.0	0.0	1.0; -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5; -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5; -5.0
SEL	2	8	108.0	108.0	0.0	1.0; -2.5
	200	800	128.0	128.0	0.0	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, L _{peak} (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.4	0.0	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.1	-0.3	±2.0
Negative half cycle	135.4	135.1	-0.3	±2.0

QE-TS12-04-04-02664

Continuation of Calibration Certificate

Cert. No. : ACL23043
Job No. : VC66AC0024
Pages : 8 of 8451-451/1 Srinthorn Rd.,Bangkokmu, Bangkok 10100 THAILAND
Tel:0-2415-8820 Fax:0-2415-1679 E-mail:cal@cepiengsithiporn.com http://www.sithiporn.comCert. No. : ACL23043
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42/ Microphone UC-52 / Preamplifier NH-24
Serial No. : 00900072 / 18445 / 01734
ID No. : RYG TS4093

Condition As Found : GOOD

Customer : A.I.S. LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATHANAKAN 40, PHATHANAKAN ROAD,
KHWAENG PHATHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location :
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 1) kPa
Relative Humidity : (50.0 ± 20) %

Received Date : 06 JANUARY 2023
Calibration Date : 13-18 JANUARY 2023
Date of Issue : 19 JANUARY 2023

Calibrated by : Nuthakorn Pitsupatam

Approved by : T. Petchura
(Thanakul Petchura)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced
other than in full, except with the prior written approval of the head of Calibration Laboratory.

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Continuation of Calibration Certificate

Cert. No. : ACL23043
Job No. : VC66AC0024
Pages : 2 of 8

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference
Standard Instruments.
For test results of each items were made by observation of each instrument display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments :

Instrument	Model	Serial No.	Cert. No.	Date
Waveform Generator	33210A	MY48017076	EF-6007-22	04-Feb-23
Waveform Generator	33511B	MY52302742	EF-6006-22	04-Feb-23
Digital Multimeter	33461A	MY53201084	EEL-BP_04/0265	09-Feb-23
Digital Multimeter	33461A	MY53201076	EEL-BP_03/0265	09-Feb-23
Digital Multimeter	34461A	MY60024273	EEL-BP_05/0265	09-Feb-23
Programmable Attenuator	MAT-1070	62100114	EF-6009-22	07-Feb-23
Condenser Microphone	4180	2977900	AA-1013-22	24-Feb-23
Measuring Amplifier	NA-42KAI	34560495	AA-3005-22	22-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

- 3.1 National Institute of Metrology (Thailand).
3.2 Thailand Institute of Scientific and Technological Research (TISTR).

Continuation of Calibration Certificate

Cert. No. : ACL23043
Job No. : VC66AC0024
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings				
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings				
For 10 Hz to 4 kHz	✓	-	0.3	0.6
For > 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long - term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C sound level	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

Continuation of Calibration Certificate

Cert. No. : ACL23043
Job No. : VC66AC0024
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.95)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
14.2

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	10.8
C - weight	17.2
Flat	22.9

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.3	0.3	0.3	± 1.5
1000	0.0	0.0	0.0	± 1.0
8000	1.0	-0.9	-0.9	± 5.0

Continuation of Calibration Certificate

Cert. No. : ACL23043
Job No. : VC66AC0024
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	-0.1	-0.1	±2.0
125	-0.1	0.0	-0.1	±1.5
250	0.0	0.0	-0.1	±1.5
500	0.0	0.0	-0.1	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.0	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	0.0	
C - weight	94.0	0.0	±0.2
Flat	94.0	0.0	±0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	
Slow	94.0	0.0	±0.1
Leq	94.0	0.0	±0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.0	0.0	±0.3

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Continuation of Calibration Certificate

Cert. No. : ACL23043
Job No. : VC66AC0024
Pages : 6 of 8

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.0	0.0	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.0	0.0	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
30.0	30.0	0.0	±1.1
29.0	28.9	-0.1	±1.1
28.0	28.0	0.0	±1.1
27.0	26.9	-0.1	±1.1
26.0	25.9	-0.1	±1.1
25.0	24.9	-0.1	±1.1

Continuation of Calibration Certificate

Cert. No. : ACL23043
Job No. : VC66AC0024
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Tone burst response

Time Weighting	Tone burst duration, Ts (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
	0.25	1	108.0	107.9	-0.1	1.5 ; ±5.0
Fast	2	8	117.0	117.0	0.0	1.0 ; ±2.5
	200	800	134.0	134.0	0.0	
Slow	2	8	108.0	108.0	0.0	1.5 ; ±5.0
	200	800	127.6	127.6	0.0	±1.0
SEL	0.25	1	90.0	90.9	+0.1	1.5 ; ±5.0
	2	8	108.0	108.0	0.0	1.0 ; ±2.5
	200	800	128.0	128.0	0.0	±1.0

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Leqpeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.4	0.0	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.1	-0.3	±2.0
Negative half cycle	135.4	135.1	-0.3	±2.0

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11. Overload indication

Measured value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle	
89.6	89.6	0.0 ±1.5

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$ or any value following calculation providing a level of confidence of approximately 95 %

End of Calibration Certificate

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42/ Microphone UC-52 / Pre-amplifier NI-24
Serial No. : 00600073 / 183466 / 01735
ID No. : RYG- FS0494

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD,
104 PHATHANAKAN 40, PHAI THANAKAN ROAD,
KIWAENG PHATHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND.

Location :
Ambient Temperature : (23.0 ± 1) °C
Pressure : (101.3 ± 1) kPa
Relative Humidity : (50.0 ± 20) %

Received Date : 08 JANUARY 2023
Calibration Date : 13-18 JANUARY 2023
Date of Issue : 19 JANUARY 2023

Calibrated by : Natchanon Pitsupaporn

Approved by : T. Pichai
(Thanakul Pichai)

This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced other than in full, except with the prior written approval of the head of Calibration Laboratory.

QF-TS12-04-04-020664

QF-TS12-04-04-020664

Calibration Procedure : CP-AC-01

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.
For tests results of each items were made by observation of each Instruments display and also with SLM's display.

Condition of this result of calibration :

1. Reference Standard Instruments

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0007-22	04-Feb-23
Waveform Generator	33511R	MY52302742	EF-0008-22	04-Feb-23
Digital Multimeter	33461A	MY53220104	EEL-BP_040265	09-Feb-23
Digital Multimeter	33461A	MY53220076	EEL-BP_030265	09-Feb-23
Digital Multimeter	34461A	MY60024273	EEL-BP_050265	09-Feb-23
Programmable Attenuator	MA1-1070	62100114	EF-0009-22	07-Feb-23
Condenser Microphone	4180	29779006	AA-1013-22	24-Feb-23
Measuring Amplifier	NA-42K-A1	34560495	AA-3005-22	22-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only.

3. This certificate is traceable to the international system of unit maintained at :

- National Institute of Metrology (Thailand).
- Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-020664

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings	✓	-	-	-
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings	✓	-	-	-
For 10 Hz to 4 kHz	✓	-	0.3	0.6
For > 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long-term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Time burst response	✓	-	0.2	0.3
10. Peak C-weight	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

QF-TS12-04-04-020664

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
93.9 (93.95)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
14.8

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	11.6
C-weight	17.8
Flat	23.7

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 94 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
125	0.1	0.1	0.1	±1.5
1000	0.0	0.0	0.0	±1.0
8000	-0.2	-0.2	-0.1	±5.0

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	-0.1	-0.1	0.0	±2.0
125	0.0	0.1	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.1	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	-0.1	0.0	±2.0
4000	0.0	0.1	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	0.0	±0.2
C-weight	94.0	0.0	±0.2
Flat	94.0	0.0	±0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits
Fast	94.0	0.0	±0.1
Slow	94.0	0.0	±0.1
Leq	94.0	0.0	±0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.1	0.1	±0.3

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
137.0	137.0	0.0	±1.1
136.0	136.0	0.0	±1.1
135.0	135.0	0.0	±1.1
134.0	134.0	0.0	±1.1
133.0	133.0	0.0	±1.1
132.0	132.0	0.0	±1.1
131.0	131.0	0.0	±1.1
129.0	129.0	0.0	±1.1
124.0	124.0	0.0	±1.1
119.0	119.1	0.1	±1.1
114.0	114.0	0.0	±1.1
109.0	109.0	0.0	±1.1
104.0	104.1	0.1	±1.1
99.0	99.0	0.0	±1.1
94.0	94.0	0.0	±1.1
89.0	89.0	0.0	±1.1
84.0	84.0	0.0	±1.1
79.0	79.0	0.0	±1.1
74.0	74.0	0.0	±1.1
69.0	69.0	0.0	±1.1
64.0	64.0	0.0	±1.1
59.0	59.0	0.0	±1.1
54.0	54.0	0.0	±1.1
49.0	49.0	0.0	±1.1
44.0	44.0	0.0	±1.1
39.0	39.0	0.0	±1.1
34.0	34.0	0.0	±1.1
30.0	29.9	-0.1	±1.1
29.0	28.9	-0.1	±1.1
28.0	28.0	0.0	±1.1
27.0	26.9	-0.1	±1.1
26.0	25.9	-0.1	±1.1
25.0	24.9	-0.1	±1.1

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Time burst response

Time Weighting	Time burst duration, Th (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	108.0	0.0	1.5 ±5.0
	2	8	117.0	117.0	0.0	1.0 ±2.5
	200	800	134.0	134.1	0.1	±1.0
Slow	0.25	1	108.0	108.0	0.0	1.5 ±5.0
	2	8	108.0	108.0	0.0	±1.0
	200	800	127.6	127.6	0.0	±1.0
SEL	0.25	1	99.0	98.9	-0.1	1.5 ±5.0
	2	8	108.0	108.0	0.0	1.0 ±2.5
	200	800	128.0	128.1	0.1	±1.0

10. Peak C-weight

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lpeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.1	-0.3	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	137.0	137.9	0.9	-
Positive half cycle	135.4	135.1	-0.3	±2.0
Negative half cycle	135.4	135.1	-0.3	±2.0

QF-TS12-04-04-020664

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Continuation of Calibration Certificate

Cert. No. : ACL22184
Job No. : VC6AC0024
Pages : 8 of 8451-451/1 Srinthorn Rd.,Banghuanu, Bangkok Bangkok 10100 THAILAND
Tel:6-2435-8600 Fax:6-2431-1679 e-mail:zak-center@sithiporn.com http://www.sithiporn.comCert. No. : ACL22183
Job No. : VC6AC0077
Pages : 1 of 8

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-42; Microphone UC-52 / Pre-amplifier N01-24
Serial No. : 01073423 / 169513 / 73484
ID No. : RYG FS0386

Condition As Found : GOOD

Customer : ALS LABORATORY GROUP (THAILAND) CO., LTD.
104 PHATTHANAKAN 40, PHATTHANAKAN ROAD,
KHUAEANG PHATTHANAKAN, KHEE SUAN LUANG,
BANGKOK, 10250 THAILAND.Location :
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 3) kPa
Relative Humidity : (50.0 ± 20) %Received Date : 22 AUGUST 2022
Calibration Date : 26-31 AUGUST 2022
Date of Issue : 02 SEPTEMBER 2022

Calibrated by : Nuthakorn Pitsupaisan

Approved by : T. Petchuraj
(Thanakul Petchuraj)This certificate is issued in accordance with the requirements of ISO/IEC 17025 standard, may not be reproduced
other than in full, except with the prior written approval of the head of Calibration Laboratory.

QP-TS12-04-04-020664

QP-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL22183
Job No. : VC6AC0077
Pages : 5 of 8

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz.

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
63	0.0	0.0	0.0	±2.0
125	0.0	0.1	0.0	±1.5
250	0.0	0.0	0.0	±1.5
500	0.0	0.1	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.1	0.0	±2.0
4000	0.0	0.0	0.0	±3.0
8000	0.0	0.1	0.1	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	0.0	-
C - weight	94.0	0.0	±0.2
Flat	94.0	0.0	±0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	-
Slow	94.0	0.0	± 0.1
Leq	94.0	0.0	± 0.1

6. Long - term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	94.0	94.1	0.1	± 0.3

QP-TS12-04-04-020664

QP-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL22183
Job No. : VC6AC0077
Pages : 3 of 8

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty of measurement (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings				
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings				
For 10 Hz to 4 kHz	✓	-	0.3	0.6
For > 4 kHz to 10 kHz	✓	-	0.3	0.7
For > 10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long - term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.3
10. Peak C - sound level	✓	-	0.2	0.35
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

QP-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL22183
Job No. : VC6AC0077
Pages : 7 of 8

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Auto	94.0	94.0	0.0	±1.1

9. Tone burst response

Time Weighting	Burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	108.0	0.0	1.5 ; ±5.0
	2	8	117.0	117.0	0.0	1.0 ; ±2.5
	200	800	134.0	134.1	0.1	±1.0
Slow	2	8	108.0	108.0	0.0	1.5 ; ±5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	98.9	-0.1	1.5 ; ±5.0
SEL	2	8	108.0	108.0	0.0	1.0 ; ±2.5
	200	800	128.0	128.1	0.1	±1.0

10. Peak C - sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Leqpeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	135.8	-0.6	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.1	0.1	-
Positive half cycle	135.4	135.2	-0.2	±2.0
Negative half cycle	135.4	135.2	-0.2	±2.0

QP-TS12-04-04-020664

Continuation of Calibration Certificate

Cert. No. : ACL22183
Job No. : VC6AC0077
Pages : 4 of 8

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviation (dB)	Acceptance Limit (dB)
93.9 (93.9)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
15.4

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A - weight	12.6
C - weight	18.6
Flat	24.5

3. Acoustical signal tests of frequency weightings

Meter free-field acoustic response at a level of 84 dB

Frequency (Hz)	Deviation from various frequency weighting response curve (dB)			
	Flat	C-weight	A-weight	Acceptance Limits
125	0.2	0.2	0.3	± 1.5
1000	0.1	0.1	0.1	± 1.0
8000	1.5	1.5	1.6	±5.0

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Continuation of Calibration Certificate

Cert. No. : ACL22183
Job No. : VC6AC0077
Pages : 8 of 8

11. Overload indication

Measured value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	89.5	-0.2
Negative one-half cycle	89.5	-0.2

12. High level stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A - weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor k = 2
or any value following calculation, providing a level of confidence of approximately 95 %

End of Calibration Certificate

QP-TS12-04-04-020664

SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

431-45115 Srisothorn Rd.,Banglamue, Bangkok 10700 THAILAND
Tel:0-2435-8820 Fax:0-2431-1629 e-mail:cal-center@hplphorn.com http://www.sithiporn.com



Cert. No. : ACL22296
Pages : 1 of 9

Calibration Certificate

Equipment : SOUND LEVEL METER
Manufacturer : RION
Model : NL-21 / Microphone UC-52 / Pre-amplifier NH-21
Serial No.: 00376364 / 71486 / 25142
ID No.: RYG_P50012

Condition As Found : GOOD

Customer : AI S T LABORATORY GROUP (THAILAND) CO., LTD.
194 PHATHANAKAN, 40, PHATHANAKAN ROAD,
KHUANG PHATHANAKAN, KHET SUAN LUANG,
BANGKOK, 10250 THAILAND

Location :
Ambient Temperature : (23.0 ± 3) °C
Pressure : (101.3 ± 1) kPa
Relative Humidity : (50.0 ± 20) %

Received Date : 07 DECEMBER 2022
Calibration Date : 16-20 DECEMBER 2022
Date of Issue : 21 DECEMBER 2022

Calibrated by : Natsakorn Pitsatpan

Approved by : *T. Petch*
(Thanukul Petchura)

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QF-TS12-04-04-02064

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Continuation of Calibration Certificate

Cert. No. : ACL22296
Job No. : VC66AC0016
Pages : 5 of 6

4. Electrical signal tests of frequency weightings

Weighting network response with relative to 1 kHz

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
63	-0.2	0.0	0.0	±2.0
125	-0.1	0.0	0.0	±1.5
250	-0.1	0.0	0.0	±1.5
500	-0.1	0.0	0.0	±1.5
1000	0.0	0.0	0.0	±1.0
2000	0.0	0.1	0.1	±2.0
4000	0.0	0.1	0.1	±3.0
8000	0.0	0.2	0.2	±5.0

5. Frequency and time weightings at 1 kHz

5.1 Frequency weightings at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	0.0	±0.2
C-weight	94.0	0.0	±0.2
Flat	94.1	0.1	±0.2

5.2 Time weighting at 1 kHz

Frequency Weighting	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	94.0	0.0	±0.1
Slow	94.0	0.0	±0.1
1eq	94.0	0.0	±0.1

6. Long-term stability

Frequency Weighting	SLM Display at initial (dB)	SLM Display at final (dB)	Deviated Value (dB)	Acceptance Limits (dB)
A-weight	94.0	94.0	0.0	±0.5

QF-TS12-04-04-02064

T. Petch

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Continuation of Calibration Certificate

Cert. No. : ACL22296
Job No. : VC66AC0016
Pages : 2 of 9

Calibration Procedure : CP-AC-02

Calibration Method :

This equipment was calibrated by based on IEC-61672-3 (2013) Standard for sound level meter (SLM).
The SLM had tests to Acoustical and Electrical signal tests of frequency weighting with Anechoic chamber and Reference Standard Instruments.

For test results of each item were made by observation of each Instruments display and also with SLM's display

Condition of this result of calibration :

1. Reference Standard Instruments

Instrument	Model	Serial No.	Cert. No.	Due Date
Waveform Generator	33210A	MY48017076	EF-0007-22	04-Feb-23
Waveform Generator	33311R	MY52302742	EF-0008-22	04-Feb-23
Digital Multimeter	33461A	MY5320104	VCL-HP 040265	09-Feb-23
Digital Multimeter	33461A	MY5320106	VCL-HP 030265	09-Feb-23
Digital Multimeter	8846A	MY68014275	EE-HP 030265	09-Feb-23
Programmable Attenuator	MAT-1070	42100114	EF-0009-22	07-Feb-23
Condenser Microphone	4180	2977900	AA-1013-22	24-Feb-23
Measuring Amplifier	NA-42KA1	34560495	AA-3003-22	22-Feb-23

2. This result of calibration was found accurate as shown on date and place of calibration for this calibrated item only

3. This certificate is traceable to the international system of unit maintained at

3.1. National Institute of Metrology (Thailand).

3.2. Thailand Institute of Scientific and Technological Research (TISTR).

QF-TS12-04-04-02064

T. Petch

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Continuation of Calibration Certificate

Cert. No. : ACL22296
Job No. : VC66AC0016
Pages : 6 of 9

7. Level linearity on the reference level range

Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
135.0	94.0	0.0	±1.1
130.0	94.0	0.0	±1.1
125.0	94.0	0.0	±1.1
120.0	94.0	0.0	±1.1
115.0	94.0	0.0	±1.1
110.0	94.0	0.0	±1.1
105.0	94.0	0.0	±1.1
100.0	94.0	0.0	±1.1
95.0	94.0	0.0	±1.1
90.0	94.0	0.0	±1.1
85.0	94.0	0.0	±1.1
80.0	94.0	0.0	±1.1
75.0	94.0	0.0	±1.1
70.0	94.0	0.0	±1.1
65.0	94.0	0.0	±1.1
60.0	94.0	0.0	±1.1
55.0	94.0	0.0	±1.1
50.0	94.0	0.0	±1.1
45.0	94.0	0.0	±1.1
40.0	94.0	0.0	±1.1
35.0	94.0	0.0	±1.1
30.0	94.0	0.0	±1.1

QF-TS12-04-04-02064

T. Petch

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Continuation of Calibration Certificate

Cert. No. : ACL22296
Job No. : VC66AC0016
Pages : 3 of 9

Summary of Measurement Result :

Parameter	Pass	Fail	Uncertainty (dB)	Maximum-permitted uncertainty (dB)
1. Absolute sensitivity	✓	-	0.2	N/A
2. Self-generated noise	✓	-	0.2	N/A
3. Acoustical signal tests of frequency weightings	✓	-	0.3	0.6
125 Hz	✓	-	0.3	0.6
1000 Hz	✓	-	0.3	0.6
8000 Hz	✓	-	0.3	0.7
4. Electrical signal tests of frequency weightings	✓	-	0.3	0.6
For 10 Hz to 4 kHz	✓	-	0.3	0.7
For >4 kHz to 10 kHz	✓	-	0.3	0.7
For >10 kHz to 20 kHz	-	-	-	1.0
5. Frequency and time weightings at 1 kHz	✓	-	0.2	0.2
6. Long-term stability	✓	-	0.1	0.1
7. Level linearity on the reference level range	✓	-	0.2	0.3
8. Level linearity including the level range control	✓	-	0.2	0.3
9. Tone burst response	✓	-	0.2	0.5
10. Peak C sound level	✓	-	0.2	0.5
11. Overload indication	✓	-	0.2	0.25
12. High level stability	✓	-	0.1	0.1

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Continuation of Calibration Certificate

Cert. No. : ACL22296
Job No. : VC66AC0016
Pages : 7 of 9

8. Level linearity including the level range control

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
130	94.0	94.0	0.0	±0.5
120	94.0	94.0	0.0	±0.5
110	94.0	94.0	0.0	±0.5
100	94.0	94.0	0.0	±0.5
90	94.0	94.0	0.0	±0.5

Level linearity on each level range

Range	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
130	43.0	43.0	0.0	±0.5
120	33.0	33.0	0.0	±0.5

9. Tone burst response

Time Weighting	Tone burst duration, Tb (ms)	Cycle	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Fast	0.25	1	108.0	108.0	0.0	1.5, -5.0
	2	8	117.0	117.0	0.0	1.0, -2.5
	200	800	134.0	134.0	0.0	±1.0
Slow	2	8	108.0	108.0	0.0	1.5, -5.0
	200	800	127.6	127.6	0.0	±1.0
	0.25	1	99.0	99.9	-0.1	1.5, -5.0
SEL	2	8	108.0	108.0	0.0	1.0, -2.5
	200	800	128.0	128.0	0.0	±1.0

QF-TS12-04-04-02064

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Continuation of Calibration Certificate

Cert. No. : ACL22296
Job No. : VC66AC0016
Pages : 4 of 9

Result of calibration :

1. Absolute sensitivity

Reference Acoustic Signal (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limit (dB)
93.9 (93.95)	93.9	0.0	±0.3

2. Self-generated noise

2.1 Normal test

Measured Value (dB)
24.0

2.2 The microphone of the sound level meter was replaced by electrical signal input device.

Frequency Weighting	Measured value (dB)
A-weight	22.2
C-weight	21.9
Flat	21.6

3. Acoustical signal tests of frequency weightings

Meas. free-field acoustic response at a level of 84 dB

Frequency (Hz)	Flat	C-weight	A-weight	Acceptance Limits
125	0.0	0.1	0.1	±1.5
1000	0.0	0.0	0.0	±1.0
8000	0.2	0.4	0.4	±5.0

QF-TS12-04-04-02064

T. Petch

SITHIPORN ASSOCIATES CO.,LTD. CALIBRATION LABORATORY

Continuation of Calibration Certificate

Cert. No. : ACL22296
Job No. : VC66AC0016
Pages : 8 of 9

10. Peak C sound level

Number of cycle in test signal	Anticipated Value (dB)	Measured Value, Lpeak (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
One	136.4	136.0	-0.4	±3.0

Number of cycle in test signal	Anticipated Value (dB)	Measured Value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Continuous	133.0	133.0	0.0	-
Positive half cycle	135.4	135.1	-0.3	±2.0
Negative half cycle	135.4	135.1	-0.3	±2.0

11. Overload indication

Measured value (dB)	Deviated Value (dB)	Acceptance Limits (dB)
Positive one-half cycle	Negative one-half cycle	±1.5
89.4	89.2	±1.5

QF-TS12-04-04-02064

T. Petch

Continuation of Calibration Certificate

Cert. No. : ACL22296
Job No. : VY66AC0016
Pages : 9 of 9



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
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3343 PATTANAKARN ROAD SOI 14, SUANLUNG, SUANLUNG BANGKOK 10250
TEL. 0-2715-53001 FAX. 0-2779-4444

12. High level stability

Frequency Weighing	SLM Display at initial (dB)	SLM Display at final (dB)	Deviation Value (dB)	Acceptance Limits (dB)
A-weight	137.0	137.0	0.0	±0.3

The reported uncertainty is based on a standard uncertainty multiplied by coverage factor $k = 2$ or any value following calculation providing a level of confidence of approximately 95 %

End of Calibration Certificate

Cert. No. : 227W34
Page : 1 of 2

Certificate of Testing

Equipment : DO Meter
Manufacturer : YSI
Model : 5000-115V
Serial No. : 15E102796
ID No. : RYG_EN0032
Received Date : 11 February 2022
Test Date : 14 February 2022
Reference : 2202-0404DSC-4
Submitted by : ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5 T. Maenam Khu. A Phukdaeng, Rayong 21140, Thailand
Laboratory Condition : Temperature : (25 ± 5) °C
Humidity : (50 ± 20) %
Test Procedure : (a) - house method : CP-G348
by Comparison Technique with Azide Modification Method
Tested by : Walaiak Simehan
Approved by :
Approved Signatory :
() Mailee Buthrue
(x) Walaiak Simehan
() Wansorn Lemphagrakul
Issue Date : 18 February 2022

R 0281285



Cert. No. : 227W34
Page : 2 of 2

Result : Dissolved Oxygen Meter Adjustment With Air 100 %
Dissolved Oxygen Probe No. : 15E100464

Titration Method (Azide Modification Method) (mg/L)	DO Meter Reading (mg/L)	Standard Deviation (mg/L)
8.02	8.02	0.0084

This report was certified only for the instrument we tested. It is allowable to use for study the system efficiency. The environmental impact control and present to organization it may concerned intend to use for advertising and referral purpose is prohibited. This report may not be reproduced either in full without written approval of the laboratory.

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Sathip

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TEL. 0-2715-53001 FAX. 0-2779-4444



Cert. No. : 22LM12
Page : 1 of 2

Certificate of Calibration

Equipment : DO Meter with Sensor
Manufacturer : YSI
Model : 5000-115V
Serial No. : 15E102796
ID No. : RYG_EN0032
Submitted by : ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5 T. Maenam Khu. A Phukdaeng, Rayong 21140, Thailand
Location : TPA On Site Calibration Laboratory
Received Order : 11 February 2022
Calibrated Date : 21 February 2022
Ambient Temperature : (26 ± 10) °C
Relative Humidity : (50 ± 30) %
AC Line Voltage : (220 ± 22) V
Calibrated by : Kunchit Prompat
Approved by :
Approved Signatory :
() Ponthippa Tameyaku
(x) Mailee Buthrue
() Suwit Imjai
Issue Date : 21 February 2022

The Uncertainties are for a confidence probability of approximately 95 %
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A 0038008



Equipment : DO Meter with Sensor
Condition As-Received : Used Item
Reference : 2202-0404DSC-5
Procedure Used : Calibration were conducted using in-house calibration procedure CP-OT01 according to comparison with Industrial Platinum Resistance Thermometer (IPRT) into Temperature Bath.
The temperature scale used was based on ITS-90.

Condition of this result of calibration
1. Reference standard instrument :
Instrument : Model : Serial No. : Cert. No. : Due Date :
1) Digital Thermometer : 1523 : 2188080 : 2111273 : 22 Nov 2022
2. This certificate is valid only to the item calibrated on date and place of calibration.
3. This certification is traceable to the International System of Unit.

Result of Calibration : (°) Without Adjustment
Function : Temperature measurement

Calibration Point (°C)	Immersion Depth (mm)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty (± °C)	Coverage Factor k
20.00	45	20.001	19.68	-0.121	0.15	2.00

UUC* : Unit Under Calibration

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 %

-060-

1095714



TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
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TEL. 0-2715-53001 FAX. 0-2779-4444



Cert. No. : 22TM317
Page : 1 of 3

Certificate of Calibration

Equipment : Low Temp. Incubator
Manufacturer : Memmert
Model : IPP750
Serial No. : V818-0084
ID No. : RYG_EN0154
Submitted by : ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5 T. Maenam Khu. A Phukdaeng, Rayong 21140, Thailand
Location : 600 Room
Received Order : 22 April 2022
Calibration Date : 22 April 2022
Ambient Temperature : (26 ± 10) °C
Relative Humidity : (50 ± 30) %
Calibrated by : Man Pattanapongpatboon
Approved by :
Approved Signatory :
() Ponthippa Tameyaku
(x) Mailee Buthrue
() Suwit Imjai
Issue Date : 3 May 2022
The Uncertainties are for a confidence probability of approximately 95 %
This certificate is not to be reproduced either in full, or any part without written approval of the head of the department. Department : Calibration and Testing Division



Equipment : Low Temp. Incubator
Condition As-Received : Used Item
Reference : 2204-0145OC-1
Procedure Used : Calibration were conducted using calibration procedure CP-OT02 according to direct measurement.
The temperature scale used was based on ITS-90.
Condition of this result of calibration
1. Reference standard instrument :
Instrument : Model : Serial No. : Cert. No. : Due Date :
1) Data Acquisition : 34970A : MY4031768 : 21LM12 : 02 Sep 2022
2. This certificate is valid only to the item calibrated on date and place of calibration.
3. This certification is traceable to the International System of Unit.
Function of UUC* : Temperature Source
Fresh air setting : Close

Probe Installation Details

a = 10 cm

b = 10 cm

c = 10 cm

Dimension of Chamber :

D = 0.60 m

W = 1.0 m

H = 1.2 m

Capacity = 0.75 m³

	Beginning	Finished
Temp (°C)	25	25
REL Humid. (%)	54	58
AC Supply (Volt)	221	223

Position :	Ref. Std. ID No.
1	9RTD-2/1
2	9RTD-2/2
3	9RTD-2/3
4	9RTD-2/4
5	9RTD-2/5
6	9RTD-2/6
7	9RTD-2/7
8	9RTD-2/8
9 (ref.)	9RTD-2/9

Probe Installation Details : Dimension of Chamber :
a = 10 cm D = 0.60 m
b = 10 cm W = 1.0 m
c = 10 cm H = 1.2 m
Capacity = 0.75 m³

1106485



Equipment : Low Temp. Incubator
Condition As-Received : Used Item
Reference : 2204-0145OC-1
Result of Calibration : (°) Without Adjustment
Function of UUC* : Temperature Source
Fresh air setting : Close

Calibration Point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Temperature stability (± °C)	Temperature uniformity (°C)	Overall Variation (°C)	Uncertainty (± °C)	Coverage Factor k
20.0	20.0	20.0	0.022	0.20	0.22	0.30	2

Calibration Point (°C)	Measured Temperature (°C)								
	1	2	3	4	5	6	7	8	9 (ref.)
20.0	20.209	20.174	20.189	20.110	20.075	20.062	20.027	20.089	20.030

Average* : The average of 30 values in each position.
Temperature stability : One-half of the greatest maximum difference of measured temperature at any one sensor.
Temperature uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.
Overall Variation : The difference of the maximum and minimum measured temperatures throughout observation.
UUC* : Unit Under Calibration
Note : The reported uncertainty of measurement was included stability and excluded uniformity.
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 %

-060-

1106484



Certificate of Calibration

Equipment: Burette
Capacity: 50 mL
Serial No.:
ID No.: 243007
Manufacturer: Wieg
Made in: Germany
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd.
6477 Moo 4, Building No. B1, Highway 331, km 91.5
T.Puakdaeng, A.Puakdaeng, Rayong 21140
Ambient Temperature: (22 ± 2.5) °C
Relative Humidity: (50 ± 10) %
Barometric Pressure: 757 mmHg
Calibration Procedure: ASTM E 542-01
Calibrated by: Nattha Chuyingchew

Approved by:
Approved Signatory

() J. Ponthipha Tamayakul
() Masei Bukhrua
() Porpan Paeon
() Srisuda Khamtha

Issue Date: 27 September 2018

The Uncertainties are for a confidence probability of approximately 95%.

This certificate may not be reproduced other than as full, except with the prior written approval of the Head of Calibration Services. Equipment Calibration and Testing Services

A 0087224

RYG_EN0006



Certificate of Calibration

Equipment: Hot Air Oven
Manufacturer: Memmert
Model: UM 400
Serial No.: 5495.0899
ID No.: RYG_EN0008
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5, T. Maenam Khu, A. Puakdaeng,
Rayong 21140, Thailand
Location: Dren Room
Received Order: 20 October 2022
Calibration Date: 20 October 2022
Ambient Temperature: (28 ± 1) °C
Relative Humidity: (50 ± 30) %
Calibrated by: Preecha Hahib

Approved by:
Approved Signatory

() J. Ponthipha Tamayakul
() Masei Bukhrua
() Suwet Imjai

Issue Date: 2 November 2022

The Uncertainties are for a confidence probability of approximately 95%.

This certificate may not be reproduced other than as full, except with the prior written approval of the Head of Calibration Services. Equipment Calibration and Testing Services

A 0046905



Equipment: Burette
Capacity: 50 mL
Serial No.:
ID No.: 243007
Manufacturer: Wieg
Received Date: 19 September 2018
Condition As-Received: Used Item
Calibration Date: 21 September 2018
Reference: 1805-041DPC
Cert. No.: 180CA595
Page: 2 of 2

Condition of this result of calibration

- Reference Standard Instruments
- This certificate is certified only for the measuring instrument we calibrated.
- This result of calibration was found accurate as shown on date and place of calibration only.
- True value is converted to true volume at the standard temperature of 20 °C

Calibration result:

Nominal capacity (mL)	Reading (mL)	Uncertainty (± mL)	k Factor
50	49.9901	0.010	2.00

Remark: mL = cm³

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 %.

A 0901034



Certificate of Calibration

Model Number: MSE2245-100-DU
Description: Analytical Balance
Serial Number: 0026207038
ID No.: RYG_EN0002
Manufacturer: Sartorius
Cert. No.: 238C0112
Issued Date: Friday, March 03, 2023
Reference No.: 204833
Page No.: 1 of 2

Customer Name: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5 T. Maenam Khu, A. Puakdaeng, Rayong 21140, Thailand
Calibrated Place: ALS Laboratory Group (Thailand) Co., Ltd. (Balance Room)
616/10 Moo 5 T. Maenam Khu, A. Puakdaeng, Rayong 21140, Thailand.

Calibrated By: Mr. Chonchai Inthana
Calibration Date: Wednesday, March 01, 2023

Calibration Procedure No.: This calibration was conducted by using in-house calibration procedure number (WI-003) Based on UKAS LAB 14: 2019

Metological data
Capacity: 220 g Readability: 0.0001 g Temperature: 23.6 °C ± 0.9 °C
Humidity: 80.0 % RH ± 10.0 % RH
Pressure: 3

Reasons for calibration: ☐ New Installation ☐ Service / Repair ☐ Recalibration / Maintenance ☐ Equipment Condition ☐ Good Control ☐ Test

Measurement Method: UKAS Publication Ref: Lab 14
The measurement uncertainty stated is the expanded uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to provide a level of confidence of approximately 95%. It is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM). The calibration certificate documents the traceability to National Standards, which realize the unit of measurement according to the International System of Units (SI). Report of Tolerance came from list of Sartorius Metological Specifications

Traceability:

Model Number	Description	Traceability	Certification No.	Due Date
YC5011-522-00	Sartorius weight set 1kg - 500g E2 YC5011-522-00	SPC-RT	C02212565	14-Sep-2023
MHB-3825D	Humidity/Barometer/Temp. Luton MHB-3825D	DKSH	C19220444	5-Sep-2023

This certificate relates and apply this equipment only.
This certificate may not be reproduced other than as full, except with the prior written approval of the Verification Operation Division Sartorius (Thailand) Co., Ltd.

SOP FM 33 03 February 2022

Mr. Chonchai Inthana (Technical Manager)



Certificate of Calibration

Model Number: MSE2245-100-DU
Description: Analytical Balance
Serial Number: 0026207038
ID No.: RYG_EN0002
Manufacturer: Sartorius
Cert. No.: 238C0112
Issued Date: Friday, March 03, 2023
Reference No.: 204833
Page No.: 2 of 2

Calibration Results : Without Adjustment

Repeatability	Eccentricity (Off-center loading error)
The repeatability is the ability of a weighing instrument to display nearly identical results under constant test conditions when the same test with a measurement series is placed repeatedly on the weighing pan in the same order. The standard deviation is used to express repeatability quantitatively.	The off-center loading error is caused by the difference between the mass of the test, i.e. 15 g ± 14 g of maximum capacity, placed in the middle of the weighing pan and between each of five without measurement points (position defined according to DIN 4109).
Nominal Value (Low Load): 25.0000 g Tolerance: 0.0001 g	Nominal value: 100 g Tolerance: 0.0004 g
Nominal Value (High Load): 200 g Tolerance: 0.0001 g	Difference: 1 2 3 4 5
Standard Deviation: 0.00003 g	0.00004 g

Linearity
The linearity, also called linearity error, describes the deviation of the characteristic curve of a weighing instrument from the down slope.
Tolerance: 0.0002 g
Nominal Value: 0.001 g
Conventional Mass Value: 0.001 g
Displayed Value: 0.001 g
Deviation: 0.0000 g
Uncertainty: 0.0000 g
End of Report

SOP FM 33 03 February 2022

RYG_EN0061



Certificate of Calibration

Equipment: Hot Air Oven
Manufacturer: Memmert
Model: UM 400
Serial No.: 5495.0899
ID No.: RYG_EN0008
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5, T. Maenam Khu, A. Puakdaeng,
Rayong 21140, Thailand
Location: Dren Room
Received Order: 20 October 2022
Calibration Date: 20 October 2022
Ambient Temperature: (28 ± 1) °C
Relative Humidity: (50 ± 30) %
Calibrated by: Preecha Hahib

Approved by:
Approved Signatory

() J. Ponthipha Tamayakul
() Masei Bukhrua
() Suwet Imjai

Issue Date: 2 November 2022

The Uncertainties are for a confidence probability of approximately 95%.

This certificate may not be reproduced other than as full, except with the prior written approval of the Head of Calibration Services. Equipment Calibration and Testing Services

A 0046905



Equipment: Hot Air Oven
Condition As-Received: Used Item
Reference: 2210-03760C-1
Procedure Used: Calibration was conducted using calibration procedure CP-0102 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector (RTD). The temperature scale used was based on ITS-90
Condition of this result of calibration
1. Reference standard instrument: 34970A
2. This certificate is valid only to the item calibrated on date and place of calibration.
3. This certification is traceable to the International System of Unit
Result of Calibration: () Without Adjustment
Function of UUC: Temperature Source
Fresh air setting: Close

Position	Ref. Std. ID No.
1	18-10RTD-01
2	18-10RTD-02
3	18-10RTD-03
4	18-10RTD-04
5	18-10RTD-05
6	18-10RTD-06
7	18-10RTD-07
8	18-10RTD-08
8 (ref.)	18-10RTD-09

Probe Installation Details:
a = 50 mm
b = 50 mm
c = 50 mm
Dimension of Chamber:
D = 0.33 m
W = 0.40 m
H = 0.40 m
Capacity = 0.053 m³

A 1132473



Equipment: Hot Air Oven
Condition As-Received: Used Item
Reference: 2210-03760C-1
Result of Calibration: () Without Adjustment
Function of UUC: Temperature Source
Fresh air setting: Close

Calibration Point (°C)	UUC Setting (°C)	UUC Reading (°C)	Temperature stability (°C)	Temperature uniformity (°C)	Overall Variation (°C)	Uncertainty (°C)	Coverage Factor
70.0	70.0	70.0	0.079	0.47	0.77	0.42	2

Average: The average of 30 values in each position.
Temperature stability: One-half of the greatest maximum difference of measured temperature at any one sensor.
Temperature uniformity: The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location, which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.
Overall Variation: The difference of the maximum and minimum measured temperatures throughout observation.
UUC: Unit Under Calibration.
Note: The reported uncertainty of measurement was included stability and excluded uniformity.

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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SOP FM 33 03 February 2022

A 1132472



Certificate of Calibration

Equipment: Water Bath
Manufacturer: Memmert
Model: WNS2
Serial No.: L512.0648
ID No.: RYG_EN0001
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5, T. Maenam Khu, A. Puakdaeng,
Rayong 21140, Thailand
Location: Wet Chemistry Lab
Received Order: 20 October 2022
Calibration Date: 20 October 2022
Ambient Temperature: (28 ± 1) °C
Relative Humidity: (50 ± 30) %
Calibrated by: Preecha Hahib

Approved by:
Approved Signatory

() J. Ponthipha Tamayakul
() Masei Bukhrua
() Suwet Imjai

Issue Date: 2 November 2022

The Uncertainties are for a confidence probability of approximately 95%.

This certificate may not be reproduced other than as full, except with the prior written approval of the Head of Calibration Services. Equipment Calibration and Testing Services

A 0046905



Equipment : Water Bath
Condition As-Received : Used Item
Reference : 2210-03760C-4

Cert.No.: 22TM1491
Page: 2 of 3

Procedure Used :-
Calibration was conducted using in-house calibration procedure CP-0704 according to direct measurement method with Data Acquisition which connected with Industrial Platinum Resistance Thermometer (PRT).

This temperature scale used was based on ITS-90

Condition of this result of calibration

1. Reference standard instrument :-

Instrument : 1) Data Acquisition
Model : 34970A
Serial No. : MY4403217
Cert. No. : 21LM30
Due Date : 23 Dec 2022

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

3. This certification is traceable to the International System of Unit.

Result of Calibration :- (°) Without Adjustment

Function of UUC* : Temperature Source

	Environmental		AC Voltage Supply
	(°C)	(%RH)	(Volt)
Beginning of Calibration	24	53	222
Finished of Calibration	24	50	221

1

2

3

4

5(m)

Position :
1 N37P300726
2 N37P300727
3 N37P300728
4 N37P300729
5(m) N37P300730
Ref. Std. S.N. :

Free



Equipment : Water Bath
Condition As-Received : Used Item
Reference : 2210-03760C-4

Cert.No.: 22TM1491
Page: 2 of 3

Result of Calibration :- (°) Without Adjustment
Function of UUC* : Temperature Source

Calibration point (°C)	UUC* Setting (°C)	UUC* Reading (°C)	Average* Standard Reading (°C)				
			1	2	3	4	5 (ref.)
85.0	85.0	85.0	84.527	84.563	84.626	84.516	84.580

Calibration point (°C)	Uniformity (°C)	Stability (± °C)	Uncertainty (± °C)	Coverage Factor k
85.0	0.12	0.081	0.18	2

Average* : The average of 30 values in each position

Uniformity : The maximum difference of measured temperatures at any sensors and the measured temperature at the reference location, which are observed at the same time or at as close an observation time as possible to determine the temperature pattern or homogeneity within the chamber under steady-state conditions.

Stability : One-half of the greatest maximum difference of measured temperature at any one probe

UUC* : Unit Under Calibration

Note : The reported uncertainty of measurement was included stability and excluded uniformity

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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TECHNOLOGY PROMOTION ASSOCIATION (THAILAND-JAPAN)
CORPORATE SERVICES & EQUIPMENT CALIBRATION AND TESTING SERVICES
1344 PATTANAKARN ROAD (K1) WU AN LAM, SUAN LAM, BANGKOK 10250
TEL. 0-2715-5902 FAX 0-2715-5944



Cert.No.: 22CH1733
Page: 1 of 3

Certificate of Calibration

Equipment : pH Meter

Manufacturer : Mettler Toledo

Model : SevenExcellence

Serial No. : B834291445

ID No. : RYG_EN0152

Condition As-Received : Used Item

Received Date : 21 December 2022

Calibration Date : 22 December 2022

Reference : 2212-0602DSC-1

Submitted by : ALS Laboratory Group (Thailand) Co., Ltd.

Rayong Branch

61610 Moo 5 T.Maeam Khu, A.Puakdaeng, Rayong 21140, Thailand

A.Puakdaeng, Rayong 21140, Thailand

25 ± 2.5 °C

(50 ± 15) %

In - house method

- CP-CH5 by direct measurement with standard voltage calibrator and direct measurement with certified reference material (CRM)

- CP-CH6 by comparison with standard thermometer

- CP-CH6 by comparison with standard thermometer

- CP-CH6 by comparison with standard thermometer

- CP-CH6 by comparison with standard thermometer

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- CP-CH6 by comparison with standard thermometer



Condition of this calibration result

1. Reference Standard Instrument

Instrument : 1) Document Process Calibrator

Model : 54030049

Serial No. : 130RC116

Cert. No. : 22E2769

Due Date : 24 Aug 2023

2) Ref. Standard Thermometer

Model : 4862054

Serial No. : 110RC044

Cert. No. : 2211008

Due Date : 27 Oct 2023

This certification is traceable to the International System of Unit maintained at:-

- Traceable to National Institute of Metrology (Thailand), NIMT

2. Certified Reference Materials

The measurement results are traceable to SI through CPA chem Ltd.

ANSI-ASQ National Accreditation Board, Accredited No. ANI-1835

Buffer Solution

pH 4.008

Manufacturer : CPA chem

Lot No. : 826588

Exp. date : 08 July 2024

pH 6.987

Manufacturer : CPA chem

Lot No. : 823322

Exp. date : 20 June 2023

pH 10.008

Manufacturer : CPA chem

Lot No. : 620590

Exp. date : 09 July 2023

3. This certificate is valid only to the item calibrated on date and place of calibration.

Calibration Results

Function : mV Measurement

Performing standard curve by Fluke at pH (4.7,10)

Unit Under Calibration

Nominal Value

Standard Voltage Input

Actual Reading

Uncertainty of Measurement

Coverage factor

k

pH Meter

S/N : B834291445

4.000

177.48

177.3

4.000

0.058

2.00

7.000

0.00

-0.1

7.000

0.058

2.00

10.000

-177.48

-177.5

10.000

0.058

2.00



Calibration Results

Function : pH Measurement

Performing three buffers standard curve by using buffer nominal pH (4.7,10)

Unit Under Calibration	Standard pH Buffer Solution	Actual pH Reading	Actual mV Reading	Uncertainty of pH measurement (±)	Coverage factor k
pH Electrode	4.008	4.011	165.2	0.0052	2.06
S/N : 1475518	6.987	6.990	10.4	0.0098	2.00
	10.008	10.014	-106.5	0.0072	2.00

Function : Temperature Measurement

(°) Without adjustment

This equipment was connected with Temperature Probe;

- Model : InLab Expert Pro-ISM

- Serial No : 1475518

Dimensions of probe:

- Length : 120 mm

- Diameter : 12 mm

- Immersion Depth : 100 mm

Calibration Point (°C)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)	Uncertainty of measurement (± °C)	Coverage factor k
25.0	25.001	24.9	-0.101	0.13	2.00

Remark : - UUC* = Unit Under Calibration

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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TEL. 0-2715-5902 FAX 0-2715-5944



Certificate of Calibration

Certificate No.: 22E4088
Page: 1 of 2

Equipment : pH Meter

Manufacturer : Mettler Toledo

Model : SevenExcellence

Serial No. : B834291445

ID No. : RYG_EN0152

Condition As-Received : Used Item

Received Date : 21 December 2022

Calibration Date : 23 December 2022

Reference : 2212-0602DSC

Ambient Temperature : (23 ± 2) °C

Relative Humidity : (50 ± 10) %

Submitted by : ALS Laboratory Group (Thailand) Co., Ltd. Rayong Branch

61610 Moo 5, T.Maeam Khu, A.Puakdaeng,
Rayong 21140, Thailand

Procedure used : Calibration was conducted using in-house calibration procedure CP-E17 According to direct measurement method with Multi-Product Calibrator

Condition of this result of calibration

1. Reference standards instruments

Instrument : 1) Multi-Product Calibrator

Model : 6305A

Serial No. : 6215011

Certificate No. : 22E1431

Due Date : 03 May 2023

2. This result of calibration was made on requested at the point specified by customer

3. This certificate is valid only to the item calibrated on date and place of calibration

4. This certification is traceable to the International System of Unit maintained at:-

- National Institute of Metrology (Thailand), NIMT

- National Institute of Metrology (Thailand), NIMT

- National Institute of Metrology (Thailand), NIMT

- National Institute of Metrology (Thailand), NIMT

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Certificate of Calibration

Certificate No.: 22T1593
Page: 1 of 2

Equipment: Digital Thermometer With Sensor
Manufacturer: Tado
Model: 136
Serial No.: 53980501229
ID No.: RYG_730042
Condition As-Received: Used Item
Received Date: 28 August 2022
Calibration Date: 31/09/2022
Reference: 2209-084DSC
Ambient Temperature: $(25 \pm 3) ^\circ\text{C}$
Relative Humidity: $(50 \pm 20) \%$

Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5 T. Maenam Khu, A. Phukdaeng, Rayong
21140, Thailand

Procedure used: Calibration was conducted using in-house calibration procedure CP-T01 according to comparison with Industrial Platinum Resistance Thermometer (PRT) in liquid bath temperature controller. The temperature scale used was based on ITS-90.

Condition of this result of calibration

1 Reference standard instrument

- | Instrument | Model | Serial No. | Certificate No. | Due Date |
|---|-------|------------|-----------------|-------------|
| 1) Digital Thermometer | 136 | A74609 | 211126 | 18 Oct 2022 |
| 2) Industrial Platinum Resistance Thermometer | 507 | 824354 | 211126 | 14 Oct 2022 |
- 2 The certificate is valid only to the item calibrated on date and place of calibration.
3 This Calibration is traceable to the International System of Unit maintained at:
National Institute of Metrology (NIMT)

REVIEW BY: [Signature]
APPROVED BY: [Signature]
NEXT CAL DATE: 31/09/23

Calibrated by: [Signature]
Issue Date: 12 September 2022

Approved Signatory: [Signature]

- () Pichai Pradaporn
() Chaitanwan Khunphak
() Worapong Larpitum

W 0295657

RYG_EN0010



Result of Calibration:

Without Adjustment		Temperature measurement	
Function:		Dimension of probe: Diameter 3 mm., Length 55 mm. Sheath material: Stainless Steel	
Immersion Depth (mm)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)
50	24.9861	25.0	0.0013
50	30.0032	30.0	-0.0032
50	39.9959	40.1	0.1041

UUC* Unit Under Calibration
The reported uncertainty of measurement was based on standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%.

-060-

Cert. No.: 22T1593
Page: 2 of 2



Certificate of Calibration

Certificate No.: 22T1601
Page: 1 of 2

Equipment: Digital Thermometer With Sensor
Manufacturer: Tado
Model: 136
Serial No.: 319807504
ID No.: RYG_730046
Condition As-Received: Used Item
Received Date: 31 September 2022
Calibration Date: 31 September 2022
Reference: 2209-0037DSC
Ambient Temperature: $(25 \pm 3) ^\circ\text{C}$
Relative Humidity: $(50 \pm 20) \%$

Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5 T. Maenam Khu, A. Phukdaeng, Rayong
21140, Thailand

Procedure used: Calibration was conducted using in-house calibration procedure CP-T01 according to comparison with Industrial Platinum Resistance Thermometer (PRT) in liquid bath temperature controller. The temperature scale used was based on ITS-90.

Condition of this result of calibration

1 Reference standard instrument

- | Instrument | Model | Serial No. | Certificate No. | Due Date |
|---|---------|------------|-----------------|-------------|
| 1) Black Body Thermometer | 160 | 824341 | 221816 | 23 May 2023 |
| 2) PRT Standard Module | 2562 | A01303 | 221816 | 23 May 2023 |
| 3) Industrial Platinum Resistance Thermometer | 5027-12 | 571871 | 221816 | 23 May 2023 |
- 2 The certificate is valid only to the item calibrated on date and place of calibration.
3 This Calibration is traceable to the International System of Unit maintained at:
National Institute of Metrology (NIMT)

REVIEW BY: [Signature]
APPROVED BY: [Signature]
NEXT CAL DATE: 01/10/23

Calibrated by: [Signature]
Issue Date: 15 September 2022

Approved Signatory: [Signature]

- () Pichai Pradaporn
() Chaitanwan Khunphak
() Worapong Larpitum

W 0295764

Cert. No.: 22T1601
Page: 2 of 2

Result of Calibration:

Without Adjustment		Temperature measurement	
Function:		Dimension of probe: Diameter 3 mm., Length 55 mm. Sheath material: Stainless Steel	
Immersion Depth (mm)	Standard Temperature (°C)	UUC* Reading (°C)	Error (°C)
50	25.0048	24.9	-0.1041
50	30.0039	29.9	-0.1038
50	39.9988	39.9	-0.0988

UUC* Unit Under Calibration
The reported uncertainty of measurement was based on standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%.

-060-

W 1126041



Certificate of Calibration

Cert. No.: 22T1517
Page: 1 of 3

Equipment: Hot Air Oven
Manufacturer: Momet
Model: UFE 500
Serial No.: GS11 1572
ID No.: RYG_EN0010
Submitted by: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
616/10 Moo 5 T. Maenam Khu, A. Phukdaeng, Rayong 21140 Thailand
Location: Oven Room
Received Order: 20 October 2022
Calibration Date: 20 October 2022
Ambient Temperature: $(25 \pm 10) ^\circ\text{C}$
Relative Humidity: $(50 \pm 30) \%$

REVIEW BY: [Signature]
APPROVED BY: [Signature]
NEXT CAL DATE: 30/09/24

Calibrated by: Man Pattanasongpakorn

- Approved by: [Signature]
() Pichai Pradaporn
() Meelek Bulkrues
() Suwit Injai

Issue Date: 2 November 2022

The Uncertainties are for a confidence probability of approximately 95%



Equipment: Hot Air Oven
Condition As-Received: Used Item
Reference: 2219-0376DC-2

Procedure Used

Calibration was conducted using calibration procedure CP-O102 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector (RTD) and Thermocouple Type T

Condition of this result of calibration

1 Reference standard instrument

- | Instrument | Model | Serial No. | Cert. No. | Due Date |
|---------------------|--------|------------|-----------|-------------|
| 1) Data Acquisition | 34972A | MY49022032 | 22LM97 | 29 Jul 2023 |

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

3 This certification is traceable to the International System of Unit.

Result of Calibration

Function of UUC*: Temperature Source

Fresh air setting: Close

Environment during calibration

Temp. (°C): 25, 25

REL Humid. (%): 54, 59

AC Supply (Volt): 223, 225

Ref. Std. ID No.: 66

Position: (180) °C, (164) °C

1 21-16TC-01 20-16RTD-01

2 21-16TC-02 20-16RTD-02

3 21-16TC-03 20-16RTD-03

4 21-16TC-04 20-16RTD-04

5 21-16TC-05 20-16RTD-05

6 21-16TC-06 20-16RTD-06

7 21-16TC-07 20-16RTD-07

8 21-16TC-08 20-16RTD-08

9 (ref.) 21-16TC-09 20-16RTD-09

Probe Installation Details: D = 0.40 m, a = 5.0 cm, b = 5.0 cm, c = 5.0 cm, W = 0.56 m, H = 0.48 m, Capacity = 0.11 m³

Dimension of Chamber: D = 0.40 m, W = 0.56 m, H = 0.48 m, Capacity = 0.11 m³

Cert. No.: 22T1517
Page: 2 of 3



Equipment: Hot Air Oven
Condition As-Received: Used Item
Reference: 2219-0376DC-2

Procedure Used

Calibration was conducted using calibration procedure CP-O102 according to direct measurement method with Data Acquisition which connected with Resistance Temperature Detector (RTD) and Thermocouple Type T

Condition of this result of calibration

1 Reference standard instrument

- | Instrument | Model | Serial No. | Cert. No. | Due Date |
|---------------------|--------|------------|-----------|-------------|
| 1) Data Acquisition | 34972A | MY49022032 | 22LM97 | 29 Jul 2023 |

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

3 This certification is traceable to the International System of Unit.

Result of Calibration

Function of UUC*: Temperature Source

Fresh air setting: Close

Environment during calibration

Temp. (°C): 25, 25

REL Humid. (%): 54, 59

AC Supply (Volt): 223, 225

Ref. Std. ID No.: 66

Position: (180) °C, (164) °C

1 21-16TC-01 20-16RTD-01

2 21-16TC-02 20-16RTD-02

3 21-16TC-03 20-16RTD-03

4 21-16TC-04 20-16RTD-04

5 21-16TC-05 20-16RTD-05

6 21-16TC-06 20-16RTD-06

7 21-16TC-07 20-16RTD-07

8 21-16TC-08 20-16RTD-08

9 (ref.) 21-16TC-09 20-16RTD-09

Probe Installation Details: D = 0.40 m, a = 5.0 cm, b = 5.0 cm, c = 5.0 cm, W = 0.56 m, H = 0.48 m, Capacity = 0.11 m³

Dimension of Chamber: D = 0.40 m, W = 0.56 m, H = 0.48 m, Capacity = 0.11 m³

Cert. No.: 22T1517
Page: 3 of 3



Certificate of Calibration

Equipment: SPECTROPHOTOMETER
Model: DR8000
Serial No. (or ID.): 1627845 (RYG_EN0037)
Manufacturer: HACH
Condition: In Condition
Certificate No.: C06220484
Issued Date: 27 September 2022
Job No.: KSPR2212224
Page: 1 of 3

Customer: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)

616/10 Moo 5 T. Maenam Khu, A. Phukdaeng, Rayong 21140, Thailand

Environment Condition: Temperature: 23.1 °C ± 8, Humidity: 85.4 %RH ± 12 %RH

Calibration Place: ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch) (Wet Chemistry)

616/10 Moo 5 T. Maenam Khu, A. Phukdaeng, Rayong 21140, Thailand

Calibration By: Mr. Chutaphon Pathong

Calibration Date: 27 September 2022

The Method used: In house method, CAL-VIS-24, based on ASTM E 275-08 and ASTM E 387-04

Traceability: This certificate is traceable to the CMA maintained by National Institute of Standards and Technology (NIST) through Thermo Scientific Limited.

The standard for Wavelength Certificate No. 91416 and 91435

The standard for Photometric Certificate No. 91441 and 101008

The standard for Binary Light Certificate No. 101041 and 101040

The standard for Spectral resolution Certificate No. 101037

Person in charge: (Mr. Chutaphon Pathong)

Authorized signatory: (Mr. Thatsaphan Pongnam)

This certificate is issued under the authority of measurement according to the International System of Units (SI), a previous responsibility of measurement is transferred or national standard or other recognized national standard measurement.

The measurement uncertainty stated in the reported uncertainty which is obtained from the standard uncertainty multiplied by the coverage factor (k=2) to provide a level of confidence of approximately 95%, it is determined in accordance with the Guide to Expression of Uncertainty in Measurement (GUM).

These results may be affected by deviations from specified conditions. The results valid only in the above tests, calibration or sampling. The report and not be reproduced without the written approval of OSHA Technology Limited.

ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)

616/10 Moo 5 T. Maenam Khu, A. Phukdaeng, Rayong 21140, Thailand

Phone: 02-2173-3905 Fax: 02-2173-0884 Website: www.als-lab.com

Delivering Growth - in Asia and Beyond.

Calibration Results:
Without Adjustment

Wavelength Accuracy (nm), The spectral bandwidth of 861 at 2 nm and UUC at 2 nm				
Standard Wavelength	Unit Under Calibration	Correction	Uncertainty	
418.81	418.4	0.21	0.14	
536.66	536.7	-0.04	0.14	
837.58	838.3	-0.32	0.14	
748.48	748.9	-0.52	0.14	
807.03	807.4	-0.37	0.13	
Photometric Accuracy (Absorbance)				
Wavelength	Standard absorbance	Unit Under Calibration	Correction	Uncertainty
420 nm	0.0000	0.000	0.0000	0.0045
	0.5005	0.503	-0.0025	0.0045
	0.7334	0.737	-0.0036	0.0045
	1.0534	1.057	-0.0036	0.0045
440 nm	0.0000	0.000	0.0000	0.0045
	0.5003	0.503	-0.0027	0.0045
	0.7178	0.720	-0.0021	0.0045
	1.0312	1.034	-0.0028	0.0045
485 nm	0.0000	0.000	0.0000	0.0045
	0.5024	0.505	-0.0036	0.0045
	0.8653	0.872	-0.0027	0.0045
	0.9504	0.954	-0.0035	0.0045
548.1 nm	0.0000	0.000	0.0000	0.0045
	0.5168	0.519	-0.0022	0.0045
	0.8903	0.891	-0.0007	0.0045
	0.9804	0.982	-0.0016	0.0045
580 nm	0.0000	0.000	0.0000	0.0045
	0.5525	0.554	-0.0015	0.0045
	0.7175	0.718	-0.0006	0.0045
	1.0301	1.031	-0.0009	0.0045
838 nm	0.0000	0.000	0.0000	0.0045
	0.5287	0.538	-0.0103	0.0045
	0.8547	0.885	-0.0003	0.0045
	0.8823	0.883	-0.0007	0.0045

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3000 Agilent Avenue North, Santa Clara, CA 95050
Phone: +1 408 255 7000 Email: info@agilent.com Website: www.agilent.com

CAL-FIA-028-13: 20 Jul 2022

Calibration Results:
Without Adjustment

Photometric Accuracy (Absorbance)				
Wavelength	Standard absorbance	Unit Under Calibration	Correction	Uncertainty
235 nm	0.0000	0.000	0.0000	0.0080
	0.7423	0.744	-0.0017	0.0083
257 nm	0.0000	0.000	0.0000	0.0080
	0.8906	0.881	-0.0091	0.0084
313 nm	0.0000	0.000	0.0000	0.0080
	0.2888	0.292	-0.0032	0.0080
350 nm	0.0000	0.000	0.0000	0.0080
	0.8381	0.838	0.0001	0.0080
Stray Light *				
Standard: cut-off		UUC: Wavelength (nm)	UUC: Transmission (%)	Absorbance (A)
		260.67 ± 0.11 nm	280.7	2.1
		301.84 ± 0.11 nm	391.8	1.7
Spectral Resolution *				
Nominal Concentration 0.02 % w/v				
Standard Wavelength (nm)		Peak	Trough	Ratio
		268.80	268.83	1.39
UUC: Wavelength (nm)		268.2	266.1	
Std Absorbance (A)		0.4810	0.3178	
Absorbance (A)		0.373	0.288	

* Calibration Method * Not TISI Accredited * In this Certificate have been included for completeness.

The End of Certificate

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3000 Agilent Avenue North, Santa Clara, CA 95050
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CAL-FIA-028-13: 20 Jul 2022

ใบตรวจสอบสภาพเครื่องวัดสิ่งแวดล้อม

วันที่ตรวจวัด: SPECTROPHOTOMETER		รุ่น: DR8000		หมายเลขเครื่อง: 127645	
ตรวจวัดโดย (ผู้)		ตรวจวัดโดย (ผู้)		วันที่ตรวจวัด	
27 Sep 2022		27 Sep 2022		วันที่ตรวจวัด	
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Mr. Chaitong Pothong
Service Engineer

info@agilent.com or visit our website
10000 Technology Center
3000 Agilent Avenue North, Santa Clara, CA 95050
Phone: +1 408 255 7000 Email: info@agilent.com Website: www.agilent.com

CAL-FIA-028-13: 20 Jul 2022

332 Moo 3, T. Bangpa, A. Kaengkhro, Saraburi 18110, Thailand
Saraburi Tel: +66 2627 3096 Fax: +66 2627 3100
Bangkok Tel: +668 9205 8261 +668 9247 2300
Website: www.sci-eco.co.th E-Mail: calibration@sci-eco.co.th

Certificate No. T230116

Page 1 of 4

Certificate of Calibration

Equipment	Chamber (Cooling Room)
Manufacturer	MODULAR
Model	IREVCOHCOO
Serial No.	C00351459
Customer Code	RYG-EN0184
ID No.	TI939A5
Customer	ALS Laboratory Group (Thailand) Co., Ltd. (Rayong Branch)
	616/10 Moo 5 T.Macnam Klu,
	A.Pluangkang, Rayong 21140
Customer Location	Laboratory
Date of Receipt	23 January 2023
Calibrated By	Atiphong Rongrat (Technician)
Approved By	Boonchar Suriyawong (Site Calibration Manager)
Date of Issue	9 FEB 2023

The uncertainties are for a confidence probability of approximately 95%.

This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement established at the corresponding national standard laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the Metrological Center.

T230116-11-08-04

REVIEW BY: [Signature]
APPROVED BY: [Signature]
NEXT CAL. DATE: 17/12/23

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Certificate of System Qualification

GC-QC • GCMS-QC

System ID: GMA-7
Organization Name: ALS Laboratory Group (Thailand) Co., Ltd.
Organization Location: 104 Puthumrakon Rd., Khwaeng Suan Luang, Khet Suan Luang, Bangkok 10250

Date: June 21, 2022 2:04:12 PM
EQP Name: Agilent/Recommended Agilent/Recommended
EQP Revision: GC 02.50, GCMS 02.50
Overall Qualification Status: Pass

System Inspection and Basic Safety and Operation

Name: 7880
Setup Status: Pass

Overall System Inspection and Basic Safety and Operation Test Status

Pass

Inlet Pressure Accuracy

Name: 7880
Front: 55L
Setup Status: Pass
Inlet Pressure: 25.0 psi
Accuracy: -0.6 psi
Agilent Recommended: +/- 1.2

Overall Inlet Pressure Accuracy Test Status

Pass

GC Oven Temperature Accuracy

Name: 7880

Date: June 21, 2022 2:04:12 PM
System ID: GMA-7

Page 1 of 15

332 Moo 3, T. Bangpa, A. Kaengkhro, Saraburi 18110, Thailand

Certificate No. T230116

Page 2 of 4

Calibration Report

Equipment: Chamber (Cooling Room)
Date of Calibration: 25 January 2023
Environment: Temperature: 23.4-24.9 °C
Line Voltage: 221.4-230.2 V
Relative Humidity: 55-65 %RH

Condition of this results of calibration:

1. This equipment was calibrated by using 16 standard thermocouples type T into the chamber. The urban one standard thermocouples type T use for ambient temperature measurement. The calibration was done in according to NIST-720 (based on ASTM E145-94 (Reapproved 2001) and AS2551-1986).
All data show below were final values and the initial data from customer request. The temperature scale used was based on ITS-90.

2. Reference Standard Instrument

Instrument	Model	Instrument No.	Certificate No.	Due Date
TC	TYPE F	TN141-TN150	T222123	5 October 2023
TC	TYPE F	TN151-TN160	T222123	5 October 2023
DATA LOGGER	34970A	T150	T222123	5 October 2023

3. This certificate is traceable to

National Institute of Metrology (Thailand) through Metrological Center (NSC-TISI-TIS 17025 CALIBRATION 0244)

4. Condition of calibrated item: good

Equipment Description

Time Constant: 1 Hour
Fresh Air Damper: ☐ Open ☐ Min ☐ Medium ☐ Max
☐ Close
☒ Not Available

5. Adjustment

(X) without adjustment () after adjustment

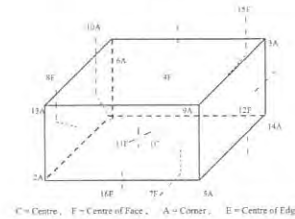
Approved By: [Signature]

332 Moo 3, T. Bangpa, A. Kaengkhro, Saraburi 18110, Thailand

Certificate No. T230116

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Calibration Report



C = Centre, F = Centre of Face, A = Corner, E = Centre of Edge.

1C = TN151	12F = TN152
2A = TN142	13A = TN153
3A = TN143	14A = TN154
4F = TN144	15F = TN155
5A = TN145	16E = TN156
6A = TN146	
7F = TN147	
8F = TN148	
9A = TN149	
10A = TN150	
11F = TN151	

Approved By: [Signature]

332 Moo 3, T. Bangpa, A. Kaengkhro, Saraburi 18110, Thailand

Certificate No. T230116

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Calibration Report

Measurement Results

Calibration Point	Average Standard Reading at each position (°C)											
	TN141	TN142	TN143	TN144	TN145	TN146	TN147	TN148	TN149	TN150	TN151	TN152
3.0	1.03	1.16	1.15	1.19	1.45	1.47	1.21	1.35	1.34	1.45	1.24	1.34
	TN153	TN154	TN155	TN156								
	1.28	1.22	1.28	1.31								

Chamber (Cooling Room)		Temperature Distribution			
Setting (°C)	Reading (°C)			Stability (°C)	Coverage
	Min	Max	Average		
3.0	1.4	1.1	1.5	1.20	1.90

The calibration result apply only the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k which for a distribution, providing a level of confidence of approximately 95 %.

Approved By: [Signature]

User Name: support.ams@agilent.com Host Name: SC011506C Print Date: June 21, 2022 2:04:17 PM System ID: CM-7 ALS-GMT-2022 Transaction Log				
Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
June 21, 2022 11:01:00 AM	Auth	Auth/Cancel	Session	None
June 21, 2022 11:01:47 AM	Auth	Auth/Authenticated	Session	None
June 21, 2022 11:01:48 AM	Auth	Session/Authenticated	Session	None
June 21, 2022 11:01:51 AM	Start	Qualification	Session	OO
June 21, 2022 11:01:51 AM	Start	Execution	QC Data Temperature Stability	None 7800 - Temperature Over - 8 100 F°C - L = 8 F°C
June 21, 2022 11:03:14 AM	Auth	Data Manager	Data Manager	Data Manager was in a data validation state but the user chose to end run
June 21, 2022 11:04:15 AM	Auth	Data	QC Data Temperature Stability	Manual Data Entry 7800 - Temperature Over - 8 100 F°C - L = 8 F°C
June 21, 2022 11:04:22 AM	End	Execution	QC Data Temperature Stability	Run Count: 1 7800 - Temperature Over - 8 100 F°C - L = 8 F°C
June 21, 2022 11:04:24 AM	Start	Execution	Log Amp: 1077A SQ - Source: None E1 - Extensor	None
June 21, 2022 11:04:34 AM	End	Execution	Log Amp: 1077A SQ - Source: Run Count: 1 E1 - Extensor	None
June 21, 2022 11:04:37 AM	Start	Execution	1077A - 1077A SQ - Source: E1 Extensor	None
June 21, 2022 11:04:49 AM	End	Execution	1077A - 1077A SQ - Source: E1 Extensor	None
June 21, 2022 11:07:02 AM	Start	Execution	Turn E1: 1077A SQ - Source: None E1 - Extensor	None

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Date: June 21, 2022 2:04:12 PM
System ID: CM-7

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User Name: support.ams@agilent.com Host Name: SC011506C Print Date: June 21, 2022 2:04:17 PM System ID: CM-7 ALS-GMT-2022 Transaction Log				
Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
June 21, 2022 11:06:30 AM	Start	Execution	Turn E1: 1077A SQ - Source: Run Count: 1 E1 - Extensor	None
June 21, 2022 11:14:38 AM	Start	Execution	Turn E1: 1077A SQ - Source: None E1 - Extensor	None
June 21, 2022 11:16:48 AM	End	Execution	Turn E1: 1077A SQ - Source: Run Count: 1 E1 - Extensor	None
June 21, 2022 11:16:49 AM	Start	Execution	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 1 - L = 1200	None
June 21, 2022 11:17:05 AM	Start	Execution	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	None
June 21, 2022 11:17:15 AM	Start	Execution	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 1 - L = 1200	None
June 21, 2022 11:26:00 AM	Auth	Auth/Cancel	Session	None
June 21, 2022 12:36:29 PM	Auth	Auth/Authenticated	Session	None
June 21, 2022 12:36:29 PM	Start	Session/Authenticated	Session	None
June 21, 2022 12:36:29 PM	Start	Qualification	Session	OO
June 21, 2022 12:36:29 PM	Start	Execution	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 1 - L = 1200	None

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Date: June 21, 2022 2:04:12 PM
System ID: CM-7

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User Name: support.ams@agilent.com Host Name: SC011506C Print Date: June 21, 2022 2:04:17 PM System ID: CM-7 ALS-GMT-2022 Transaction Log				
Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
June 21, 2022 12:37:07 PM	Start	Execution	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	None
June 21, 2022 12:37:08 PM	Start	Execution	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 1 - L = 1200	None
June 21, 2022 12:38:34 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 1 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:38:24 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 1 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:40:00 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 1 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:42:04 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 1 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:42:17 PM	Auth	Auth/Cancel	Session	None
June 21, 2022 12:53:31 PM	Auth	Auth/Authenticated	Session	None
June 21, 2022 12:53:33 PM	Auth	Session/Authenticated	Session	None
June 21, 2022 12:53:37 PM	Start	Qualification	Session	OO
June 21, 2022 12:53:37 PM	Start	Execution	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 1 - L = 1200	None

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Date: June 21, 2022 2:04:12 PM
System ID: CM-7

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User Name: support.ams@agilent.com Host Name: SC011506C Print Date: June 21, 2022 2:04:17 PM System ID: CM-7 ALS-GMT-2022 Transaction Log				
Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
June 21, 2022 12:54:45 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 1 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:56:28 PM	End	Execution	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 1 - L = 1200	Run Count: 1
June 21, 2022 12:57:11 PM	Start	Execution	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 1 - L = 1200	None
June 21, 2022 12:58:15 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:58:30 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:58:30 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:58:43 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:58:50 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:59:14 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J

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Date: June 21, 2022 2:04:12 PM
System ID: CM-7

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User Name: support.ams@agilent.com Host Name: SC011506C Print Date: June 21, 2022 2:04:17 PM System ID: CM-7 ALS-GMT-2022 Transaction Log				
Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
June 21, 2022 12:59:45 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:40:18 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:40:40 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:41:09 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J
June 21, 2022 12:41:28 PM	End	Execution	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Run Count: 1
June 21, 2022 12:42:30 PM	Auth	Test/Instructed	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Deviation Note for Run Count: 1
June 21, 2022 12:42:30 PM	Start	Execution	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	None
June 21, 2022 12:43:08 PM	Auth	Data	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Data Run Path EVALSDAT_20220607_301 .J

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Date: June 21, 2022 2:04:12 PM
System ID: CM-7

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User Name: support.ams@agilent.com Host Name: SC011506C Print Date: June 21, 2022 2:04:17 PM System ID: CM-7 ALS-GMT-2022 Transaction Log				
Time	Transaction State	Activity Performed	Type of Transaction	Optional Information
June 21, 2022 12:42:45 PM	End	Execution	Signal to Noise E1 - Liquid Injection, Front SLS, SQ - Source: E1 - Extensor using Flameout 2 - L = 1200	Run Count: 2
June 21, 2022 12:43:00 PM	End	Qualification	Session	OO
June 21, 2022 12:43:06 PM	Start	Acquiring	Session	None
June 21, 2022 12:43:17 PM	Auth	Auth/Cancel	Session	None
June 21, 2022 12:47:47 PM	Auth	Auth/Authenticated	Session	None
June 21, 2022 12:47:56 PM	Auth	Session/Authenticated	Session	None
June 21, 2022 12:47:58 PM	Start	Qualification	Session	OO
June 21, 2022 12:47:43 PM	Auth	Reporting	Session	Report Generated Correlation

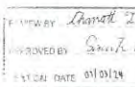
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Date: June 21, 2022 2:04:12 PM
System ID: CM-7

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BRK_EL0037

Agilent CrossLab Start Up Services

Agilent 5100 5110 ICP-OES
Preventive Maintenance

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

Delivered by highly trained and certified service engineers using genuine Agilent parts and supplies, Agilent Preventive Maintenance provides what you need to reduce unplanned downtime and keep your systems operating at their peak performance.

This checklist is used as a guide for completing the preventive maintenance tasks. A signed copy of this checklist is provided for your records.

Revision: 6.12 (March 31, January 2022)
Document Number: 00714-90073
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Agilent 5100 5110 Preventive Maintenance Checklist



Introduction

Customer Information

- Customers 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. Customers are responsible for regular maintenance and are encouraged to observe the service representative.
- Any parts not included in the Parts Lists section of this document are not part of the recommended Preventive Maintenance service nor are they included in the price of this service.
- If a system requires the use of extra or special procedures and/or parts for the maintenance service, then these must be ordered separately and charged as a repair, which may incur additional costs.
- For customers using HF applications, the instrument should be returned to its standard sample introduction system.

Revision: 6.12 (March 31, January 2022)
Document Number: 00714-90073
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Important Customer Web Links

- To access **Agilent University**, visit <http://www.agilent.com/crosslab/university/> to learn about training options, which include online, classroom and on-site delivery. A training specialist can work directly with you to help determine your best options.
- To access the **Agilent Resource Center** web page, visit <http://www.agilent.com/es-us/agilentresources/>. The following information topics are available:
 - Sample Prep and Containment
 - Chemical Standards
 - Analysis
 - Service and Support
 - Application Workflows
- The **Agilent Community** is an excellent place to get answers, collaborate with others about applications and Agilent products, and find in-depth documents and videos relevant to Agilent technologies. Visit <https://community.agilent.com/welcome>.
- Videos about specific preparation requirements for your instrument can be found by searching the **Agilent YouTube** channel at <http://www.youtube.com/user/agilent>.
- Need to place a service call?** Flexible Support Options | Agilent

Service Engineer's Responsibilities

- Contact the customer and ensure that all necessary supplies are available before the preventive maintenance visit.
- Only select those pages that relate to the system or module being serviced.
- Complete empty fields with the relevant information.
- Complete the relevant checkboxes in the checklist using either a "X" or tick mark "✓".
- Check "Service not applicable" check boxes to indicate services/tasks not delivered, as appropriate.
- Complete the Preventive Maintenance services in the most logical order relevant to the individual system service 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.
- Add relevant page numbers to selected pages and complete the total number of pages field in the Service Completion section.
- Ask the customer to sign the Service Verification section including the customer's and your signature.

Instrument Maintenance

System Information

- ☐ Check this box, if an instrument configuration report is attached instead of completing this table.

Instrument System Name and ID	GC100A 3 MY18010005
Instrument System Site and Location	ALS C B&V

List System Component Product Numbers	List the Serial Numbers of each Component
1 GC100A	MY18010005
2 GC100A	AL154107146
3 GC100A	EA05-00157
4 GC100A	AL16040115
5	
6	
7	
8	
9	

ICP-OES Configuration Table	Circle the type or write in the type if other
Nebulizer Type	Scal Spray (One Jet) / Conical (Other)
Spray Chamber	Cyclonic (Single Pass) / Cyclonic (Double Pass) / Other
Torch	Kalish (Dual View) / Other
Torch Type	One Piece (Semi-Disassemblable) / Fully Disassemblable / Other
Injector Diameter	2.0mm / 2.5mm / 3.0mm / 3.5mm / Other
Injector Material	Dupont (Ceramic) / Other

Preparation

- Discuss any specific issues with the customer before starting.
- Review the instrument logbook for recorded problems and comments.
- Save instrument control settings before starting the procedure.
- Perform a general inspection of the system for cleanliness.
- Check for proper installation of parts, assemblies, sensors, etc.
- Check system for required installation of components and implementation of Service Notes.
- Check for required firmware/software updates and verify with customers if they would like them installed.
- For HF application systems, if standard sample introduction system was not installed, ask the customer to install it.
- Ask the customer to remove any samples from the ICP-OES sample introduction area, auto sampler or around the ICP-OES.

Preventive Maintenance Procedures

Record Pre-PM instrument performance

- Run Instrument Performance Test
- Record results in Instrument Performance Test Results Table - Pre-PM

Clean and inspect ICP-OES system

- Look for any obvious external damage or problems.
- Inspect water cooling hoses, gas lines and power cord for excessive wear or damage.
- Perform a general internal inspection of the system for excessive dust accumulation, clean if necessary.
- Inspect sample introduction components and record any required maintenance in the Service Engineer Comments and notify the customer as the required actions required.
- Record the instrument operating conditions in the ICP-OES Status Results Table.
- Replace the polychromator purge filter.
- Replace the radial pre-optics window.
- Replace the axial pre-optics window for SVDV and VDV instruments.
- Check exhaust flow for the correct positive extraction at the exhaust duct to insure they meet minimum specifications.
- Replace air inlet dust filter.
- Replace high capacity air inlet dust filter element if installed.
- Remove and clean instrument water inlet filter.

Agilent Water Recirculator

- Service not applicable
- Drain cooling fluid and remove any particles from the chiller reservoir.
- Remove, clean and reinstall water inlet metal mesh filter if present.
- Re fill with Agilent Cool Clear cooling fluid.
- Clean the cooling system Air filter and the condenser.

SPS 3 Auto Sampler

- Service not applicable
- Power cycle the autosampler and verify successful initialization.
- Inspect X and Z axis belts for wear. Replace as necessary.
- Clean X and Z axis slide shafts.
- Using customer's racks and the Agilent software move the sample probe to the 4 outermost corners and rinse port, ensure that the probe is approximately centered in the Val.

SPS 4 Auto sampler

- Service not applicable
- Clean the spill tray, rack location mat, end frames and chassis with a damp soft cloth and diluted mild detergent.
- Clean the auto sampler cover panels, if rework kit is installed, with domestic window cleaner.
- Check the X-axis and Z-axis drive belts for cracks, splits, damaged teeth, excessive fraying, color changes or degradation from fumes.
- Check the X-axis, Theta-axis and Z-axis FFC cables for cracks, incorrect positioning, damaged edges or damaged connectors.
- Pump Tubing Replacement: Replace peristaltic pump tubing. Replace all tubing that goes from the rinse station to the pump and from the pump to the waste/rinse bottles.
- Test using customer's tray and move the sample probe to the sample val 1, wash val and rinse port and ensure that the probe is centered in the val. If not use calibration wizard and calibrate the position.

AVS 4, 6, 7 Advanced Valve System

- Service not applicable
- Replace valve rotor seal - inspect
- Check fittings for signs of leaks.
- Check tubing including autosampler tubing for kinks or excessive wear.
- Check high flow pump for signs of leaks.

ICP-OES adjustment

- Check position of Zn peak, adjust if required.
- Check Argon Ratio, adjust to specified value if required.
- Perform Detector Calibration.
- Perform Instrument Calibration.

Record Post-PM instrument performance

- Run Instrument Performance Test
- Record results in Instrument Performance Test Results Table - Post PM
- For systems using ICP Expert version 7.3 and above, run the following instrument tests:
 - Subsystem Communications Test
 - Air Flow
 - Water Flow
 - Gas Flows
 - RF Generator
 - Camera Test
 - Optics Test
 - Nebulizer Test

- Record the result in the Instrument Test Results Table.

Restore Instrument

- For HF applications, ask the customer to reinstall their sample introduction system.
- Leave system in an idle state on and purging.
- Guidance: If the PM service is performed prior to a qualification service, then use the qualification procedure as a guide for final instrument set up and checkout.

Service Review

- Attach available reports/printouts of all tests to this documentation.
- Record the Preventive Maintenance service activity in the customer's records/logbook.
- Record the PM event in the Smart Alerts logbook, if applicable.
- Update/reset instrument maintenance counters as appropriate.
- Attach the PM sticker to the system or instrument logbook based on the customer's request.
- Complete the Service Engineer Comments section if there are additional comments.
- Review this service, parts replaced, and test results obtained with the customer.
- If the instrument firmware was updated, record the details of the change in the Service Engineer's Comments box. Systems in a compliant environment may need additional documentation.
- Complete the Signature Page with both Service Engineer and Customer signatures.

 Agilent

Part Description	Part Number	Product or Model# where used	Quantity consumed
------------------	-------------	------------------------------	-------------------

Metrological Center
SCI ECO Services Company Limited
33/2 Moo 3, T.Banpa, A Kaengkhoi, Saraburi 18110
Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109
Website : www.scieco.co.th E-Mail : calibrate@sci.co.th

SCG
SCG ECO Services Company Limited
33/2 Moo.3, T.Banpa, A Kaengkhro, Saraburi 18110
Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109
Website : www.socio.co.th E Mail : calibrate@scg.co.th

Certificate of Calibration

Metrological Center
SCI ECO Services Company Limited
33/2 Moo 3, T.Banpa, A.Kaengkhoi, Saraburi 18110
Telephone : +66 2 586 5792-4 Fax : +66 2 586 5109
Website : www.sciro.co.th E-Mail : calibrate@sci.co.th

Calibration Report

Equipment : HEATING BLOCK
Date of Calibration : 7 April 2022
Environment : Temperature : 21.8-23.1 °C
Line Voltage : 221.6-226.3 V
Relative Humidity : 55 - 65 %

Condition of this results of calibration :

1. This equipment was calibrated by insert nine standard thermocouples type T into its chamber, the other one standard thermocouples type T use for ambient temperature measurement. The calibration was done in according

All data shown indicate no

Instrument	Model	Instrument No.	Certificate No.	Due Date
TC	TYPE T	TN221 TN230	T210008	08 June 2022
TC	TYPE T	TN231 TN240	T210008	08 June 2022
DATA LOGGER	34970A	T149	T210008	08 June 2022

3. This certificate is traceable to:
National Institute of Metrology (Thailand) through Metrological Center (NSC-TISI-TIS 17025 CALIBRATION 0244)

4 Condition of calibrated item good

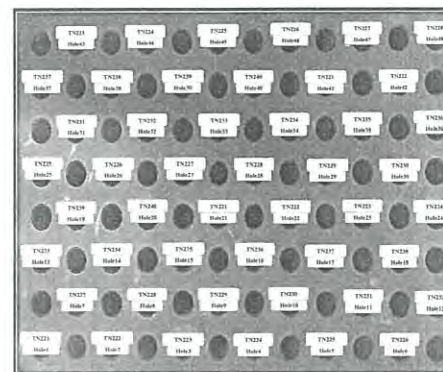
Equipment Description					
Time Constant	2	Hour	25	Minute	Air 95 °C
Fresh Air Damper	<input type="checkbox"/> Open	<input type="checkbox"/> Min	<input type="checkbox"/> Medium	<input type="checkbox"/> Max	
	<input type="checkbox"/> Close				

5. Adjustment ☒ Not Available
 () without adjustment (X) after adjustment

Approved By:

Metrological Center
SCI ECO Services Company Limited
3/2 Moo 3, T.Banpa, A.Kaengkhoei, Saraburi 18110
Phone : +66 2 586 5792-4 Fax : +66 2 586 5109
E-Mail : calibrate@scg.co.th
www.scieco.co.th

Calibration Report



FRONT CONTROL

Approved By:

Calibration Report

[illegible]

Approved By _____

The uncertainties are for a confidence probability of approximately 95%.

Certificate No. T229730 Page 5 of 6

Calibration Report												
Measurement Results												
Calibration Point	Average Standard Reading at each position (°C)											
R1 Block-Block	TN221	TN222	TN223	TN224	TN225	TN226	TN227	TN228	TN229	TN230	TN231	TN232
	Max	108.47	108.45	108.79	108.33	108.87	108.86	108.86	108.86	108.86	108.86	108.86
	Min	108.29	108.43	108.53	108.52	108.98	108.98	108.98	108.98	108.98	108.98	108.98
	Average	108.38	108.44	108.66	108.43	109.43	109.43	109.43	109.43	109.43	109.43	109.43
R2 Block-Block	TN233	TN234	TN235	TN236	TN237	TN238	TN239	TN240	TN241	TN242	TN243	TN244
	Max	109.14	109.06	109.01	109.05	109.01	109.07	109.07	109.07	109.07	109.07	109.07
	Min	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85
	Average	108.99	108.96	108.93	108.95	108.93	108.96	108.96	108.96	108.96	108.96	108.96
R3 Block-Block	TN245	TN246	TN247	TN248	TN249	TN250	TN251	TN252	TN253	TN254	TN255	TN256
	Max	109.14	109.06	109.01	109.05	109.01	109.07	109.07	109.07	109.07	109.07	109.07
	Min	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85
	Average	108.99	108.96	108.93	108.95	108.93	108.96	108.96	108.96	108.96	108.96	108.96
R4 Block-Block	TN257	TN258	TN259	TN260	TN261	TN262	TN263	TN264	TN265	TN266	TN267	TN268
	Max	109.14	109.06	109.01	109.05	109.01	109.07	109.07	109.07	109.07	109.07	109.07
	Min	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85
	Average	108.99	108.96	108.93	108.95	108.93	108.96	108.96	108.96	108.96	108.96	108.96
R5 Block-Block	TN269	TN270	TN271	TN272	TN273	TN274	TN275	TN276	TN277	TN278	TN279	TN280
	Max	109.14	109.06	109.01	109.05	109.01	109.07	109.07	109.07	109.07	109.07	109.07
	Min	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85
	Average	108.99	108.96	108.93	108.95	108.93	108.96	108.96	108.96	108.96	108.96	108.96
R6 Block-Block	TN281	TN282	TN283	TN284	TN285	TN286	TN287	TN288	TN289	TN290	TN291	TN292
	Max	109.14	109.06	109.01	109.05	109.01	109.07	109.07	109.07	109.07	109.07	109.07
	Min	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85
	Average	108.99	108.96	108.93	108.95	108.93	108.96	108.96	108.96	108.96	108.96	108.96
R7 Block-Block	TN293	TN294	TN295	TN296	TN297	TN298	TN299	TN300	TN301	TN302	TN303	TN304
	Max	109.14	109.06	109.01	109.05	109.01	109.07	109.07	109.07	109.07	109.07	109.07
	Min	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85
	Average	108.99	108.96	108.93	108.95	108.93	108.96	108.96	108.96	108.96	108.96	108.96
R8 Block-Block	TN305	TN306	TN307	TN308	TN309	TN310	TN311	TN312	TN313	TN314	TN315	TN316
	Max	109.14	109.06	109.01	109.05	109.01	109.07	109.07	109.07	109.07	109.07	109.07
	Min	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85	108.85
	Average	108.99	108.96	108.93	108.95	108.93	108.96	108.96	108.96	108.96	108.96	108.96

Approved By:

FM-L1511715-05-43

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Calibration Report

Measurement Results:

HEATING BLOCK				Temperature Distribution	
Setting (°C)	Reading (°C)			Stability (°C)	Uncertainty (°C)
	Min	Max	Average		
	Min	Max	Average		
100.0	100.0	100.4	100.2	0.20	0.33
105.0	105.0	105.4	105.2	0.20	0.33

* The quoted uncertainty excludes "uniformity".

The calibration result applies only to the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k, which for a t-distribution, providing a level of confidence of approximately 95%.

Approved By:

FM-L1511715-05-43

Certificate No. T221644 Page 1 of 4

Certificate of Calibration

Equipment : Chamber (Cold Room)

Manufacturer : KOLDTECH

Model : KM 320

Serial No. : TBN-1012061/05

Customer Code : BKK_EN0167

ID No. : T2463A3

Customer : ALS Laboratory Group (Thailand) Co.,Ltd.

104 Phatthanakan 40, Phatthanakan Rd., Khwaeng Phatthanakan,

Khet Suan Luang, Bangkok 10250

Customer Location : Environmental Laboratory

Date of Receipt : 27 June 2022

Calibrated By : Sujjar Naknared (Site Calibration Manager)

Approved By : / Boonchai Suriyawong (Site Calibration Manager)

Date of Issue : 4 JUL 2022

The uncertainties are for a confidence probability of approximately 95%.

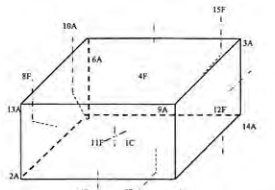
This Certificate is issued in accordance with the conditions of accreditation granted by the Thai Laboratory Accreditation Scheme which has assessed the measurement capability of the laboratory and its traceability to recognized national standards and to the units of measurement realized at the corresponding national standard laboratory. This certificate may not be reproduced other than in full except with the prior written approval of the Metrological Center.

FM-L141701-02-44

RYG_EN0029

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Calibration Report



C = Centre, F = Centre of Face, A = Corner, E = Centre of Edge

1C = TN161	11F = TN171
2A = TN162	12F = TN172
3A = TN163	13A = TN173
4F = TN164	14A = TN174
5A = TN165	15F = TN175
6A = TN166	16E = TN176
7F = TN167	
8F = TN168	
9A = TN169	
10A = TN170	

Approved By:

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Certificate No. T221644 Page 4 of 4

Calibration Report

Measurement Results:

Average Standard Reading at each position (°C)												
Calibration Point	TN161	TN162	TN163	TN164	TN165	TN166	TN167	TN168	TN169	TN170	TN171	TN172
1	2.71	2.82	2.75	2.89	2.95	3.68	3.02	2.96	3.00	2.85		
	TN173	TN174	TN175	TN176	TN177	TN178	TN179	TN180	TN181	TN182	TN183	TN184
	2.97	3.02	2.85	3.04	2.97	3.33						

Chamber (Cold Room)				Temperature Distribution			
Setting (°C)	Reading (°C)			Average (°C)	Stability (°C)	Uniformity (°C)	Uncertainty (°C)
	Min	Max	Average				
	Min	Max	Average				
3.0	2.9	4.0	3.2	2.99	1.05	1.30	1.66
							2.80

* The quoted uncertainty excludes "uniformity".

The calibration result applies only to the above calibrated item.

The result of test was found accurate as shown on date and place of test only.

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor k, which for a t-distribution, providing a level of confidence of approximately 95%.

Approved By:

FM-L1511715-05-43

Certificate No. T221644 Page 2 of 4

Calibration Report

Equipment : Chamber (Cold Room)
Date of Calibration : 30 June - 1 July 2022
Environment : Temperature : 18.9-23.7 °C
Line Voltage : 222.9-226.5 V
Relative Humidity : 55-65 %RH

Condition of this results of calibration :

1. This equipment was calibrated by using traceable standard thermocouples type T into its chamber, the other one standard thermocouples type T use for ambient temperature measurement. The calibration was done in accordance with WI-T20 (based on ASTM E145-94 (Reapproved 2001) and AS2853-1986). All data show below were final values and the initial data from customer request. The temperature scale used was based on ITS-90.

2. Reference Standard Instrument :

Instrument	Model	Instrument No.	Certificate No.	Due Date
TC	TYPE T	TN161-TN170	T210009	30 July 2022
TC	TYPE T	TN171-TN180	T210009	30 July 2022
DATA LOGGER	34970A	T149	T210009	30 July 2022

3. This certificate is traceable to :

National Institute of Metrology (Thailand) through Metrological Center (NSC-TISI-TIS 17025 CALIBRATION 9244)

4. Condition of calibrated item : good

Equipment Description	Time Constant	Hour	Minute	At	°C
Fresh Air Damper	<input checked="" type="checkbox"/> Open	<input type="checkbox"/> Min	<input type="checkbox"/> Medium	<input type="checkbox"/> Max	
	<input type="checkbox"/> Close				
	<input checked="" type="checkbox"/> Not Available				

5. Adjustment : () without adjustment (X) after adjustment

Approved By:

FM-L1511715-05-43

Certificate No. T221644 Page 1 of 2

Certificate of Calibration

Equipment : Conductivity Meter

Manufacturer : Mettler Toledo

Model : 5320

Serial No. : 8041407147

ID No. : RYG_EN0029

Condition As-Received: Used Item

Received Date : 22 February 2022

Calibration Date : 23 February 2022

Reference : 2202-0722DSC-1

Submitted by : ALS Laboratory Group (Thailand) Co.,Ltd. (Rajyong Bhan)

516/10 Moo 5 T Maenam Khan, A.Pluakdaeng,

Samut Prakan 11140, Thailand

Ambient Temperature : (25 ± 2.5) °C

Relative Humidity : (50 ± 15) %

Calibration Procedure : In-house method

OP-016 Based on direct measurement by using certified reference material (CRM)

Calibrated by : Walailak Sirinwan

Approved by :

ภาคผนวก จ

สำเนาหนังสืออนุญาตขึ้นทะเบียน
ห้องปฏิบัติการวิเคราะห์



ที่อก ๐๓๑๐(๑)/ ๑๐๖๕

กรมโรงงานอุตสาหกรรม
ถนนพระรามที่ ๖ เขตราชเทวี
กรุงเทพมหานคร ๑๐๕๐๐

๒๘ มกราคม ๒๕๖๕

เรื่อง ต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

เรียน กรรมการผู้จัดการ บริษัท แอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และชนิดสารเคมีของห้องปฏิบัติการวิเคราะห์เอกชน
ลงวันที่ ๓๐ กรกฎาคม ๒๕๖๓

สิ่งที่ส่งมาด้วย ๑. รายชื่อผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๑ แผ่น
๒. รายชื่อเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๕ แผ่น
๓. ขอบข่ายสารเคมีที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๓ แผ่น

ตามหนังสือที่อ้างถึง บริษัท แอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ขอต่ออายุ
หนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ๖-๒๐๔-๑-๔๗๐๑ สถานที่ตั้งเลขที่ ๑๐๕
ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร
ต่อกรมโรงงานอุตสาหกรรม นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้บริษัท แอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย)
จำกัด ต่ออายุหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน โดยมีองค์ประกอบดังนี้
ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๖ ราย ตามสิ่งที่ส่งมาด้วย ๑
ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๑๖๒ ราย ตามสิ่งที่ส่งมาด้วย ๒
ค. ขอบข่ายสารเคมีที่ได้รับขึ้นทะเบียนไว้วิเคราะห์ในน้ำเสีย จำนวน ๕๔ รายการ น้ำใต้ดิน
จำนวน ๑๒๖ รายการ อากาศเสีย ๑๖ รายการ สิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว จำนวน ๓๕ รายการ และดิน
จำนวน ๑๒๕ รายการ รวมทั้งสิ้นจำนวน ๓๖๑ รายการ ตามสิ่งที่ส่งมาด้วย ๓

หนังสือฉบับนี้จะหมดอายุในวันที่ ๒ กันยายน ๒๕๖๖ หากประสงค์จะต่ออายุหนังสือ
รับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ให้ยื่นคำขอต่ออายุพร้อมเอกสารประกอบคำขอ
ต่อกรมโรงงานอุตสาหกรรม ภายใน ๓๐ วัน ก่อนวันสิ้นอายุของหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์
เอกชน ซึ่งคำขอต่ออายุดังกล่าวขอรับได้ที่กรมโรงงานอุตสาหกรรม

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายศิระ จันทน์เกิด)

อธิบดีกรมโรงงานอุตสาหกรรม
ผู้อำนวยการกองบริหารการทะเบียน
ผู้ว่าราชการจังหวัดและอธิบดีเขตจังหวัด
ผู้บัญชาการทหารบกและตำรวจภูธรภาค ๑

กองวิจัยและเตือนภัยมลพิษโรงงาน

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๒๐๕ ๔๓๔๖ ๐ ๒๒๐๕ ๔๓๐๒

โทรสาร ๐ ๒๒๐๕ ๔๓๐๕ ๐ ๒๒๐๕ ๔๓๔๕

เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท แอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

เลขทะเบียน ๖-๒๐๔

ที่อก ๐๓๑๐(๑)/ ๑๐๖๕

ลงวันที่ ๒๘ มกราคม ๒๕๖๕

ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๑๖๒ ราย

- | | |
|---|----------------------------|
| ๑) นางสาวจินดา ไชยธรรม | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๒) นางสาวสุวิมล น้อยเจริญ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๓) นางสาวศุภกัญญา อิมขม | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๔) นางสาววันวิมล สายสิง | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๕) นางสาววันวิมล สมบูรณ์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๖) นางสาวศุภวิมล เสงี่ยมธรรม | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๗) นางสาวสุวิมล มงคลจิตร | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๘) นางสาวศิริลักษณ์ พึ่งแพง | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๙) นายแพทย์ จันทพันธ์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๑๐) นายเศรษฐี ภูมิบาลย์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๑๑) นายอานันท์ จิรายุ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๑๒) นางสาวเบญจพร แก้วมัน | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๑๓) นางสาวสุวิมล ชัยเรืองสุข | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๑๔) นางสาวสุชาดา ธรรมถาวร | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๑๕) นางสาวเบญจมา ชัยเศรษฐกุล | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๑๖) นางสาวศศิธร หนูสวัสดิ์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๑๗) นางสาวเสาวลักษณ์ ภูนาอำพร | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๑๘) นายอภิสิทธิ์ สิงหา | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๑๙) นายศักดิ์สิทธิ์ โพธิ์คำพิสุทธิ์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๒๐) ว่าที่ร้อยตรีหญิง พรณิศา ชำเจริญ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๒๑) นางจิตติ คำแก้ว | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๒๒) นางสาวอรรณพ รักษ์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๒๓) นางสาวพรวิมล แยมกรานต์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๒๔) นายจุลเดช วาจิรัตน์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๒๕) นางสาวศุภรัตน์ รุ่งคำ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๒๖) นายธนกร สุขเจริญ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๒๗) นายปัญชา นามเขตต์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๒๘) นายพรมณ์ ศรีปิ่นนคร | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๒๙) นายอุทิศ อุทัย | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๓๐) ว่าที่ร้อยตรี เฉลิมเกียรติ อมศรีเสริม | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๓๑) นางสาววิภา สว่างมา | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๓๒) นายอนุพงษ์ รัตนศรีประเสริฐ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๓๓) นางสาวจุฑารัตน์ โอนสันเทียะ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๓๔) นางสาวจรรวณ ทิมพุดพิศุทธิ์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |

(นายศิระ จันทน์เกิด)

๓๕) นางสาวปรางค์ทิพย์...

อธิบดีกรมโรงงานอุตสาหกรรม
ผู้อำนวยการกองบริหารการทะเบียน
ผู้ว่าราชการจังหวัดและอธิบดีเขตจังหวัด
ผู้บัญชาการทหารบกและตำรวจภูธรภาค ๑

เอกสารแนบท้ายหนังสือรับต่ออายุขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท แอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

เลขทะเบียน ๖-๒๐๔

ที่อก ๐๓๑๐(๑)/

ลงวันที่ ๒๘ มกราคม ๒๕๖๕

ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ จำนวน ๖ ราย

- | | |
|------------------------------|----------------------------|
| ๑) นางสาวยุพพร จันทร์ปลั่ง | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๒) นางสาวชัชชัย โภการณ ณ นคร | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๓) นายศุภมิตร จิตธรรม | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๔) นางสาวกนกกร เนก | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๕) นายสุริยา สอนแก้ว | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๖) นายวิชาญ ขุนหวี | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |

๐๒๒๒

(นายศิระ จันทน์เกิด)
อธิบดีกรมโรงงานอุตสาหกรรม
ผู้อำนวยการกองบริหารการทะเบียน
ผู้ว่าราชการจังหวัดและอธิบดีเขตจังหวัด
ผู้บัญชาการทหารบกและตำรวจภูธรภาค ๑

- ๒ -

- | | |
|--------------------------------------|----------------------------|
| ๓๕) นางสาวปรางค์ทิพย์ กิจไพศาลศักดิ์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๓๖) นางสาวเดือนใจ หางกลาง | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๓๗) นางสาวจิราพร ศิริเวช | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๓๘) นายวรารณ ยุทธกิจ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๓๙) นายพนม วิริยะสกลกิจ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๔๐) นายนิศ เจนจบ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๔๑) นายศศิธร จำเพชร | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๔๒) นายอรพต นิยมวิทยาพันธ์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๔๓) นายภูวิช พรหมสะอาด | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๔๔) นายธนเดช โภคาพิพัฒน์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๔๕) นายชวฤทธิ์ วงษ์จันทร์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๔๖) นายอาทิตย์ ศรีสน | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๔๗) นายเจตน์ดิษฐ์ คงศักดิ์ไทย | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๔๘) นายจรัส บุญธิ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๔๙) นายอนันต์ เอนก | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๕๐) นายอภิวัฒน์ ทุมมา | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๕๑) นางสาวสุภาวรัตน์ มาก | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๕๒) นางสาวทิพร ขวาลสมบุญ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๕๓) นางสาวธิดา บุญเพ็ญ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๕๔) นางสาวกนกกร เข้มเพ็ชร | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๕๕) นางสาวพัชรียา ทองจันทร์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๕๖) นางสาวกนกภา สุวรรณศรีกุล | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๕๗) นางสาวกนกภา นามวัฒน์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๕๘) นางสาวอุไรรัตน์ พึ่งสร้างเป็น | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๕๙) นายธีรวัฒน์ ปวงสุข | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๖๐) นายอิทธิพล ไขสี | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๖๑) นายประพนธ์ วรรณสุขชัย | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๖๒) นายชยธร พงษ์ทิพย์ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๖๓) นางสาวกนกวรรณ จันทร์บาท | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๖๔) นางสาวนภาพร หล็กบุญ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๖๕) นางสาวสิริโชค เสงี่ยม | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๖๖) นางสาววรรณใจ บุญ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๖๗) นางสาวพรรณิศา ทุมมา | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๖๘) นางสาวศุภรัตน์ ธีร | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๖๙) นายวัชร ศรีวิชัย | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๗๐) นายสุวิชา ทองอ่อน | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |
| ๗๑) นายวิญญู บุญชนะ | ทะเบียนเลขที่ ๖-๒๐๔-๑-๔๗๐๑ |

(นายศิระ จันทน์เกิด)

อธิบดีกรมโรงงานอุตสาหกรรม
ผู้อำนวยการกองบริหารการทะเบียน
ผู้ว่าราชการจังหวัดและอธิบดีเขตจังหวัด
ผู้บัญชาการทหารบกและตำรวจภูธรภาค ๑

๓๖) นายสมบุญ...

[illegible]

๓๐๔) นายบนทชัย..

[illegible][illegible]

๓๔๖) นางสาวชุตาภรณ์...

มหาวิทยาลัยราชภัฏวชิรเวศน์
ผู้อำนวยการกองวิจัยและพัฒนา
ผู้อำนวยการกองวิจัยและพัฒนา
ผู้อำนวยการกองวิจัยและพัฒนา

เลขทะเบียน ๖-๒๐๕

ข้อบ่งชี้สารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๓๖๑ รายการ

น้ำเสีย จำนวน 59 รายการ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
1	Aldicarb	High-Performance Liquid Chromatographic Method ^[4]
2	Aldicarb Sulfone	High-Performance Liquid Chromatographic Method ^[4]
3	Aldicarb Sulfoxide	High-Performance Liquid Chromatographic Method ^[4]
4	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic Method ^[4]
5	Arsenic	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
6	Barium	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
7	α -BHC	Liquid-Liquid Extraction, Gas Chromatographic Method ^[4]
8	β -BHC	Liquid-Liquid Extraction, Gas Chromatographic Method ^[4]
9	δ -BHC	Liquid-Liquid Extraction, Gas Chromatographic Method ^[4]
10	γ -BHC	Liquid-Liquid Extraction, Gas Chromatographic Method ^[4]
11	Biochemical Oxygen Demand	1) 5-Day BOD Test, Azide Modification Method ^[4] 2) 5-Day BOD Test, Membrane Electrode Method ^[4]
12	Carbaryl	High-Performance Liquid Chromatographic Method ^[4]
13	Carbofuran	High-Performance Liquid Chromatographic Method ^[4]
14	Cadmium	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
15	Chemical Oxygen Demand	1) Closed Reflux, Colorimetric Method ^[4] 2) Closed Reflux, Titrimetric Method ^[4]
16	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic Method ^[4]
17	Chromium	1) Digestion, Inductively Coupled Plasma Method ^[4] 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^[4]
18	Color	APM Weighted-Ordinate Spectrophotometric Method

นักวิทยาศาสตร์ชำนาญการพิเศษ รักษาการการแพทย์
ผู้อำนวยการกองวิจัยและเคื้อกับมณฑลพิษโรจน
ปลัดบริหารการแพทย์กับมณฑลพิษโรจน

(นางวิภาณูจน์ ฉัตรสกุลวิไล)
ผู้อำนวยการกลุ่มมาตรฐานวิชาการและท่าอากาศยาน
และทะเบียนหอปฏิบัติการ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
19	Copper	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
20	Cyanide	Distillation, Colorimetric Method ⁽⁴⁾
21	2,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
22	4,4'-DDD	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
23	2,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
24	4,4'-DDE	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
25	2,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
26	4,4'-DDT	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
27	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
28	Endosulfan Sulfate	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
29	Endosulfan I	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
30	Endosulfan II	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
31	Endrin	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
32	Endrin Aldehyde	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
33	Formaldehyde	Distillation, Colorimetric Method ⁽⁴⁾
34	Free Chlorine	1) DPD Ferrous Titrimetric Method ⁽⁴⁾ 2) Iodometric Method ⁽⁴⁾
35	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
36	Heptachlor epoxide	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
37	Hexavalent Chromium	Filtration, Colorimetric Method ⁽⁴⁾
38	3-Hydroxycarbofuran	High-Performance Liquid Chromatographic Method ⁽⁴⁾
39	Lead	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
40	Manganese	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
41	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/Mass spectrometric Method ⁽⁴⁾
42	Methiocarb	High-Performance Liquid Chromatographic Method ⁽⁴⁾
43	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾

วิมล
(นางวิมล วัชรกุลวิไล)
ผู้อำนวยการศูนย์มาตรฐานวิชาการวิเคราะห์ทดสอบมลพิษ
กรมส่งเสริมการค้าระหว่างประเทศ

44 Methomyl...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
44	Methomyl	High-Performance Liquid Chromatographic Method ⁽⁴⁾
45	Nickel	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
46	Oil & Grease	1) Liquid-Liquid, Partition-Gravimetric Method ⁽⁴⁾ 2) Soxhlet Extraction Method ⁽⁴⁾
47	Oxamyl	High-Performance Liquid Chromatographic Method ⁽⁴⁾
48	Propoxur	High-Performance Liquid Chromatographic Method ⁽⁴⁾
49	pH	Electrometric Method ⁽⁴⁾
50	Phenols	1) Distillation, Chloroform Extraction Method ⁽⁴⁾ 2) Distillation, Direct Photometric Method ⁽⁴⁾
51	Selenium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
52	Sulfide	Iodometric Method ⁽⁴⁾
53	Temperature	Laboratory and Field Methods ⁽⁴⁾
54	Total Dissolved Solids	Dried at 180 °C ⁽⁴⁾
55	Total Kjeldahl Nitrogen	Semi-Micro Kjeldahl Method ⁽⁴⁾
56	Total Suspended Solids	Dried at 103-105 °C ⁽⁴⁾
57	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic Method ⁽⁴⁾
58	Trivalent Chromium	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation ⁽⁴⁾
59	Zinc	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ⁽⁴⁾

น้ำได้ขึ้น จำนวน 126 รายการ

ลำดับที่	สารเคมี	วิธีวิเคราะห์
1	Acenaphthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
2	Acetone	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

วิมล
(นางวิมล วัชรกุลวิไล)
ผู้อำนวยการศูนย์มาตรฐานวิชาการวิเคราะห์ทดสอบมลพิษ
กรมส่งเสริมการค้าระหว่างประเทศ

3 Aldrin...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
3	Aldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
4	Anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
5	Antimony	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
7	Atrazine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
8	Barium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
9	Benz(a)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
10	Benzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
11	Benzo(b)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
12	Benzo(k)fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
13	Benzoic Acid	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
14	Benzo(a)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
15	Benzo(g,h,i)perylene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
17	Bis(2-chloroethyl)ether	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

วิมล
(นางวิมล วัชรกุลวิไล)
ผู้อำนวยการศูนย์มาตรฐานวิชาการวิเคราะห์ทดสอบมลพิษ
กรมส่งเสริมการค้าระหว่างประเทศ

18 Bis(2-ethylhexyl)phthalate...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
18	Bis(2-ethylhexyl)phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
20	Bromoform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
21	Butanol	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
22	Butyl Benzyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
24	Carbazole	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
25	Carbon Disulfide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
27	Chlordane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
28	p-Chloroaniline	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
32	2-Chlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
33	Chromium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾

วิมล
(นางวิมล วัชรกุลวิไล)
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34 Chromium (III)...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Colorimetric Method; Calculation ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Colorimetric Method; Calculation ⁽⁴⁾
35	Chromium (VI)	Colorimetric Method ⁽⁴⁾
36	Chrysene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
37	Cyanide	Distillation, Colorimetric Method ⁽⁴⁾
38	2,4-D	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
39	DDD	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
40	DDE	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
41	DDT	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
42	Dibenz(a,h)anthracene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
43	Di-n-Butyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
44	1,2-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
47	3,3-Dichlorobenzidine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

วิมล
(นางวิมล ธีรสถกุลวิไล)
ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ของมลพิษ
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51 cis-1,2-Dichloroethylene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
53	2,4-Dichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
57	Dieldrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
58	Diethyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
59	2,4-Dimethylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
60	2,4-Dinitrophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
61	2,4-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
62	2,6-Dinitrotoluene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
63	Di-n-Octyl Phthalate	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
64	Endosulfan	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
65	Endrin	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
67	Fluoranthene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

วิมล
(นางวิมล ธีรสถกุลวิไล)
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68 Fluorene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
68	Fluorene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
69	Heptachlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
70	Heptachlor epoxide	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
71	Hexachlorobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
73	n-Hexane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
74	α-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
75	β-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
76	γ-HCH	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
77	Hexachlorocyclopentadiene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
78	Hexachloroethane	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
79	Indeno(1,2,3-cd)pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
80	Isophorone	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
81	Lead	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
82	Manganese	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
83	Mercury	1) Cold Vapor Atomic Absorption Spectrometric Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾

วิมล
(นางวิมล ธีรสถกุลวิไล)
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84 Methanol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
84	Methanol	1) Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾ 2) Equilibrium Headspace, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
85	Methoxychlor	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
86	Methyl Bromide	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
87	Methylene Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
88	2-Methylphenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
89	2-Methylnaphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
90	Methyl tert-Butyl Ether	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
91	Naphthalene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
92	Nickel	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
93	Nitrobenzene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
94	N-Nitrosodiphenylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
95	N-Nitrosodi-n-Propylamine	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
96	Polychlorinated Biphenyls - PCB 1016 - PCB 1221 - PCB 1232 - PCB 1242 - PCB 1248 - PCB 1254 - PCB 1260	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

วิมล
(นางวิมล ธีรสถกุลวิไล)
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97 Pentachlorophenol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
97	Pentachlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
98	pH	Electrometric Method ⁽⁴⁾
99	Phenanthrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
100	Phenol	1) Distillation, Direct Photometric Method ⁽⁴⁾ 2) Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
101	Pyrene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
102	Selenium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
103	Silver	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
104	Styrene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
105	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
106	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
107	Toluene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
108	Toxaphene	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
109	TPH (C ₅ -C ₈)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(13,24)
110	TPH (C ₈ -C ₁₆)	Solvent Extraction, Gas Chromatographic Method ^(9,21)
111	TPH (C ₁₆ -C ₃₃)	Solvent Extraction, Gas Chromatographic Method ^(9,21)
112	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
113	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾

วิมล
(นางธิภาณุพันธ์ อัครสกุลวิไล)
ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
กรมควบคุมมลพิษ

114 1,1,2-Trichloroethane...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
114	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
115	Trichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
116	2,4,5-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
117	2,4,6-Trichlorophenol	Liquid-Liquid Extraction, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
118	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
119	Vanadium	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾
120	Vinyl Acetate	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
121	Vinyl Chloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
122	m-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
123	o-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
124	p-Xylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
125	Xylene (Total)	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ⁽⁴⁾
126	Zinc	1) Digestion, Inductively Coupled Plasma Method ⁽⁴⁾ 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ⁽⁴⁾

เอกสารสืบ (ปล่องระบาย) จำนวน 16 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Antimony	Isokinetic, Digestion, Inductively Coupled Plasma Method ⁽⁵⁾
2	Arsenic	Isokinetic, Digestion, Inductively Coupled Plasma Method ⁽⁵⁾

วิมล
(นางธิภาณุพันธ์ อัครสกุลวิไล)
ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
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3 Carbon Monoxide...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
3	Carbon Monoxide	1) Sampling Bag Non-Dispersive Infrared Method ⁽⁵⁾ 2) Non-Dispersive Infrared Method ⁽⁵⁾ 3) Instrumental Analyzer Method ⁽⁵⁾
4	Chlorine	1) Absorption Sampling, Ion Chromatographic Method ⁽⁵⁾ 2) Isokinetic Sampling, Ion Chromatographic Method ⁽⁵⁾
5	Copper	Isokinetic, Digestion, Inductively Coupled Plasma Method ⁽⁵⁾
6	Dioxins	Isokinetic Sampling, Analysis by ISO/IEC 17025 Accredited Laboratory or Analysis by Department of Industrial Works Registered Laboratory (Dioxins/Furans Analysis Approved) ⁽⁵⁾
7	Hydrogen Chloride	1) Absorption Sampling, Ion Chromatographic Method ⁽⁵⁾ 2) Isokinetic Sampling, Ion Chromatographic Method ⁽⁵⁾
8	Hydrogen Sulfide	Absorption Sampling, Iodometric Method ⁽⁵⁾
9	Lead	Isokinetic, Digestion, Inductively Coupled Plasma Method ⁽⁵⁾
10	Mercury	1) Isokinetic Sampling, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ⁽⁵⁾ 2) Isokinetic, Digestion, Inductively Coupled Plasma Method ⁽⁵⁾
11	Opacity	Ringelmann's Method ⁽²⁾
12	Oxides of Nitrogen	1) Absorption Sampling, Phenoldisulfonic Acid Method ⁽⁵⁾ 2) Chemiluminescence Method ⁽⁵⁾ 3) Instrumental Analyzer Method ⁽⁵⁾
13	Sulfur Dioxide	1) Absorption Sampling, Barium-Thorin Titrimetric Method ⁽⁵⁾ 2) UV Fluorescence Method ⁽⁵⁾ 3) Instrumental Analyzer Method ⁽⁵⁾
14	Sulfuric Acid	Isokinetic Sampling, Barium-Thorin Titrimetric Method ⁽⁵⁾
15	Total Suspended Particulate	Isokinetic Sampling, Gravimetric Method ⁽⁵⁾
16	Xylene	Absorption Sampling, Gas Chromatographic Method ⁽⁵⁾

วิมล
(นางธิภาณุพันธ์ อัครสกุลวิไล)
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สิ่งปฏิกูล...


สิ่งปฏิกูลหรือวัสดุที่ไม่ใช้แล้ว จำนวน 35 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Aldrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22,31)
2	Antimony	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,16)
3	Arsenic	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,16)
4	Barium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,16)
5	Beryllium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,16)

วิมล
(นางธิภาณุพันธ์ อัครสกุลวิไล)
ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ
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
6 Cadmium...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
6	Cadmium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.16) 3) Digestion, Inductively Coupled Plasma Method ^(7.15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.16)
7	Chlordane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10.22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22.31)
8	Chromium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.16) 3) Digestion, Inductively Coupled Plasma Method ^(7.15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.16)
9	Chromium (III)	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method; Waste Extraction, Colorimetric Method; Calculation Method ^(1.6.15,17) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Waste Extraction, Colorimetric Method; Calculation Method ^(1.6.16,17) 3) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^(7.8,15,17) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^(7.8,16,17)
10	Chromium (VI)	1) Waste Extraction, Colorimetric Method ^(1.6.17) 2) Alkaline Digestion, Colorimetric Method ^(8.17)


 (นางสาวณัฐชนัน จิตกรกุลวิไล)
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 กรมส่งเสริมการค้าระหว่างประเทศ กระทรวงพาณิชย์


11 Cobalt...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
11	Cobalt	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.16) 3) Digestion, Inductively Coupled Plasma Method ^(7.15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.16)
12	Copper	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.16) 3) Digestion, Inductively Coupled Plasma Method ^(7.15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.16)
13	2,4-D	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10.22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22.31)
14	DDD	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10.22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22.31)
15	DDE	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10.22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22.31)
16	DDT	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.25)


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
2) Soxhlet...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
17	Dieldrin	2) Soxhlet Extraction, Gas Chromatographic Method ^(10.22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22.31) 1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10.22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22.31)
18	Endrin	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10.22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22.31)
19	Heptachlor	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10.22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22.31)
20	Lead	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.16) 3) Digestion, Inductively Coupled Plasma Method ^(7.15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.16)
21	Lindane	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10.22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22.31)
22	Mercury	1) Waste Extraction, Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^(1.6.18) 2) Waste Extraction...


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2) Waste Extraction...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
23	Methoxychlor	2) Waste Extraction, Thermal Decomposition Amalgamation and Atomic Absorption Spectrometric Method ^(1.6.19) 3) Waste Extraction, Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ^(1.6.20) 4) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ^(1.6) 5) Thermal Decomposition Amalgamation and Atomic Absorption Spectrometric Method ^(1.9) 6) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ^(2.0)
24	Mirex	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1.9.25) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10.22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22.31)
25	Molybdenum	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.16) 3) Digestion, Inductively Coupled Plasma Method ^(7.15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.16)
26	Nickel	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1.6.15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1.6.16) 3) Digestion, Inductively Coupled Plasma Method ^(7.15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7.16)


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27 Polychlorinated...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
27	Polychlorinated biphenyls (PCBs) - Aroclor 1016 - Aroclor 1221 - Aroclor 1232 - Aroclor 1242 - Aroclor 1248 - Aroclor 1254 - Aroclor 1260 - 2-Chlorobiphenyl - 2,3-Dichlorobiphenyl - 2,2',5'-Trichlorobiphenyl - 2,4',5'-Trichlorobiphenyl - 2,2',3,5'-Tetrachlorobiphenyl - 2,2',5,5'-Tetrachlorobiphenyl - 2,3',4,4'-Tetrachlorobiphenyl - 2,2',3,4,5'-Pentachlorobiphenyl - 2,2',4,5,5'-Pentachlorobiphenyl - 2,3',3',4'-Pentachlorobiphenyl - 2,2',3,4,4',5'-Hexachlorobiphenyl - 2,2',3,4,5,5'-Hexachlorobiphenyl - 2,2',3,5,5',6'-Hexachlorobiphenyl - 2,2',4,4',5,5'-Hexachlorobiphenyl - 2,2',3,3',4,4',5'-Heptachlorobiphenyl - 2,2',3,4,4',5,5'-Heptachlorobiphenyl - 2,2',3,4,4',5,6'-Heptachlorobiphenyl - 2,2',3,4',5,5',6'-Heptachlorobiphenyl - 2,2',3,3',4,4',5,5',6'-Nonachlorobiphenyl	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic Method ^(1,9,23) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10,23) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22,31)

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28 Pentachlorophenol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
28	Pentachlorophenol	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,23) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22,31)
29	pH	Electrometric Method ^(29,30)
30	Selenium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
31	Silver	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16)
32	Thallium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
33	Toxaphene	1) Waste Extraction, Separatory Funnel Liquid-Liquid Extraction, Gas Chromatographic/Mass Spectrometric Method ^(1,9,23) 2) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 3) Automated Soxhlet Extraction, Gas Chromatographic Method ^(22,31)
34	Vanadium	1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15)

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4) Digestion...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
35	Zinc	4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16) 1) Waste Extraction, Digestion, Inductively Coupled Plasma Method ^(1,6,15) 2) Waste Extraction, Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(1,6,16) 3) Digestion, Inductively Coupled Plasma Method ^(7,15) 4) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)

คืน จำนวน 125 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Acenaphthene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
2	Acetone	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
3	Aldrin	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
4	Anthracene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
5	Antimony	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
6	Arsenic	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
7	Atrazine	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
8	Barium	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)

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9 Benz(a)anthracene...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
9	Benz(a)anthracene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
10	Benzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
11	Benzo(b)fluoranthene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
12	Benzo(k)fluoranthene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
13	Benzoic acid	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
14	Benzo(a)pyrene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
15	Benzo(g,h,i)perylene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
16	Beryllium	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
17	Bis(2-chloroethyl)ether	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
18	Bis(2-ethylhexyl)phthalate	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
19	Bromodichloromethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
20	Bromoform	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
21	Butanol	Equilibrium Headspace, Gas Chromatographic/Mass Spectrometric Method ^(12,24)
22	Butyl Benzyl Phthalate	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
23	Cadmium	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
24	Carbazole	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(25,31)
25	Carbon Disulfide	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)

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26 Carbon tetrachloride...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
26	Carbon tetrachloride	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
27	Chlordane	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
28	p-Chloroaniline	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
29	Chlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
30	Chlorodibromomethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
31	Chloroform	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
32	2-Chlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
33	Chromium	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,14)
34	Chromium (III)	1) Digestion, Inductively Coupled Plasma Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^(7,8,15,17) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method; Alkaline Digestion, Colorimetric Method; Calculation Method ^(7,8,16,17)
35	Chromium (VI)	Alkaline Digestion, Colorimetric Method ^(8,17)
36	Chrysene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
37	Cyanide	Extraction, Distillation, Colorimetric Method ^(24,27,28)
38	2,4-D	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
39	DDD	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)

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(นางวิภาดาญ์ อัครสกุลวิไล)
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40 DOE...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
40	ODE	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22)
41	DDT	2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31) 1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22)
42	Dibenz(a,h)anthracene	2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
43	Di-n-Butyl Phthalate	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
44	1,2-Dichlorobenzene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
45	1,3-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
46	1,4-Dichlorobenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
47	3,3-Dichlorobenzidine	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
48	1,1-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
49	1,2-Dichloroethane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
50	1,1-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
51	cis-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
52	trans-1,2-Dichloroethylene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
53	2,4-Dichlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
54	1,2-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
55	1,3-Dichloropropane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
56	1,3-Dichloropropene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)

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57 Dieldrin...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
57	Dieldrin	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
58	Diethyl Phthalate	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
59	2,4-Dimethylphenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
60	2,4-Dinitrophenol	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
61	2,4-Dinitrotoluene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
62	2,6-Dinitrotoluene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
63	Di-n-Octyl Phthalate	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
64	Endosulfan	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
65	Endrin	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
66	Ethylbenzene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
67	Fluoranthene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
68	Fluorene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
69	Heptachlor	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
70	Heptachlor Epoxide	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)

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71 Hexachlorobenzene...

ลำดับที่	สารเคมี	วิธีวิเคราะห์
71	Hexachlorobenzene	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
72	Hexachloro-1,3-butadiene	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
73	n-Hexane	Purge and Trap, Gas Chromatographic/ Mass Spectrometric Method ^(14,24)
74	α-HCH	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
75	β-HCH	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
76	γ-HCH	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
77	Hexachlorocyclopentadiene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
78	Hexachloroethane	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
79	Indeno(1,2,3-cd)pyrene	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
80	Isophorone	Automated Soxhlet Extraction, Gas Chromatographic/ Mass Spectrometric Method ^(25,31)
81	Lead	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,14)
82	Manganese	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/ Mass Spectrometric Method ^(7,14)
83	Mercury	1) Digestion, Cold-Vapor Atomic Absorption Spectrometric Method ⁽¹⁸⁾

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2) Thermal...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
84	Methanol	2) Thermal Decomposition, Amalgamation, and Atomic Absorption Spectrophotometry ⁽¹⁹⁾ 3) Digestion, Cold-Vapor Atomic Fluorescence Spectrometric Method ⁽²⁰⁾
85	Methoxychlor	Equilibrium Headspace, Gas Chromatographic/Mass Spectrometric Method ^(12,24) 1) Soxhlet Extraction, Gas Chromatographic Method ^(16,22) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)
86	Methyl Bromide	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
87	Methylene Chloride	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
88	2-methylphenol	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)
89	2-Methylnaphthalene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)
90	Methyl tert-Butyl Ether	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
91	Naphthalene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)
92	Nickel	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
93	Nitrobenzene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)
94	N-Nitrosodiphenylamine	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)
95	N-Nitrosodi-n-propylamine	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)
96	Polychlorinated biphenyls (PCBs) - Aroclor 1016 - Aroclor 1221 - Aroclor 1232	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,23) 2) Automated Soxhlet Extraction, Gas Chromatographic Method ^(23,32)

อิกมล
(นางจิรายุจน์ อัครสกุลวิไล)
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- Aroclor 1242...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
	- Aroclor 1242 - Aroclor 1248 - Aroclor 1254 - Aroclor 1260 - 2-Chlorobiphenyl - 2,2',3,5'-Tetrachlorobiphenyl - 2,2',5,5'-Tetrachlorobiphenyl - 2,3',4,4'-Tetrachlorobiphenyl - 2,2',3,4,5-Pentachlorobiphenyl - 2,2',4,5,5'-Pentachlorobiphenyl - 2,3',4',6-Pentachlorobiphenyl - 2,2',3,4,4',5'-Hexachlorobiphenyl - 2,2',3,4,5,5'-Hexachlorobiphenyl - 2,2',3,5,5',6'-Hexachlorobiphenyl - 2,2',4,4',5,5'-Hexachlorobiphenyl - 2,2',3,3',4,4',5'-Heptachlorobiphenyl - 2,2',3,4,4',5,5'-Heptachlorobiphenyl - 2,2',3,4,4',5,6'-Heptachlorobiphenyl - 2,2',3,4',5,5',6'-Heptachlorobiphenyl - 2,2',3,3',4,4',5,5',6'-Nonachlorobiphenyl	
97	Pentachlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)
98	Phenanthrene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)
99	Phenol	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)
100	Pyrene	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)

อิกมล
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101 Selenium...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
101	Selenium	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
102	Silver	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
103	Styrene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
104	1,1,2,2-Tetrachloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
105	Tetrachloroethylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
106	Toluene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
107	Toxaphene	1) Soxhlet Extraction, Gas Chromatographic Method ^(10,23) 2) Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)
108	TPH (C ₈ -C ₆)	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
109	TPH (C ₈ -C ₁₆)	1) Solvent Extraction, Gas Chromatographic Method ^(11,21) 2) Automated Soxhlet Extraction, Gas Chromatographic Method ^(21,31)
110	TPH (C ₁₆ -C ₃₅)	1) Solvent Extraction, Gas Chromatographic Method ^(11,21) 2) Automated Soxhlet Extraction, Gas Chromatographic Method ^(21,31)
111	1,2,4-Trichlorobenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
112	1,1,1-Trichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
113	1,1,2-Trichloroethane	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
114	Trichloroethylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
115	2,4,5-Trichlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)

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116 2,4,6-Trichlorophenol...

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
116	2,4,6-Trichlorophenol	Automated Soxhlet Extraction, Gas Chromatographic/Mass Spectrometric Method ^(23,31)
117	1,3,5-Trimethylbenzene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
118	Vanadium	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)
119	Vinyl Acetate	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
120	Vinyl Chloride	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
121	m-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
122	o-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
123	p-Xylene	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
124	Xylene (Total)	Purge and Trap, Gas Chromatographic/Mass Spectrometric Method ^(14,24)
125	Zinc	1) Digestion, Inductively Coupled Plasma Method ^(7,15) 2) Digestion, Inductively Coupled Plasma/Mass Spectrometric Method ^(7,16)


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อิกมล
(นางจิรายุจน์ อัครสกุลวิไล)
ผู้อำนวยการศูนย์มาตรฐานวิธีการวิเคราะห์ทดสอบมลพิษ


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และระบบสารสนเทศ

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(นางวิภาดา นันตะกุลชัย)
ผู้อำนวยการศูนย์บริการวิชาการและพัฒนาระบบข้อมูล
และระบบสารสนเทศ

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบและประเมินผลของปฏิบัติการ กองวิจัยและพัฒนาระบบข้อมูลและระบบสารสนเทศ โทร. ๐ ๒๒๒๒ ๔๐๐๖, ๔๐๐๖



ที่ อก ๐๓๓๐(๑)/ ๕๕ ๓ ๗ ๕

กรมโรงงานอุตสาหกรรม
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท
เขตราชเทวี กรุงเทพฯ ๑๐๕๐๐

๐ ๕ มีนาคม ๒๕๖๖

เรื่อง เปลี่ยนแปลงบุคลากรของห้องปฏิบัติการวิเคราะห์

เรียน กรรมการผู้จัดการ บริษัท เอนเนอจีส แลบริเอทอรี่ กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และขณัติการของห้องปฏิบัติการวิเคราะห์เอกชน
ลงวันที่ ๔ กุมภาพันธ์ ๒๕๖๖

ตามที่บริษัทฯ อ้างถึง บริษัท เอนเนอจีส แลบริเอทอรี่ กรุ๊ป (ประเทศไทย) จำกัด ห้องปฏิบัติการ
วิเคราะห์เอกชน เลขทะเบียน ๖-๒๐๔ สถานที่ตั้งเลขที่ ๓๐๔ ซอยพัฒนาการ ๔๐ ถนนพัฒนาการ แขวงพัฒนาการ
เขตสวนหลวง กรุงเทพมหานคร ขอเปลี่ยนแปลงบุคลากรของห้องปฏิบัติการวิเคราะห์ ความละเอียดแจ้งแล้ว นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว มีความเห็นดังนี้

๑. ให้อยู่แก่เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๑๔ ราย

- | | |
|---------------------------------|----------------------------|
| ๑) นายนคร สุขเจริญ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๒๒ |
| ๒) นายนิษฐา นามเขตต์ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๒๓ |
| ๓) นายอรรถพล นิยมวิทย์พันธ์ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๒๔ |
| ๔) นางสาวพัชรียา พงษ์สมบัติ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๒๕ |
| ๕) นางสาวกานิดา สุวรรณศรีกุล | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๒๖ |
| ๖) นางสาวศรวิมลย์ อังศิริ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๒๗ |
| ๗) นายสมโภช รัตน | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๒๘ |
| ๘) นายณัฐนันท์ ปานประเสริฐ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๒๙ |
| ๙) ว่าที่ร้อยตรีภาณุพงศ์ แสนศรี | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๓๐ |
| ๑๐) นายณัฐนันท์ พูลศิริ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๓๑ |
| ๑๑) นายณัฐนันท์ เจริญทอง | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๓๒ |
| ๑๒) นางสาวกาญจนา คงคุณ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๓๓ |
| ๑๓) นางสาวรัชชิณี นิยมกลาง | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๓๔ |
| ๑๔) นางสาวกัญญาวิรัตน์ ศรีนิลพา | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๓๕ |
| ๑๕) นายศิริวัฒน์ พานิชย์ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๓๖ |
| ๑๖) นางสาวกนกวรรณ อู่ระ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๓๗ |
| ๑๗) นางสาวจิตติภา ประเทืองสุข | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๓๘ |
| ๑๘) นางสาวอริสา วิริยะดิตรรม | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๓๙ |
| ๑๙) นางสาววันิดา ยอดอินทร์ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๔๐ |

๒. ให้เพิ่มเจ้าหน้าที่...

- ๓๒ -


๒. ให้เพิ่มเจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์ จำนวน ๕ ราย

- | | |
|------------------------------|----------------------------|
| ๑) นายภาณุพงศ์ กิตติคุณวัฒน์ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๐๑ |
| ๒) นายภัทรพล สว่างใจธรรม | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๐๒ |
| ๓) นายณัฐวิทย์ เทือกชัยคำ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๐๓ |
| ๔) นายศิริโชค พงษ์ประสม | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๐๔ |
| ๕) นายณัฐวุฒิ คำวงพะ | ทะเบียนเลขที่ ๖-๒๐๔-๖-๑๑๐๕ |

ดังนี้ หนังสือฉบับนี้จะหมดอายุพร้อมหนังสือต่ออายุรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน
ที่ อก ๐๓๓๐(๑)/๑๐๖๔ ลงวันที่ ๒๘ มกราคม ๒๕๖๔ คือในวันที่ ๒ กันยายน ๒๕๖๖ ทั้งนี้ สามารถยื่นคำขอ
ผ่านระบบอิเล็กทรอนิกส์ได้ที่หน้าเว็บไซต์กรมโรงงานอุตสาหกรรม ตาม QR Code ที่แนบมาด้วย

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ


(นางวิภาดา นันตะกุลชัย)
นักวิทยาศาสตร์ชำนาญการพิเศษ รักษาการแทน
ผู้อำนวยการกองวิจัยและพัฒนาระบบข้อมูลและระบบสารสนเทศ
กรมโรงงานอุตสาหกรรม

กองวิจัยและพัฒนาระบบข้อมูลและระบบสารสนเทศ
กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบและประเมินผลของปฏิบัติการ
โทร. ๐ ๒๒๒๒ ๔๐๐๖ ต่อ ๒๑๐๓-๕
โทรสาร ๐ ๒๒๒๒ ๔๐๐๖ ต่อ ๒๑๐๓-๕
ไปรษณีย์อิเล็กทรอนิกส์ sarabang@dlw.mail.go.th



ที่ อก ๐๓๑๐(๓)/ ๖ ๑๒ ๕



กรมโรงงานอุตสาหกรรม
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท
เขตราชเทวี กรุงเทพฯ ๑๐๕๐๐

๒๓ มีนาคม ๒๕๖๖

เรื่อง เปลี่ยนแปลงบุคลากรของห้องปฏิบัติการวิเคราะห์

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และขอติดสารถของห้องปฏิบัติการวิเคราะห์เอกชน
ลงวันที่ ๑๐ มีนาคม ๒๕๖๖

ตามที่หนังสือที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด
ห้องปฏิบัติการวิเคราะห์เอกชน เลขทะเบียน ๖-๒๐๔๔ สถานที่ตั้งเลขที่ ๑๐๔ ซอยพัฒนาการ ๔๐
ถนนพัฒนาการ แขวงพัฒนาการ เขตสวนหลวง กรุงเทพมหานคร ขอเปลี่ยนแปลงบุคลากรของห้องปฏิบัติการ
วิเคราะห์ ความละเอียดดังนี้

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้เปลี่ยนแปลงชื่อเจ้าหน้าที่ประจำห้องปฏิบัติการ
วิเคราะห์ จากเดิม นางสาวสรวิศ มงคลจิตรภูมิ ทะเบียนเลขที่ ๖-๒๐๔๔-๖๓๑๒ เป็น นางสาววิญญูธร มงคลจิตรภูมิ
ทะเบียนเลขที่ ๖-๒๐๔๔-๖๓๑๒

ทั้งนี้ หากท่านมีความประสงค์จะยื่นคำขอใดๆ สามารถยื่นคำขอผ่านระบบอิเล็กทรอนิกส์
ได้ที่หน้าเว็บไซต์กรมโรงงานอุตสาหกรรม ตาม QR Code ที่แนบมาฉบับนี้

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นายประพนธ์ คำคงสุต)

ผู้อำนวยการกองบริหารความปลอดภัยโรงงาน
ปฏิบัติการตามแผนปฏิบัติการความปลอดภัย

กองวิจัยและเคมิกัลปิโตรเคมี

กลุ่มมาตรฐานวิธีการวิเคราะห์ทดสอบและทะเบียนห้องปฏิบัติการ

โทร. ๐ ๒๕๓๐ ๖๓๑๒ ต่อ ๒๐๓๓-๕

โทรสาร ๐ ๒๕๓๐ ๖๓๑๒ ต่อ ๒๐๓๔

ไปรษณีย์อิเล็กทรอนิกส์ saraban@div.mail.go.th



ยื่นคำขอผ่านระบบอิเล็กทรอนิกส์



ผู้ขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และขอติดสารถของห้องปฏิบัติการวิเคราะห์เอกชน

ที่ อก ๐๓๑๐(๓)/ ๖ ๕ ๗๐



กรมโรงงานอุตสาหกรรม
ถนนพระรามที่ ๖ แขวงทุ่งพญาไท
เขตราชเทวี กรุงเทพฯ ๑๐๕๐๐

๒๔ มิถุนายน ๒๕๖๕

เรื่อง ขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

เรียน กรรมการผู้จัดการ บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

อ้างถึง คำขอขึ้นทะเบียน/ต่ออายุ/เปลี่ยนแปลงบุคลากร และขอติดสารถของห้องปฏิบัติการวิเคราะห์เอกชน
ลงวันที่ ๒๔ เมษายน ๒๕๖๕

สิ่งที่ส่งมาด้วย เอกสารแนบท้ายหนังสือขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน

บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด จำนวน ๒ แผ่น

ตามที่หนังสือที่อ้างถึง บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด ขอขึ้นทะเบียน
ห้องปฏิบัติการวิเคราะห์เอกชน พร้อมรายชื่อผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์ เจ้าหน้าที่ประจำ
ห้องปฏิบัติการวิเคราะห์ และรายการสารเคมีที่จะทำการวิเคราะห์ ต่อกรมโรงงานอุตสาหกรรม นั้น

กรมโรงงานอุตสาหกรรมพิจารณาแล้ว ให้บริษัท เอแอลเอส แลบบอราทอรี กรุ๊ป
(ประเทศไทย) จำกัด ขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน มีเลขทะเบียน ๖-๒๐๒๓-๖๓๑๒ สถานที่ตั้งเลขที่
๖๒๖/๓๐ หมู่ที่ ๕ ตำบลแม่ไม้ อำเภอลำลูกเกด จังหวัดระยอง โดยมีข้อสรุปต่อไปนี้

ก. ผู้ควบคุมดูแลห้องปฏิบัติการวิเคราะห์

๑) นายเดช ช้างชน

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๒) นางวิลาวัลย์ บริรักษ์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๓) นายสุพจน์ สลัดเต๊ะ

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

ข. เจ้าหน้าที่ประจำห้องปฏิบัติการวิเคราะห์

๑) นางสาวณัฐ บรรจงกิจ

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๒) นางพจนา สีดา

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๓) นางสาวอนิศา กุลสุริวงศ์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๔) นายพิทยา ทองแดง

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๕) นางชลธิชา กุลเกษ

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๖) ว่าที่ ร.ต.ณชัย ม่วงมา

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๗) นายวรวิทย์ ทับทิม

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๘) นายศุภณัฐ ธีรสถิตย์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๙) นายสุรศักดิ์ สาธิ

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๑๐) นางสาวเพชรคุณ ภักดี

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๑๑) นายสุภากร งามแก้ว

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๑๒) นายสุวิทย์ ใจคึกคัก

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๑๓) นายวิมล...

หนังสือฉบับนี้มีอายุ ๓ ปี นับจากวันที่กรมโรงงานอุตสาหกรรมออกหนังสือ หากประสงค์
จะต่ออายุหนังสือขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน ให้ยื่นคำขอต่ออายุพร้อมเอกสารประกอบ
คำขอต่อกรมโรงงานอุตสาหกรรมภายใน ๓๐ วัน ก่อนวันสิ้นอายุของหนังสือขึ้นทะเบียนห้องปฏิบัติการ
วิเคราะห์เอกชน ซึ่งคำขอต่ออายุดังกล่าวขอรับได้ที่กรมโรงงานอุตสาหกรรม

จึงเรียนมาเพื่อทราบ

ขอแสดงความนับถือ

(นางจินดา เตะตะ)

ผู้อำนวยการกองบริหารความปลอดภัยโรงงาน
ปฏิบัติการตามแผนปฏิบัติการความปลอดภัย

๒๕ มิ.ย. ๒๕๖๕

กองวิจัยและเคมิกัลปิโตรเคมี

ศูนย์วิจัยและเคมิกัลปิโตรเคมีโรงงานภาคตะวันออก

โทร. ๐ ๒๕๐๕ ๖๒๖๓-๓

ไปรษณีย์อิเล็กทรอนิกส์ div@div.mail.go.th

๑๓) นายวิมล ทับทิม

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๑๔) นางสาวนาถ ทรัพย์เจริญ

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๑๕) นางสาวอนิศา กุลสุริวงศ์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๑๖) นายณัฐพงศ์ วงศ์ไชย

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๑๗) นายชัยภูมิ เลิศนันทกุลชัย

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๑๘) นายสิริยา เพ็ชรแสง

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๑๙) นายกิตติภณ มณีสัมพันธ์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๒๐) นางสาวจันทิพย์ ไก่บงชนะ

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๒๑) นายธนกร อธิกุล

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๒๒) นายศุภณัฐ พิสิทธิ์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๒๓) นายศุภณัฐ วงศ์สุริยา

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๒๔) นายประพนธ์ กรสวัสดิ์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๒๕) นายไธย ต้นโพธิ์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๒๖) นางสาวกิตติยา สุนทรียาภรณ์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๒๗) นางสาวเจษฎาพร ศรีบุญเรือง

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๒๘) นางสาวณัฐรินทร์ สิงห์งาม

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๒๙) นางสาววิภากรัตน์ ศิริมงคล

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๓๐) นายพิพัฒน์ นิกัทรเศรษฐ์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๓๑) นายศิริวิทย์ เรืองสม

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๓๒) นายปวิธพงศ์ สัตยาคุณ

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๓๓) นายณัฐนาถ ธรรมะโร

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๓๔) นางสาวศุภรัตน์ โสจันทร์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๓๕) นายพรกร อินทรเสนา

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๓๖) นายทิฆาร เชื้อมาก

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๓๗) นายอนุวัช ทองรงค์ศักดิ์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๓๘) นายอภิชาติ วิลาศ

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๓๙) นายจรัสศรี ศรีรักษา

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๔๐) นายประสาธน์ ธีรเศรษฐ์

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๔๑) นายภาณุวัฒน์ วัชร

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๔๒) นายสันติ ชัยชนะ

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๔๓) นายสิทธิชัย แก้วเกตุ

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

๔๔) นายทินกร กุลชาติ

ทะเบียนเลขที่ ๖-๒๐๒๓-๖๓๑๒

ค. ขอบข่ายสารเคมีที่ได้รับขึ้นทะเบียนไว้วิเคราะห์ในน้ำเสีย จำนวน ๑๔ รายการ
อากาศเสีย (ปล่องระบาย) จำนวน ๗ รายการ และน้ำใต้ดิน จำนวน ๓ รายการ รวมทั้งสิ้นจำนวน ๒๔ รายการ
ตามสิ่งที่ส่งมาด้วย

เอกสารแนบท้ายหนังสือรับขึ้นทะเบียนห้องปฏิบัติการวิเคราะห์เอกชน
บริษัท เอแอนด์เอส แลบบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด เลขทะเบียน ว-๗๒๓
ที่ อก ๐๓๑๐(๒)/ ๒๕๗๐ ลงวันที่ ๒๘ มิถุนายน ๒๕๖๕

ขอบข่ายสารมลพิษที่ได้รับขึ้นทะเบียนจากกรมโรงงานอุตสาหกรรม จำนวน ๒๔ รายการ
น้ำเสีย จำนวน 14 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Biochemical Oxygen Demand	1) 5-Day BOD Test, Membrane Electrode Method ^[2] 2) 5-Day BOD Test, Azide Modification Method ^[2]
2	Chemical Oxygen Demand	1) Open Reflux, Titrimetric Method ^[2] 2) Closed Reflux, Colorimetric Method ^[2] 3) Closed Reflux, Titrimetric Method ^[2]
3	Color	ADMI Weighted - Ordinate Spectrophotometric Method ^[2]
4	Cyanide	Distillation, Colorimetric Method ^[2]
5	Formaldehyde	Distillation, Colorimetric Method ^[1]
6	Free Chlorine	DPD-Ferrous Titrimetric Method ^[2]
7	Oil and Grease	Liquid-Liquid Partition-Gravimetric Method ^[2]
8	pH	Electrometric Method ^[2]
9	Phenols	1) Distillation, Chloroform Extraction Method ^[2] 2) Distillation, Direct Photometric Method ^[2]
10	Sulfide	ZnS Precipitation, Iodometric Method ^[2]
11	Temperature	Laboratory and Field Method ^[2]
12	Total Dissolved Solids	Dried at 180 °C ^[2]
13	Total Kjeldahl Nitrogen	Semi-Micro Kjeldahl Method ^[2]
14	Total Suspended Solids	Dried at 103-105 °C ^[2]

อากาศเสีย (ปล่องระบาย) จำนวน 7 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Carbon Monoxide	1) Sampling Bag, Non-Dispersive Infrared Method ^[5] 2) Instrumental Analyzer Method ^[8]
2	Hydrogen Sulfide	Absorption Sampling, Iodometric Method ^[3]
3	Opacity	Ringelmann's Method ^[3,4]
4	Oxide of Nitrogen	1) Absorption Sampling, Phenoldisulfonic Acid Method ^[4] 2) Instrumental Analyzer Method ^[9]
5	Sulfur Dioxide	1) Absorption Sampling, Barium-Thorin Titrimetric Method ^[5] 2) Instrumental Analyzer Method ^[10]

วิฑูรย์ สิมสุต
(นางสาววิฑูรย์ สิมสุต)
ผู้อำนวยการ

ศูนย์วิจัยและเฝ้าระวังมลพิษโรงงานภาคตะวันออก

Sulfuric Acid.

-2-

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
6	Sulfuric Acid	Isokinetic Sampling, Barium - Thorin Titrimetric Method ^[6]
7	Total Suspended Particulate	Isokinetic Sampling, Gravimetric Method ^[7]

น้ำใต้ดิน จำนวน 3 รายการ

ลำดับที่	สารมลพิษ	วิธีวิเคราะห์
1	Cyanide	Distillation, Colorimetric Method ^[2]
2	pH	Electrometric Method ^[2]
3	Phenols	Distillation, Direct Photometric Method ^[2]

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วิฑูรย์ สิมสุต
(นางสาววิฑูรย์ สิมสุต)
ผู้อำนวยการ

ศูนย์วิจัยและเฝ้าระวังมลพิษโรงงานภาคตะวันออก

ศูนย์วิจัยและเฝ้าระวังมลพิษโรงงานภาคตะวันออก กองวิจัยและเฝ้าระวังมลพิษโรงงาน กรมโรงงานอุตสาหกรรม โทร ๐ ๒๑๐๕ ๙๐๒๑-๓



บริษัท เอแอลเอส แล็บอราทอรี กรุ๊ป (ประเทศไทย) จำกัด (สำนักงานใหญ่)
104 ซอยพัฒนาการ 40 ถนนพัฒนาการ
แขวงพัฒนาการ เขตสวนหลวง กรุงเทพฯ 10250



ติดต่อเรา

