

Tabla 3.1. Concentraciones horarias de PM<sub>10</sub>

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en enero de 2021

**ESTACIÓN DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

No aplica

**EQUIPO:**

Monitor automático de partículas

**MARCA:**

Thermo Scientific

**MODELO:**

TEOM 1405

**SERIE:**

1405A208441003

**DATOS DEL EQUIPO**

Hora/Día	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
00:00	3.2	2.6	0.8	2.8	2.8	6.8	0.1	3.2	2.4	2.7	5.0	5.2	3.6	5.6	3.4	2.5	4.5	0.8	2.4	1.8	2.3	3.6	7.2	6.1	2.5	2.9	3.9	3.2	7.5	3.1	5.5	
01:00	4.0	4.9	3.3	3.5	1.2	4.8	4.1	1.3	1.2	4.6	1.4	6.4	1.7	6.2	3.4	3.8	1.1	1.7	5.7	1.2	LD	0.9	6.4	4.1	0.3	2.6	7.6	5.7	7.7	2.9	5.7	
02:00	6.1	2.8	3.2	2.8	1.2	4.6	2.8	1.1	2.6	4.3	2.5	1.1	5.1	4.1	3.2	4.0	0.9	3.6	2.1	2.0	5.2	1.3	6.6	5.3	2.0	3.2	1.8	0.4	8.6	5.1	4.4	
03:00	IE	3.3	LD	3.9	2.7	5.2	2.2	2.4	7.5	2.0	4.2	2.0	5.4	4.3	2.5	5.2	1.0	4.8	4.7	1.9	3.0	1.4	4.5	4.3	1.6	2.8	5.1	4.1	5.0	7.2	3.4	
04:00	IE	5.5	0.4	2.9	3.7	2.7	2.5	2.8	6.4	4.1	3.4	8.1	7.4	5.8	1.9	4.2	5.8	2.4	1.2	2.6	2.6	2.3	4.5	0.2	2.3	5.0	6.1	5.9	3.8	3.8	2.9	
05:00	IE	3.0	5.0	6.8	4.7	2.7	3.4	3.0	3.2	4.5	4.3	12.1	7.7	LD	5.3	3.4	6.9	4.4	9.5	3.8	1.2	3.6	6.5	6.9	2.5	4.3	2.3	7.2	13.0	10.9	5.9	
06:00	IE	4.5	4.1	6.2	2.5	5.4	2.5	6.4	8.8	4.3	22.2	11.2	6.7	4.5	1.3	8.5	1.3	5.4	13.3	5.5	6.5	4.6	5.8	8.2	2.8	6.3	6.0	13.1	7.9	LD	LD	
07:00	IE	4.3	4.4	5.2	8.8	6.6	4.9	7.2	8.0	5.5	26.8	5.9	10.4	6.8	3.5	6.1	5.1	6.3	8.1	4.8	2.2	7.6	8.0	11.5	5.7	9.6	9.2	10.6	11.7	7.2	11.7	
08:00	IE	3.8	4.6	7.4	9.3	4.7	3.5	8.6	5.2	6.3	10.4	7.2	14.4	7.8	8.4	6.1	12.4	7.2	9.8	6.8	8.6	8.6	6.4	14.6	3.5	11.5	14.2	10.8	25.1	7.0	7.3	
09:00	IE	4.4	3.4	10.1	8.2	5.1	6.0	13.5	8.5	8.9	4.3	7.8	6.8	10.0	12.8	7.3	6.3	15.7	7.8	5.6	8.7	10.9	10.5	7.4	5.1	8.0	7.5	4.3	25.1	10.6	10.2	
10:00	EE	3.2	6.4	6.3	7.4	8.8	6.9	7.3	7.8	17.8	9.3	7.2	10.6	2.8	10.2	11.2	5.8	3.9	4.8	6.2	7.9	9.3	10.7	7.3	9.8	5.9	15.1	4.8	4.2	9.9	7.4	
11:00	EE	6.4	1.6	3.6	4.3	8.1	4.3	6.6	5.3	7.7	10.3	9.5	9.3	8.9	7.3	12.6	9.4	8.3	8.5	6.4	0.8	8.4	10.3	8.6	9.8	11.9	9.6	12.0	8.5	9.7	7.6	
12:00	EE	7.5	11.4	14.8	8.0	9.5	6.9	8.0	7.5	8.8	7.7	11.0	7.7	10.5	9.1	4.8	9.4	6.2	9.3	6.1	4.2	6.2	5.7	14.4	4.8	3.6	3.6	14.7	6.9	5.1		
13:00	37.7	9.7	10.7	8.1	0.8	6.0	6.8	6.8	12.0	5.1	7.9	6.8	4.3	6.0	5.6	12.8	12.9	3.8	12.3	7.3	7.8	8.6	14.5	3.8	6.1	3.4	8.1	10.3	4.3	7.6	8.6	
14:00	13.2	1.6	9.3	4.4	7.4	6.4	4.7	11.0	3.6	10.9	5.2	4.9	13.9	3.1	5.7	12.5	4.8	5.3	10.9	6.6	6.2	3.5	6.2	7.4	6.5	6.4	2.6	6.5	4.5	1.4	7.0	
15:00	3.7	8.5	4.1	4.9	6.1	7.7	3.1	10.8	5.4	0.4	11.8	8.2	10.5	6.0	1.9	19.4	17.7	7.3	4.8	5.4	21.1	12.1	7.4	11.1	5.9	11.9	26.4	3.9	7.3	6.8	18.3	
16:00	0.2	7.7	2.6	5.2	4.5	5.7	3.5	5.8	3.4	2.2	15.3	14.2	4.1	5.6	LD	8.8	26.5	3.1	7.9	5.2	14.4	8.3	8.0	4.8	5.6	9.1	10.7	5.3	LD	7.6	9.6	
17:00	5.0	3.3	5.9	4.0	3.1	13.8	8.5	7.3	7.9	10.9	9.1	10.6	10.4	8.7	7.4	6.3	15.9	7.9	10.2	7.2	10.5	2.0	10.5	2.2	11.0	4.2	12.9	4.9	7.8	5.5	5.6	
18:00	10.4	2.3	2.1	4.9	3.0	4.0	9.1	6.3	7.6	12.1	17.7	6.0	8.4	4.6	2.0	2.7	4.7	4.2	11.6	6.3	9.7	16.2	9.1	10.2	10.8	2.2	8.5	7.6	6.2	7.4	11.8	
19:00	8.7	14.4	11.1	4.9	5.1	11.1	19.1	4.4	9.8	14.1	15.2	2.4	6.2	3.4	11.8	5.6	3.3	2.6	13.3	8.8	15.5	13.5	14.2	7.7	9.3	0.5	8.4	7.1	9.9	13.0	10.2	
20:00	4.4	5.0	4.6	2.6	5.4	7.5	12.4	5.6	8.0	8.4	4.6	3.6	7.4	3.2	11.8	12.9	5.4	3.2	4.7	10.3	15.3	16.1	15.1	7.0	10.4	2.7	3.0	2.4	10.3	5.4	9.3	
21:00	3.1	5.0	2.4	2.8	2.4	7.1	20.2	3.2	3.8	12.9	5.6	3.4	5.6	4.9	10.3	5.7	4.2	4.4	6.3	6.0	10.6	14.6	12.7	3.6	7.0	3.1	4.1	2.8	9.4	3.0	6.3	
22:00	3.3	0.5	2.3	5.7	7.6	10.0	5.3	2.5	4.4	23.7	2.4	4.9	11.1	2.6	11.5	10.5	5.4	3.3	4.3	5.7	8.4	6.4	9.5	4.6	4.9	3.3	7.4	5.4	4.3	3.2	5.4	
23:00	3.6	1.4	2.7	LD	3.3	4.3	4.2	2.7	6.1	7.4	4.2	4.9	11.5	2.1	2.8	4.9	4.3	3.2	2.5	2.5	6.1	10.8	9.3	4.3	3.0	9.1	6.1	5.4	5.9	4.0	3.0	
Promedio de PM <sub>10</sub> en 24 h	ID	4.8	4.6	5.4	4.7	6.6	6.1	5.7	6.1	7.9	8.8	6.8	7.9	5.5	6.3	7.6	7.3	5.0	7.3	5.3	7.8	7.5	8.7	6.9	5.6	5.6	8.1	5.8	9.5	6.6	7.5	
ECA aire de PM <sub>10</sub>																																

100 µg/m<sup>3</sup> en periodo de 24 horas

LD: Dato que es menor al límite de detección del equipo

ID: Insuficiencia de datos para calcular promedio de 24 horas (menos del 75% de datos horarios)

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en enero de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** No aplica

**DATOS DEL EQUIPO**

**EQUIPO:** Estación meteorológica **MARCA:** Davis Instruments

**MODELO:** Vantage Pro 2 **SERIE:** BE181010012

FECHA Y HORA	Presión atmosférica (mmHg)	Precipitación (mm)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)	Dirección de Viento (°)
1/01/2021 00:00	457.5	0.4	3.3	93.0	0.4	225.0
1/01/2021 01:00	457.2	0.0	3.4	93.0	0.0	ND
1/01/2021 02:00	456.9	0.0	3.4	93.0	0.4	225.0
1/01/2021 03:00	456.7	0.0	3.6	93.0	0.0	ND
1/01/2021 04:00	456.9	0.0	3.7	93.0	0.0	ND
1/01/2021 05:00	457.1	0.2	3.6	93.0	0.9	337.5
1/01/2021 06:00	457.4	0.2	3.4	92.0	0.0	ND
1/01/2021 07:00	457.6	0.0	3.8	91.0	0.4	135.0
1/01/2021 08:00	458.1	0.0	4.6	89.0	0.4	112.5
1/01/2021 09:00	458.2	0.0	5.8	85.0	0.9	45.0
1/01/2021 10:00	458.2	0.0	7.1	81.0	0.9	22.5
1/01/2021 11:00	458.1	0.0	7.2	82.0	1.3	22.5
1/01/2021 12:00	457.9	0.0	10.4	73.0	1.3	22.5
1/01/2021 13:00	457.7	0.0	8.0	82.0	1.8	0.0
1/01/2021 14:00	457.2	0.2	9.9	79.0	1.8	45.0
1/01/2021 15:00	456.9	0.0	9.8	79.0	2.2	22.5
1/01/2021 16:00	456.9	0.0	8.8	77.0	1.8	22.5
1/01/2021 17:00	456.9	0.0	7.4	79.0	1.8	45.0
1/01/2021 18:00	457.2	0.2	5.7	86.0	0.9	22.5
1/01/2021 19:00	457.7	0.2	5.2	85.0	0.9	45.0
1/01/2021 20:00	458.1	0.0	4.6	88.0	0.9	45.0
1/01/2021 21:00	458.5	0.0	4.4	89.0	0.9	45.0
1/01/2021 22:00	458.7	0.0	4.3	91.0	0.9	45.0
1/01/2021 23:00	458.7	0.0	4.2	91.0	0.4	90.0
2/01/2021 00:00	458.3	0.0	4.3	89.0	0.4	90.0
2/01/2021 01:00	457.8	0.0	4.3	89.0	0.4	22.5
2/01/2021 02:00	457.5	0.0	4.1	91.0	0.4	112.5
2/01/2021 03:00	457.3	0.0	3.9	91.0	0.0	ND
2/01/2021 04:00	457.4	0.0	4.1	90.0	0.4	67.5
2/01/2021 05:00	457.5	0.0	4.1	91.0	0.4	67.5
2/01/2021 06:00	457.9	0.0	3.7	92.0	0.4	45.0
2/01/2021 07:00	458.2	0.0	4.2	89.0	0.4	67.5
2/01/2021 08:00	458.4	0.0	5.6	82.0	0.4	135.0
2/01/2021 09:00	458.4	0.0	7.6	76.0	0.4	112.5
2/01/2021 10:00	458.7	0.0	10.1	67.0	0.9	45.0
2/01/2021 11:00	458.4	0.0	11.4	63.0	1.3	45.0
2/01/2021 12:00	458.2	0.0	10.8	67.0	1.3	45.0
2/01/2021 13:00	457.8	0.8	11.1	71.0	1.8	45.0
2/01/2021 14:00	457.2	0.0	12.3	64.0	1.8	22.5
2/01/2021 15:00	456.7	0.0	8.1	80.0	1.8	315.0
2/01/2021 16:00	456.5	0.4	7.2	87.0	1.3	315.0
2/01/2021 17:00	456.3	0.0	8.9	77.0	1.3	315.0
2/01/2021 18:00	456.5	0.0	8.4	75.0	0.9	315.0
2/01/2021 19:00	457.0	0.0	7.9	83.0	0.9	22.5
2/01/2021 20:00	457.6	0.0	5.5	86.0	1.8	135.0
2/01/2021 21:00	458.0	0.4	4.6	90.0	1.3	157.5
2/01/2021 22:00	457.9	0.2	4.2	89.0	1.3	202.5
2/01/2021 23:00	457.9	0.0	4.1	89.0	1.3	202.5
3/01/2021 00:00	457.6	0.0	4.1	88.0	0.9	157.5
3/01/2021 01:00	457.3	0.0	4.5	87.0	0.4	112.5
3/01/2021 02:00	457.0	1.4	4.2	89.0	0.4	22.5
3/01/2021 03:00	456.9	1.8	2.8	90.0	0.9	180.0
3/01/2021 04:00	457.1	1.6	1.0	92.0	0.4	247.5
3/01/2021 05:00	457.3	3.0	1.6	93.0	0.0	ND
3/01/2021 06:00	457.5	0.4	2.0	92.0	0.4	292.5
3/01/2021 07:00	457.8	0.0	2.3	93.0	0.4	0.0
3/01/2021 08:00	458.0	0.0	2.8	92.0	0.4	292.5
3/01/2021 09:00	457.9	0.0	6.7	83.0	0.9	337.5
3/01/2021 10:00	457.8	0.0	7.4	80.0	1.3	22.5
3/01/2021 11:00	457.5	0.0	10.9	67.0	0.9	45.0
3/01/2021 12:00	457.2	0.0	9.3	72.0	1.8	315.0
3/01/2021 13:00	456.7	0.0	6.7	80.0	1.8	337.5
3/01/2021 14:00	456.7	5.4	4.1	90.0	0.9	315.0

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3/01/2021 15:00	456.4	5.2	3.7	89.0	0.4	202.5
3/01/2021 16:00	456.1	2.8	3.3	90.0	0.4	157.5
3/01/2021 17:00	456.0	0.4	5.5	86.0	0.0	ND
3/01/2021 18:00	456.0	0.0	5.6	84.0	0.4	180.0
3/01/2021 19:00	456.6	0.0	5.6	88.0	0.0	ND
3/01/2021 20:00	456.9	2.0	4.6	91.0	1.3	180.0
3/01/2021 21:00	457.3	0.6	4.2	91.0	0.9	135.0
3/01/2021 22:00	457.4	0.6	3.8	90.0	0.9	135.0
3/01/2021 23:00	457.2	1.0	3.7	90.0	0.0	ND
4/01/2021 00:00	456.6	1.0	3.6	91.0	0.4	157.5
4/01/2021 01:00	456.3	0.2	3.5	91.0	0.4	225.0
4/01/2021 02:00	456.0	0.0	3.6	91.0	0.0	ND
4/01/2021 03:00	455.7	0.2	3.6	92.0	0.0	ND
4/01/2021 04:00	455.6	0.2	3.6	91.0	0.4	180.0
4/01/2021 05:00	455.8	0.0	3.4	92.0	0.0	ND
4/01/2021 06:00	456.2	0.0	3.6	92.0	0.0	ND
4/01/2021 07:00	456.6	0.0	4.2	90.0	0.0	ND
4/01/2021 08:00	456.8	0.0	4.8	89.0	0.0	ND
4/01/2021 09:00	456.9	0.0	5.4	87.0	0.4	0.0
4/01/2021 10:00	456.9	0.0	5.7	85.0	0.4	90.0
4/01/2021 11:00	456.8	0.0	7.7	77.0	0.4	202.5
4/01/2021 12:00	456.8	0.0	5.4	87.0	1.3	45.0
4/01/2021 13:00	456.5	0.4	5.6	89.0	1.3	22.5
4/01/2021 14:00	456.1	0.6	8.3	80.0	1.8	0.0
4/01/2021 15:00	455.9	0.0	7.8	80.0	2.2	337.5
4/01/2021 16:00	455.5	0.0	7.8	81.0	2.2	315.0
4/01/2021 17:00	455.5	0.2	5.7	88.0	1.3	315.0
4/01/2021 18:00	455.7	0.0	5.3	87.0	1.3	225.0
4/01/2021 19:00	456.0	0.0	5.5	87.0	0.4	247.5
4/01/2021 20:00	456.3	0.0	5.4	86.0	0.4	315.0
4/01/2021 21:00	456.7	0.0	5.3	84.0	0.9	180.0
4/01/2021 22:00	457.0	0.8	4.3	90.0	1.3	157.5
4/01/2021 23:00	456.9	1.4	3.2	89.0	1.3	135.0
5/01/2021 00:00	456.6	0.4	2.9	91.0	1.3	180.0
5/01/2021 01:00	456.2	0.2	2.8	91.0	1.3	180.0
5/01/2021 02:00	455.7	0.0	2.4	92.0	0.9	180.0
5/01/2021 03:00	455.4	0.0	2.7	92.0	0.4	157.5
5/01/2021 04:00	455.4	0.0	3.2	90.0	0.0	ND
5/01/2021 05:00	455.8	0.0	3.4	91.0	0.0	ND
5/01/2021 06:00	455.8	0.0	3.3	89.0	0.0	ND
5/01/2021 07:00	456.1	0.0	3.9	89.0	0.0	ND
5/01/2021 08:00	456.4	0.0	4.4	89.0	0.4	157.5
5/01/2021 09:00	456.6	0.0	5.2	85.0	0.9	157.5
5/01/2021 10:00	456.5	0.0	5.8	84.0	1.3	202.5
5/01/2021 11:00	456.2	0.0	6.8	79.0	0.9	157.5
5/01/2021 12:00	455.8	0.0	7.5	81.0	0.9	157.5
5/01/2021 13:00	455.6	0.2	4.7	86.0	1.3	157.5
5/01/2021 14:00	455.1	1.4	5.4	88.0	0.9	225.0
5/01/2021 15:00	455.1	1.4	5.3	89.0	0.9	22.5
5/01/2021 16:00	454.9	0.4	5.3	88.0	0.4	135.0
5/01/2021 17:00	455.1	0.8	4.2	90.0	1.3	135.0
5/01/2021 18:00	455.7	1.4	2.9	90.0	1.3	22.5
5/01/2021 19:00	456.1	1.0	2.7	91.0	0.0	ND
5/01/2021 20:00	456.5	0.8	3.1	91.0	0.4	45.0
5/01/2021 21:00	456.9	0.8	3.1	91.0	0.4	202.5
5/01/2021 22:00	457.0	0.2	2.8	92.0	0.4	202.5
5/01/2021 23:00	456.9	0.0	2.8	92.0	0.4	225.0
6/01/2021 00:00	456.5	0.0	2.7	92.0	0.4	225.0
6/01/2021 01:00	456.1	0.2	2.8	93.0	0.4	180.0
6/01/2021 02:00	455.7	0.0	3.1	93.0	0.0	ND
6/01/2021 03:00	455.4	0.0	3.2	92.0	0.0	ND
6/01/2021 04:00	455.6	0.0	3.3	90.0	0.4	292.5
6/01/2021 05:00	455.8	0.0	3.3	89.0	0.0	ND
6/01/2021 06:00	456.0	0.0	3.4	91.0	0.0	ND
6/01/2021 07:00	456.3	0.0	3.7	90.0	0.0	ND
6/01/2021 08:00	456.6	0.0	5.1	81.0	0.4	22.5
6/01/2021 09:00	456.9	0.0	5.6	80.0	0.4	45.0
6/01/2021 10:00	456.9	0.0	7.2	80.0	0.9	22.5
6/01/2021 11:00	456.8	0.0	8.4	75.0	0.9	45.0
6/01/2021 12:00	456.5	0.0	9.7	73.0	1.3	22.5
6/01/2021 13:00	456.2	0.0	7.9	81.0	2.2	22.5
6/01/2021 14:00	455.6	0.0	9.8	74.0	2.2	22.5
6/01/2021 15:00	455.3	0.0	8.4	79.0	2.2	0.0
6/01/2021 16:00	455.1	1.4	6.6	85.0	1.3	22.5
6/01/2021 17:00	455.1	0.0	7.2	84.0	1.3	0.0
6/01/2021 18:00	455.5	0.0	6.4	84.0	1.8	45.0
6/01/2021 19:00	456.0	0.0	5.0	88.0	1.3	45.0
6/01/2021 20:00	456.6	0.0	5.1	87.0	0.9	22.5
6/01/2021 21:00	456.9	0.2	4.4	89.0	0.4	135.0
6/01/2021 22:00	457.2	0.2	4.3	89.0	0.4	45.0
6/01/2021 23:00	457.1	0.4	4.2	90.0	0.4	157.5
7/01/2021 00:00	456.8	3.2	2.7	89.0	0.4	0.0
7/01/2021 01:00	456.5	1.0	2.1	92.0	0.4	45.0
7/01/2021 02:00	456.1	0.0	2.5	93.0	0.4	22.5
7/01/2021 03:00	456.0	0.0	2.4	94.0	0.4	45.0
7/01/2021 04:00	456.2	0.0	2.5	94.0	0.0	ND
7/01/2021 05:00	456.4	0.2	2.7	94.0	0.0	ND
7/01/2021 06:00	456.7	0.4	2.6	93.0	0.4	45.0
7/01/2021 07:00	457.2	0.2	2.8	93.0	0.4	22.5

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	7/01/2021 08:00	457.8	1.0	2.7	92.0	0.9	22.5
	7/01/2021 09:00	458.1	1.0	2.8	92.0	0.9	45.0
	7/01/2021 10:00	458.3	0.4	3.6	90.0	0.9	22.5
	7/01/2021 11:00	458.1	0.4	6.3	86.0	0.9	22.5
	7/01/2021 12:00	457.9	0.0	7.8	77.0	1.8	22.5
	7/01/2021 13:00	457.5	0.0	9.2	74.0	2.2	0.0
	7/01/2021 14:00	457.2	0.0	9.1	73.0	2.7	22.5
	7/01/2021 15:00	456.7	0.0	9.4	72.0	2.7	0.0
	7/01/2021 16:00	456.3	0.0	9.9	69.0	2.2	22.5
	7/01/2021 17:00	456.4	0.0	8.2	72.0	2.2	337.5
	7/01/2021 18:00	456.6	0.0	6.2	79.0	2.2	337.5
	7/01/2021 19:00	457.1	0.0	4.8	87.0	1.3	0.0
	7/01/2021 20:00	457.5	0.0	4.4	88.0	0.9	22.5
	7/01/2021 21:00	457.8	0.0	4.1	87.0	1.3	0.0
	7/01/2021 22:00	458.1	0.0	4.1	88.0	0.9	22.5
	7/01/2021 23:00	458.2	0.0	4.1	88.0	0.9	22.5
	8/01/2021 00:00	457.9	0.0	4.1	89.0	0.4	22.5
	8/01/2021 01:00	457.5	0.0	3.7	90.0	0.4	45.0
	8/01/2021 02:00	457.1	0.0	3.4	90.0	1.3	0.0
	8/01/2021 03:00	457.1	0.0	3.3	89.0	0.4	22.5
	8/01/2021 04:00	457.0	0.0	3.0	89.0	0.4	0.0
	8/01/2021 05:00	457.2	0.0	3.0	89.0	0.4	0.0
	8/01/2021 06:00	457.5	0.0	3.1	90.0	0.0	ND
	8/01/2021 07:00	457.6	0.0	5.2	77.0	0.4	0.0
	8/01/2021 08:00	458.1	0.0	8.5	67.0	0.4	135.0
	8/01/2021 09:00	458.3	0.0	6.9	78.0	1.3	0.0
	8/01/2021 10:00	458.5	0.0	7.1	76.0	1.3	22.5
	8/01/2021 11:00	458.2	0.0	8.4	72.0	1.8	0.0
	8/01/2021 12:00	457.9	0.0	11.4	64.0	2.2	337.5
	8/01/2021 13:00	457.4	0.0	11.3	63.0	1.8	22.5
	8/01/2021 14:00	457.1	0.0	6.1	79.0	1.8	45.0
	8/01/2021 15:00	456.9	4.4	4.3	89.0	1.8	157.5
	8/01/2021 16:00	456.5	1.2	6.1	83.0	0.9	315.0
	8/01/2021 17:00	456.4	0.0	7.7	81.0	0.9	247.5
	8/01/2021 18:00	456.9	0.6	5.9	87.0	0.4	45.0
	8/01/2021 19:00	457.4	1.2	4.4	89.0	1.3	157.5
	8/01/2021 20:00	457.6	0.8	4.1	90.0	1.3	135.0
	8/01/2021 21:00	457.9	0.0	4.3	88.0	0.9	202.5
	8/01/2021 22:00	458.2	0.0	3.8	89.0	0.9	135.0
	8/01/2021 23:00	458.1	0.0	3.9	88.0	0.4	135.0
	9/01/2021 00:00	458.0	0.0	3.3	90.0	0.4	315.0
	9/01/2021 01:00	457.5	0.0	3.2	90.0	0.4	315.0
	9/01/2021 02:00	457.0	0.0	2.7	92.0	0.4	202.5
	9/01/2021 03:00	457.0	0.0	2.3	93.0	0.0	ND
	9/01/2021 04:00	456.9	0.0	3.0	91.0	0.0	ND
	9/01/2021 05:00	456.8	0.0	3.3	89.0	0.0	ND
	9/01/2021 06:00	457.2	0.0	3.1	90.0	0.4	45.0
	9/01/2021 07:00	457.6	0.0	3.3	90.0	0.4	45.0
	9/01/2021 08:00	458.0	0.0	5.5	82.0	0.9	45.0
	9/01/2021 09:00	458.2	0.0	6.3	78.0	0.9	45.0
	9/01/2021 10:00	458.2	0.0	7.8	75.0	1.3	45.0
	9/01/2021 11:00	458.1	0.2	9.8	68.0	1.8	337.5
	9/01/2021 12:00	457.6	0.0	11.2	65.0	1.8	22.5
	9/01/2021 13:00	457.4	0.6	6.3	84.0	1.3	0.0
	9/01/2021 14:00	456.9	0.6	7.7	84.0	0.9	45.0
	9/01/2021 15:00	456.5	0.6	7.8	83.0	1.3	0.0
	9/01/2021 16:00	456.2	0.0	8.9	77.0	2.2	0.0
	9/01/2021 17:00	456.3	0.0	6.2	85.0	1.3	0.0
	9/01/2021 18:00	456.6	0.0	5.3	86.0	1.8	337.5
	9/01/2021 19:00	456.9	0.0	4.8	88.0	1.3	0.0
	9/01/2021 20:00	457.2	0.2	4.7	87.0	0.9	22.5
	9/01/2021 21:00	457.6	3.6	3.7	89.0	0.9	45.0
	9/01/2021 22:00	458.0	0.4	3.8	88.0	0.0	ND
	9/01/2021 23:00	458.1	0.0	3.9	89.0	0.0	ND
	10/01/2021 00:00	457.8	0.0	4.1	89.0	0.0	ND
	10/01/2021 01:00	457.6	0.0	3.6	91.0	0.0	ND
	10/01/2021 02:00	457.2	0.0	3.3	92.0	0.4	157.5
	10/01/2021 03:00	456.9	0.0	3.2	91.0	0.4	180.0
	10/01/2021 04:00	456.9	0.0	3.2	91.0	0.4	180.0
	10/01/2021 05:00	457.1	0.2	3.3	91.0	0.0	ND
	10/01/2021 06:00	457.6	0.0	3.1	91.0	0.0	ND
	10/01/2021 07:00	457.9	0.0	3.4	91.0	0.0	ND
	10/01/2021 08:00	458.3	0.0	3.4	91.0	0.9	337.5
	10/01/2021 09:00	458.6	0.2	4.2	89.0	1.3	337.5
	10/01/2021 10:00	458.7	1.8	3.8	90.0	0.9	45.0
	10/01/2021 11:00	458.4	1.2	5.7	90.0	0.4	22.5
	10/01/2021 12:00	458.1	0.2	6.8	84.0	0.9	0.0
	10/01/2021 13:00	457.8	0.6	9.4	74.0	1.8	45.0
	10/01/2021 14:00	457.5	0.0	9.1	76.0	1.8	22.5
	10/01/2021 15:00	457.0	0.0	8.5	75.0	2.2	22.5
	10/01/2021 16:00	456.4	0.0	9.3	70.0	1.8	0.0
	10/01/2021 17:00	456.6	0.2	7.7	79.0	2.2	337.5
	10/01/2021 18:00	456.8	0.0	5.9	81.0	1.3	0.0
	10/01/2021 19:00	457.1	0.0	4.5	85.0	1.3	0.0
	10/01/2021 20:00	457.6	0.0	4.6	84.0	0.4	22.5
	10/01/2021 21:00	457.9	0.0	4.2	85.0	0.0	ND
	10/01/2021 22:00	458.2	0.0	3.8	88.0	0.4	22.5
	10/01/2021 23:00	458.1	0.0	3.1	91.0	0.0	ND
	11/01/2021 00:00	458.1	0.0	3.1	92.0	0.4	0.0

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11/01/2021 01:00	457.7	0.0	2.9	92.0	0.4	45.0
11/01/2021 02:00	457.4	0.0	2.5	93.0	0.4	67.5
11/01/2021 03:00	457.3	0.0	2.6	93.0	0.4	0.0
11/01/2021 04:00	457.2	0.0	2.9	92.0	0.0	ND
11/01/2021 05:00	457.5	0.0	2.8	91.0	0.0	ND
11/01/2021 06:00	457.8	0.0	3.1	91.0	0.0	ND
11/01/2021 07:00	458.1	0.0	4.7	87.0	0.0	ND
11/01/2021 08:00	458.4	0.0	6.7	78.0	0.4	45.0
11/01/2021 09:00	458.6	0.0	7.1	70.0	0.4	45.0
11/01/2021 10:00	458.7	0.0	8.7	65.0	0.9	45.0
11/01/2021 11:00	458.7	0.0	11.3	60.0	1.3	45.0
11/01/2021 12:00	458.6	0.0	10.9	58.0	1.3	45.0
11/01/2021 13:00	458.1	0.0	11.0	62.0	1.8	22.5
11/01/2021 14:00	457.5	0.0	13.1	56.0	1.3	22.5
11/01/2021 15:00	456.8	0.0	12.2	59.0	1.8	337.5
11/01/2021 16:00	456.4	0.0	9.1	69.0	1.8	315.0
11/01/2021 17:00	456.2	0.0	8.0	73.0	1.3	180.0
11/01/2021 18:00	456.5	2.0	6.6	81.0	0.9	292.5
11/01/2021 19:00	457.2	0.2	6.3	83.0	0.4	45.0
11/01/2021 20:00	457.8	2.2	4.1	88.0	1.3	45.0
11/01/2021 21:00	458.1	1.0	3.8	91.0	1.3	135.0
11/01/2021 22:00	458.4	0.2	4.1	89.0	0.4	202.5
11/01/2021 23:00	458.4	0.0	4.1	90.0	0.0	ND
12/01/2021 00:00	458.1	0.0	3.7	91.0	0.4	202.5
12/01/2021 01:00	457.6	0.0	3.8	91.0	0.4	225.0
12/01/2021 02:00	457.3	0.0	4.0	90.0	0.0	ND
12/01/2021 03:00	457.1	0.0	3.6	88.0	0.0	ND
12/01/2021 04:00	456.9	0.0	3.6	90.0	0.4	292.5
12/01/2021 05:00	457.2	0.0	3.4	92.0	0.4	270.0
12/01/2021 06:00	457.5	0.8	3.4	92.0	0.0	ND
12/01/2021 07:00	457.9	0.0	3.8	89.0	0.4	247.5
12/01/2021 08:00	458.3	0.0	4.4	88.0	0.9	157.5
12/01/2021 09:00	458.4	0.0	5.7	85.0	0.9	135.0
12/01/2021 10:00	458.6	0.0	8.1	78.0	0.9	135.0
12/01/2021 11:00	458.4	0.0	9.8	73.0	1.3	45.0
12/01/2021 12:00	458.1	0.0	8.0	77.0	1.8	22.5
12/01/2021 13:00	457.5	0.0	8.5	76.0	1.8	22.5
12/01/2021 14:00	457.1	0.0	12.2	64.0	1.3	0.0
12/01/2021 15:00	456.3	0.0	10.9	64.0	1.8	22.5
12/01/2021 16:00	456.3	0.2	8.4	78.0	1.8	0.0
12/01/2021 17:00	456.6	0.8	5.7	87.0	1.8	0.0
12/01/2021 18:00	456.8	1.6	3.9	91.0	1.3	180.0
12/01/2021 19:00	456.9	0.0	3.0	91.0	1.8	225.0
12/01/2021 20:00	457.5	0.0	2.7	91.0	0.9	180.0
12/01/2021 21:00	457.8	0.0	3.2	90.0	0.4	180.0
12/01/2021 22:00	458.1	0.0	3.5	90.0	0.0	ND
12/01/2021 23:00	457.9	0.0	4.1	87.0	0.4	157.5
13/01/2021 00:00	457.6	0.0	4.2	87.0	0.4	225.0
13/01/2021 01:00	457.4	0.0	3.7	88.0	0.4	202.5
13/01/2021 02:00	457.0	0.0	3.4	90.0	0.0	ND
13/01/2021 03:00	456.8	0.0	3.3	91.0	0.0	ND
13/01/2021 04:00	456.7	0.0	2.9	92.0	0.4	202.5
13/01/2021 05:00	456.9	0.0	3.2	92.0	0.4	202.5
13/01/2021 06:00	457.1	0.0	3.1	91.0	0.9	202.5
13/01/2021 07:00	457.7	0.0	3.8	91.0	0.4	225.0
13/01/2021 08:00	458.1	0.0	5.5	86.0	0.4	22.5
13/01/2021 09:00	458.1	0.0	6.2	78.0	0.9	45.0
13/01/2021 10:00	458.4	0.0	7.2	75.0	0.4	22.5
13/01/2021 11:00	458.1	0.0	8.9	70.0	1.3	45.0
13/01/2021 12:00	457.8	0.0	11.2	59.0	1.3	135.0
13/01/2021 13:00	457.3	0.0	12.0	61.0	1.3	135.0
13/01/2021 14:00	456.9	0.0	11.7	63.0	1.3	45.0
13/01/2021 15:00	456.4	0.0	9.4	74.0	3.1	337.5
13/01/2021 16:00	456.2	0.0	11.3	70.0	2.2	0.0
13/01/2021 17:00	456.1	0.0	9.7	74.0	2.2	337.5
13/01/2021 18:00	456.3	0.0	8.6	77.0	2.2	337.5
13/01/2021 19:00	456.8	0.0	6.8	79.0	0.9	337.5
13/01/2021 20:00	457.1	0.0	5.8	84.0	1.3	225.0
13/01/2021 21:00	457.5	0.0	5.8	85.0	0.4	225.0
13/01/2021 22:00	457.7	0.0	6.2	86.0	0.0	ND
13/01/2021 23:00	457.8	0.0	5.6	88.0	0.4	247.5
14/01/2021 00:00	457.2	0.0	5.6	88.0	0.4	337.5
14/01/2021 01:00	456.8	0.0	5.2	88.0	0.4	22.5
14/01/2021 02:00	456.5	0.0	5.2	88.0	0.4	22.5
14/01/2021 03:00	456.3	0.0	5.3	88.0	0.4	22.5
14/01/2021 04:00	456.2	0.0	5.2	90.0	0.4	22.5
14/01/2021 05:00	456.3	0.0	3.2	90.0	0.9	225.0
14/01/2021 06:00	456.6	1.2	3.2	91.0	0.4	270.0
14/01/2021 07:00	456.9	0.0	3.9	91.0	0.4	45.0
14/01/2021 08:00	457.3	0.0	5.1	90.0	0.4	22.5
14/01/2021 09:00	457.5	0.0	5.8	86.0	0.9	22.5
14/01/2021 10:00	457.4	0.0	8.9	78.0	1.8	337.5
14/01/2021 11:00	457.2	0.0	9.5	72.0	1.3	45.0
14/01/2021 12:00	456.8	0.0	11.8	68.0	1.8	45.0
14/01/2021 13:00	456.7	0.0	8.6	75.0	1.8	22.5
14/01/2021 14:00	456.3	0.0	8.0	79.0	1.8	315.0
14/01/2021 15:00	456.0	2.6	6.2	85.0	1.3	315.0
14/01/2021 16:00	455.8	0.8	5.9	88.0	1.3	315.0
14/01/2021 17:00	455.7	0.6	6.6	89.0	0.9	337.5

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14/01/2021 18:00	456.1	0.0	6.9	85.0	0.9	337.5
14/01/2021 19:00	456.7	0.0	5.3	87.0	0.9	337.5
14/01/2021 20:00	457.0	0.0	4.8	88.0	1.3	202.5
14/01/2021 21:00	457.3	0.4	4.5	89.0	0.9	135.0
14/01/2021 22:00	457.4	0.2	4.4	90.0	0.0	ND
14/01/2021 23:00	457.2	0.2	4.6	89.0	0.4	157.5
15/01/2021 00:00	456.9	0.0	4.6	89.0	0.4	202.5
15/01/2021 01:00	456.6	0.0	4.6	89.0	0.4	135.0
15/01/2021 02:00	456.2	0.2	4.7	90.0	0.0	ND
15/01/2021 03:00	456.0	0.6	4.5	90.0	0.0	ND
15/01/2021 04:00	456.0	4.0	3.3	89.0	0.9	135.0
15/01/2021 05:00	456.0	4.4	2.6	91.0	0.0	ND
15/01/2021 06:00	456.6	3.4	1.6	91.0	0.0	ND
15/01/2021 07:00	456.9	0.6	0.6	92.0	0.0	ND
15/01/2021 08:00	457.2	1.2	0.8	93.0	0.0	ND
15/01/2021 09:00	457.4	2.8	1.7	93.0	0.0	ND
15/01/2021 10:00	457.5	1.8	2.7	92.0	0.4	22.5
15/01/2021 11:00	457.4	0.6	3.3	91.0	0.9	22.5
15/01/2021 12:00	457.2	0.4	4.8	89.0	0.9	337.5
15/01/2021 13:00	457.1	0.2	5.4	88.0	0.9	45.0
15/01/2021 14:00	456.8	0.0	5.5	88.0	1.3	22.5
15/01/2021 15:00	456.4	0.2	7.1	81.0	1.3	22.5
15/01/2021 16:00	456.1	0.0	9.9	72.0	0.9	45.0
15/01/2021 17:00	455.8	0.0	8.8	73.0	0.9	315.0
15/01/2021 18:00	455.7	0.0	8.1	75.0	0.9	315.0
15/01/2021 19:00	456.0	0.0	6.9	81.0	0.9	315.0
15/01/2021 20:00	456.3	0.0	5.9	85.0	0.4	0.0
15/01/2021 21:00	456.4	0.0	5.2	87.0	0.0	ND
15/01/2021 22:00	456.9	0.0	4.8	88.0	0.0	ND
15/01/2021 23:00	457.1	0.0	4.8	85.0	0.0	ND
16/01/2021 00:00	456.9	0.0	5.0	84.0	0.4	90.0
16/01/2021 01:00	456.6	0.0	4.8	85.0	0.4	247.5
16/01/2021 02:00	456.3	0.0	4.5	84.0	0.4	202.5
16/01/2021 03:00	456.2	0.0	4.4	86.0	0.4	225.0
16/01/2021 04:00	456.0	0.0	4.4	87.0	0.4	247.5
16/01/2021 05:00	456.2	0.0	4.1	88.0	0.4	292.5
16/01/2021 06:00	456.5	0.0	3.8	91.0	0.4	247.5
16/01/2021 07:00	456.7	0.0	4.5	88.0	0.0	ND
16/01/2021 08:00	457.2	0.0	7.1	75.0	0.9	225.0
16/01/2021 09:00	457.5	0.0	8.3	73.0	0.4	157.5
16/01/2021 10:00	457.5	0.0	9.6	69.0	0.4	157.5
16/01/2021 11:00	457.1	0.0	9.2	68.0	0.9	337.5
16/01/2021 12:00	456.7	0.0	11.4	62.0	1.3	22.5
16/01/2021 13:00	456.3	0.0	12.2	66.0	1.8	22.5
16/01/2021 14:00	455.9	0.0	10.8	70.0	2.2	22.5
16/01/2021 15:00	456.1	0.6	4.8	86.0	1.8	22.5
16/01/2021 16:00	456.1	1.2	4.4	90.0	2.7	180.0
16/01/2021 17:00	456.0	0.2	4.5	89.0	2.2	225.0
16/01/2021 18:00	455.7	0.0	5.1	87.0	1.3	202.5
16/01/2021 19:00	456.2	0.0	5.2	86.0	0.4	202.5
16/01/2021 20:00	456.6	0.0	5.1	86.0	0.9	292.5
16/01/2021 21:00	456.9	0.0	4.9	87.0	0.0	ND
16/01/2021 22:00	457.3	0.0	4.7	90.0	0.4	45.0
16/01/2021 23:00	457.4	0.0	4.8	88.0	0.4	45.0
17/01/2021 00:00	456.8	0.0	5.1	88.0	0.4	225.0
17/01/2021 01:00	456.3	0.0	4.7	87.0	0.9	202.5
17/01/2021 02:00	456.0	0.0	4.7	85.0	0.4	292.5
17/01/2021 03:00	455.7	0.0	4.8	84.0	0.4	225.0
17/01/2021 04:00	455.8	0.0	4.7	86.0	0.4	270.0
17/01/2021 05:00	456.0	0.0	4.1	90.0	0.0	ND
17/01/2021 06:00	456.3	0.0	4.4	82.0	0.9	202.5
17/01/2021 07:00	456.7	0.0	4.6	81.0	0.4	247.5
17/01/2021 08:00	456.9	0.0	5.3	85.0	0.4	22.5
17/01/2021 09:00	457.0	0.0	7.1	80.0	0.9	45.0
17/01/2021 10:00	457.3	0.0	9.1	69.0	1.3	45.0
17/01/2021 11:00	456.9	0.0	9.0	68.0	0.9	22.5
17/01/2021 12:00	456.6	0.0	9.8	68.0	1.3	337.5
17/01/2021 13:00	456.3	0.2	8.6	74.0	0.9	157.5
17/01/2021 14:00	455.6	0.0	10.3	69.0	1.3	315.0
17/01/2021 15:00	455.0	0.0	12.4	60.0	1.3	22.5
17/01/2021 16:00	454.8	0.8	7.9	79.0	1.3	337.5
17/01/2021 17:00	455.1	7.6	5.3	90.0	1.3	0.0
17/01/2021 18:00	455.8	3.6	4.1	88.0	1.3	315.0
17/01/2021 19:00	456.3	4.8	3.2	90.0	0.4	135.0
17/01/2021 20:00	456.7	3.0	2.6	89.0	0.4	135.0
17/01/2021 21:00	457.3	1.4	2.3	90.0	0.0	ND
17/01/2021 22:00	457.4	2.0	2.4	92.0	0.0	ND
17/01/2021 23:00	457.1	0.4	2.8	93.0	0.0	ND
18/01/2021 00:00	456.5	0.4	3.5	91.0	0.4	202.5
18/01/2021 01:00	455.9	0.4	3.8	90.0	1.3	135.0
18/01/2021 02:00	455.8	0.4	3.8	90.0	0.4	135.0
18/01/2021 03:00	455.7	0.4	3.7	92.0	0.4	45.0
18/01/2021 04:00	455.7	1.0	3.5	91.0	0.4	45.0
18/01/2021 05:00	456.0	0.6	3.4	90.0	0.0	ND
18/01/2021 06:00	456.3	0.4	3.2	90.0	0.0	ND
18/01/2021 07:00	456.8	0.4	3.3	91.0	0.0	ND
18/01/2021 08:00	457.2	0.4	3.7	91.0	0.0	ND
18/01/2021 09:00	457.5	0.2	4.4	89.0	0.4	45.0
18/01/2021 10:00	457.3	0.0	5.8	85.0	0.4	135.0

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18	18/01/2021 11:00	457.3	0.0	7.7	81.0	0.9	247.5
	18/01/2021 12:00	457.1	0.0	7.8	80.0	1.3	22.5
	18/01/2021 13:00	456.9	0.0	8.1	79.0	1.3	22.5
	18/01/2021 14:00	456.3	0.0	9.1	77.0	1.8	0.0
	18/01/2021 15:00	456.0	0.2	6.5	88.0	1.8	0.0
	18/01/2021 16:00	455.8	0.0	7.0	83.0	1.3	45.0
	18/01/2021 17:00	456.1	0.0	6.4	86.0	1.3	337.5
	18/01/2021 18:00	456.6	0.4	5.2	88.0	0.9	315.0
	18/01/2021 19:00	456.9	0.4	4.6	88.0	0.9	292.5
	18/01/2021 20:00	457.2	0.2	3.9	90.0	1.3	202.5
	18/01/2021 21:00	457.6	0.0	4.0	90.0	0.9	180.0
	18/01/2021 22:00	457.8	0.0	4.1	90.0	0.4	225.0
	18/01/2021 23:00	457.7	0.2	4.1	90.0	0.0	ND
	19/01/2021 00:00	457.3	0.0	4.1	89.0	0.0	ND
19	19/01/2021 01:00	456.8	0.0	4.2	91.0	0.4	225.0
	19/01/2021 02:00	456.5	0.0	3.9	90.0	0.0	ND
	19/01/2021 03:00	456.3	0.0	3.6	91.0	0.9	225.0
	19/01/2021 04:00	456.3	0.0	3.6	89.0	0.4	157.5
	19/01/2021 05:00	456.3	0.0	3.7	91.0	0.4	157.5
	19/01/2021 06:00	456.6	0.0	3.4	91.0	0.4	180.0
	19/01/2021 07:00	457.1	0.0	3.8	90.0	0.0	ND
	19/01/2021 08:00	457.5	0.0	5.1	86.0	0.0	ND
	19/01/2021 09:00	457.5	0.0	5.9	80.0	0.4	180.0
	19/01/2021 10:00	457.6	0.0	7.7	72.0	0.4	135.0
	19/01/2021 11:00	457.3	0.0	8.7	68.0	0.4	180.0
	19/01/2021 12:00	456.9	0.0	9.9	65.0	0.4	225.0
	19/01/2021 13:00	456.6	0.0	10.1	73.0	0.9	45.0
	19/01/2021 14:00	456.5	1.4	6.5	86.0	1.8	22.5
20	19/01/2021 15:00	456.1	0.0	8.4	79.0	1.8	45.0
	19/01/2021 16:00	455.7	0.0	10.1	74.0	1.8	45.0
	19/01/2021 17:00	455.7	0.0	8.6	78.0	1.8	45.0
	19/01/2021 18:00	456.0	0.0	7.1	85.0	1.8	0.0
	19/01/2021 19:00	456.6	0.0	6.2	88.0	1.3	22.5
	19/01/2021 20:00	457.2	3.0	3.5	90.0	1.3	45.0
	19/01/2021 21:00	457.5	0.8	3.6	92.0	0.9	225.0
	19/01/2021 22:00	457.5	0.0	3.9	92.0	0.9	315.0
	19/01/2021 23:00	457.5	0.0	4.1	91.0	0.4	337.5
	20/01/2021 00:00	457.2	0.6	4.2	91.0	0.4	337.5
	20/01/2021 01:00	456.8	1.2	4.0	92.0	0.0	ND
	20/01/2021 02:00	456.5	0.4	3.8	92.0	0.4	315.0
	20/01/2021 03:00	456.3	1.8	3.4	92.0	0.4	315.0
	20/01/2021 04:00	456.3	0.0	3.4	92.0	0.0	ND
21	20/01/2021 05:00	456.5	0.2	3.4	93.0	0.4	270.0
	20/01/2021 06:00	456.7	0.0	3.8	93.0	0.0	ND
	20/01/2021 07:00	457.2	0.4	4.1	93.0	0.4	0.0
	20/01/2021 08:00	457.5	0.0	4.7	92.0	0.9	22.5
	20/01/2021 09:00	457.6	0.0	5.4	89.0	1.3	0.0
	20/01/2021 10:00	457.6	0.0	6.8	87.0	1.8	0.0
	20/01/2021 11:00	457.4	0.0	8.9	76.0	1.8	22.5
	20/01/2021 12:00	456.9	0.0	9.4	75.0	2.7	337.5
	20/01/2021 13:00	456.6	0.0	9.4	82.0	2.7	337.5
	20/01/2021 14:00	456.5	0.0	10.0	77.0	2.7	0.0
	20/01/2021 15:00	456.1	0.6	9.5	80.0	1.3	22.5
	20/01/2021 16:00	455.9	0.0	9.4	76.0	1.8	337.5
	20/01/2021 17:00	456.1	0.0	9.0	80.0	2.7	337.5
	20/01/2021 18:00	456.0	3.0	5.8	87.0	1.3	22.5
20/01/2021 19:00	456.4	0.0	5.4	89.0	1.3	0.0	
20/01/2021 20:00	456.8	0.0	5.1	90.0	1.3	337.5	
20/01/2021 21:00	457.1	0.0	5.1	89.0	0.9	0.0	
20/01/2021 22:00	457.3	0.0	5.2	90.0	0.9	45.0	
20/01/2021 23:00	457.4	0.0	4.9	90.0	0.9	22.5	
21/01/2021 00:00	457.2	0.0	4.4	91.0	1.3	22.5	
21/01/2021 01:00	456.8	0.0	4.2	88.0	0.9	0.0	
21/01/2021 02:00	456.7	0.0	4.2	90.0	0.4	22.5	
21/01/2021 03:00	456.6	0.0	3.8	91.0	0.9	22.5	
21/01/2021 04:00	456.6	0.0	3.6	90.0	0.9	337.5	
21/01/2021 05:00	456.9	0.0	2.8	90.0	0.9	0.0	
21/01/2021 06:00	457.2	0.0	3.1	87.0	0.4	45.0	
21/01/2021 07:00	457.5	0.0	3.3	84.0	0.9	0.0	
21/01/2021 08:00	457.8	0.0	6.4	75.0	0.9	45.0	
21/01/2021 09:00	457.9	0.0	6.1	78.0	0.9	22.5	
21/01/2021 10:00	457.9	0.0	6.8	76.0	1.3	22.5	
21/01/2021 11:00	457.8	0.0	9.1	63.0	1.3	22.5	
21/01/2021 12:00	457.6	0.0	10.2	61.0	1.8	45.0	
21/01/2021 13:00	457.1	0.0	11.4	58.0	1.3	45.0	
21/01/2021 14:00	456.6	0.0	12.8	56.0	1.3	22.5	
21/01/2021 15:00	456.0	0.0	9.7	71.0	1.8	45.0	
21/01/2021 16:00	455.8	0.0	10.2	72.0	2.2	22.5	
21/01/2021 17:00	455.7	0.0	11.3	67.0	1.8	22.5	
21/01/2021 18:00	455.8	0.0	8.0	78.0	2.2	337.5	
21/01/2021 19:00	456.3	0.0	6.1	87.0	1.3	337.5	
21/01/2021 20:00	456.8	0.0	5.7	88.0	0.9	22.5	
21/01/2021 21:00	457.2	0.0	5.6	89.0	0.9	22.5	
21/01/2021 22:00	457.5	0.0	5.1	90.0	0.9	22.5	
21/01/2021 23:00	457.6	0.0	5.3	90.0	0.9	45.0	
22/01/2021 00:00	457.3	0.0	4.9	90.0	0.4	0.0	
22/01/2021 01:00	456.9	0.4	4.4	86.0	0.9	22.5	
22/01/2021 02:00	456.7	0.2	3.4	90.0	0.9	45.0	
22/01/2021 03:00	456.5	0.2	3.2	91.0	0.4	22.5	

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22/01/2021 04:00	456.6	0.0	2.9	90.0	0.4	45.0
22/01/2021 05:00	456.9	0.0	2.7	92.0	0.9	45.0
22/01/2021 06:00	457.5	0.0	2.4	90.0	0.4	45.0
22/01/2021 07:00	457.8	0.0	2.9	88.0	0.9	45.0
22/01/2021 08:00	458.1	0.0	3.9	85.0	0.9	45.0
22/01/2021 09:00	458.3	0.0	5.2	82.0	0.9	22.5
22/01/2021 10:00	458.4	0.0	6.0	78.0	0.4	180.0
22/01/2021 11:00	458.2	0.0	6.8	74.0	0.4	202.5
22/01/2021 12:00	458.2	0.0	8.8	66.0	0.9	180.0
22/01/2021 13:00	457.7	0.0	9.5	67.0	0.9	45.0
22/01/2021 14:00	457.1	0.0	11.2	61.0	1.3	0.0
22/01/2021 15:00	456.6	0.0	9.5	72.0	0.9	135.0
22/01/2021 16:00	456.3	0.0	6.8	80.0	1.3	315.0
22/01/2021 17:00	456.1	0.0	11.2	65.0	1.3	337.5
22/01/2021 18:00	456.5	0.0	9.3	72.0	1.3	45.0
22/01/2021 19:00	456.9	0.0	6.9	78.0	1.3	45.0
22/01/2021 20:00	457.4	0.0	5.4	80.0	1.8	45.0
22/01/2021 21:00	457.9	0.0	5.1	83.0	1.8	45.0
22/01/2021 22:00	458.1	0.0	5.2	82.0	0.9	22.5
22/01/2021 23:00	458.3	0.0	4.8	86.0	0.9	45.0
23/01/2021 00:00	457.9	0.0	4.6	84.0	0.4	45.0
23/01/2021 01:00	457.5	0.0	4.3	86.0	0.4	45.0
23/01/2021 02:00	457.2	0.0	4.2	86.0	0.4	22.5
23/01/2021 03:00	457.0	0.0	4.0	87.0	0.4	45.0
23/01/2021 04:00	456.9	0.0	3.3	88.0	0.4	45.0
23/01/2021 05:00	456.8	0.0	3.2	89.0	0.4	45.0
23/01/2021 06:00	457.2	0.0	2.8	88.0	0.4	45.0
23/01/2021 07:00	457.8	0.0	3.2	88.0	0.4	45.0
23/01/2021 08:00	457.9	0.0	4.9	81.0	0.9	45.0
23/01/2021 09:00	458.1	0.0	6.8	75.0	0.9	22.5
23/01/2021 10:00	458.4	0.0	7.2	69.0	0.9	135.0
23/01/2021 11:00	458.1	0.0	8.5	67.0	0.9	22.5
23/01/2021 12:00	457.7	0.0	9.7	61.0	0.9	157.5
23/01/2021 13:00	457.5	0.2	9.4	73.0	1.3	22.5
23/01/2021 14:00	457.0	0.0	10.7	68.0	1.8	22.5
23/01/2021 15:00	456.7	0.0	9.3	69.0	2.2	0.0
23/01/2021 16:00	456.3	0.0	7.9	75.0	2.2	337.5
23/01/2021 17:00	456.0	0.0	7.8	76.0	1.8	337.5
23/01/2021 18:00	456.3	0.0	8.6	73.0	1.3	337.5
23/01/2021 19:00	456.7	0.0	5.7	84.0	1.3	0.0
23/01/2021 20:00	457.1	0.0	5.0	88.0	1.3	0.0
23/01/2021 21:00	457.5	0.0	4.5	88.0	1.3	0.0
23/01/2021 22:00	457.8	0.0	4.8	88.0	0.9	337.5
23/01/2021 23:00	457.8	0.0	4.6	89.0	0.9	22.5
24/01/2021 00:00	457.5	0.0	4.1	87.0	0.9	45.0
24/01/2021 01:00	457.2	0.0	4.0	85.0	0.4	22.5
24/01/2021 02:00	456.7	0.0	3.6	87.0	0.4	45.0
24/01/2021 03:00	456.7	0.0	3.6	87.0	0.4	45.0
24/01/2021 04:00	456.5	0.0	3.8	82.0	0.4	45.0
24/01/2021 05:00	456.6	0.0	3.7	86.0	0.0	ND
24/01/2021 06:00	457.0	0.0	2.9	89.0	0.0	ND
24/01/2021 07:00	457.2	0.0	2.9	89.0	0.0	ND
24/01/2021 08:00	457.5	0.0	5.3	83.0	0.9	45.0
24/01/2021 09:00	457.8	0.0	8.6	68.0	0.9	22.5
24/01/2021 10:00	457.8	0.0	9.6	65.0	0.9	45.0
24/01/2021 11:00	457.6	0.0	9.6	64.0	0.9	45.0
24/01/2021 12:00	457.3	0.0	9.3	71.0	0.9	45.0
24/01/2021 13:00	456.9	0.0	10.8	68.0	1.3	22.5
24/01/2021 14:00	456.4	0.0	9.7	72.0	2.7	337.5
24/01/2021 15:00	456.1	1.4	6.9	81.0	2.2	0.0
24/01/2021 16:00	455.8	1.0	6.1	86.0	0.9	0.0
24/01/2021 17:00	455.7	0.0	6.9	81.0	1.3	337.5
24/01/2021 18:00	456.0	1.2	5.7	88.0	1.3	337.5
24/01/2021 19:00	456.4	0.4	5.1	88.0	1.3	337.5
24/01/2021 20:00	456.7	0.0	4.9	89.0	0.9	0.0
24/01/2021 21:00	457.0	0.0	4.5	90.0	0.9	202.5
24/01/2021 22:00	457.4	0.0	4.3	90.0	0.9	202.5
24/01/2021 23:00	457.4	0.0	4.6	91.0	0.4	180.0
25/01/2021 00:00	457.2	0.0	4.4	91.0	0.4	0.0
25/01/2021 01:00	456.7	0.0	4.2	91.0	0.4	22.5
25/01/2021 02:00	456.4	0.2	3.9	92.0	0.9	315.0
25/01/2021 03:00	456.3	0.0	3.8	91.0	0.9	315.0
25/01/2021 04:00	456.3	0.2	3.8	92.0	0.9	315.0
25/01/2021 05:00	456.3	0.0	3.6	91.0	0.9	22.5
25/01/2021 06:00	456.6	0.0	3.2	91.0	0.9	0.0
25/01/2021 07:00	457.1	0.0	3.5	91.0	0.4	0.0
25/01/2021 08:00	457.5	0.2	3.9	90.0	0.4	45.0
25/01/2021 09:00	457.7	0.0	6.4	85.0	0.9	45.0
25/01/2021 10:00	457.7	0.0	6.7	82.0	1.3	45.0
25/01/2021 11:00	457.6	0.0	6.9	83.0	1.8	337.5
25/01/2021 12:00	457.2	0.0	10.5	69.0	2.2	337.5
25/01/2021 13:00	456.9	0.0	12.5	63.0	2.2	45.0
25/01/2021 14:00	456.5	0.0	11.7	66.0	2.2	0.0
25/01/2021 15:00	456.0	0.2	10.3	72.0	3.1	337.5
25/01/2021 16:00	455.6	0.0	11.2	69.0	2.7	337.5
25/01/2021 17:00	455.6	0.0	9.3	75.0	2.2	0.0
25/01/2021 18:00	456.0	0.0	7.4	81.0	2.7	337.5
25/01/2021 19:00	456.2	0.0	6.8	81.0	1.8	0.0
25/01/2021 20:00	456.6	0.0	6.3	83.0	0.9	22.5

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25/01/2021 21:00	457.0	0.0	5.7	84.0	0.4	337.5
25/01/2021 22:00	457.4	0.0	4.4	89.0	2.2	157.5
25/01/2021 23:00	457.8	2.0	3.7	88.0	0.9	157.5
26/01/2021 00:00	457.6	4.6	2.3	90.0	0.4	112.5
26/01/2021 01:00	457.1	4.0	2.1	92.0	0.4	112.5
26/01/2021 02:00	456.6	0.4	2.7	92.0	0.4	202.5
26/01/2021 03:00	456.3	0.0	3.0	91.0	0.4	180.0
26/01/2021 04:00	456.3	0.0	2.9	92.0	0.4	180.0
26/01/2021 05:00	456.5	0.0	2.6	92.0	0.4	225.0
26/01/2021 06:00	456.8	0.0	2.4	93.0	0.4	247.5
26/01/2021 07:00	457.1	0.0	3.1	93.0	0.0	ND
26/01/2021 08:00	457.5	0.0	4.7	87.0	0.4	225.0
26/01/2021 09:00	457.9	0.0	7.2	81.0	0.4	22.5
26/01/2021 10:00	457.9	0.0	8.0	78.0	0.9	22.5
26/01/2021 11:00	457.7	0.6	7.0	83.0	1.3	0.0
26/01/2021 12:00	457.2	0.0	7.9	81.0	0.9	292.5
26/01/2021 13:00	456.9	0.0	9.3	75.0	0.9	315.0
26/01/2021 14:00	456.6	0.0	7.8	78.0	2.2	0.0
26/01/2021 15:00	456.5	0.0	9.1	70.0	1.3	45.0
26/01/2021 16:00	456.5	0.0	6.8	81.0	1.8	180.0
26/01/2021 17:00	456.9	0.4	4.7	88.0	2.7	180.0
26/01/2021 18:00	457.3	0.4	2.8	90.0	2.7	180.0
26/01/2021 19:00	457.7	1.2	1.2	92.0	1.8	135.0
26/01/2021 20:00	457.8	1.2	0.9	92.0	1.3	202.5
26/01/2021 21:00	458.0	0.8	1.4	93.0	0.9	180.0
26/01/2021 22:00	457.6	0.0	2.2	92.0	0.4	270.0
26/01/2021 23:00	457.9	0.0	2.8	91.0	0.4	135.0
27/01/2021 00:00	457.7	0.0	2.8	91.0	0.4	180.0
27/01/2021 01:00	457.5	0.0	2.6	90.0	0.4	180.0
27/01/2021 02:00	457.0	0.0	1.3	93.0	0.4	225.0
27/01/2021 03:00	456.8	0.0	1.6	93.0	0.0	ND
27/01/2021 04:00	456.8	0.0	1.9	93.0	0.4	225.0
27/01/2021 05:00	456.7	0.0	1.5	94.0	0.9	225.0
27/01/2021 06:00	457.0	0.0	1.4	94.0	0.4	225.0
27/01/2021 07:00	457.3	0.2	1.8	94.0	0.0	ND
27/01/2021 08:00	457.5	0.0	3.7	95.0	0.4	225.0
27/01/2021 09:00	457.9	0.0	5.8	88.0	1.3	225.0
27/01/2021 10:00	457.8	0.0	7.5	82.0	0.9	180.0
27/01/2021 11:00	457.7	0.0	8.6	77.0	0.9	180.0
27/01/2021 12:00	457.5	0.0	11.3	68.0	0.9	180.0
27/01/2021 13:00	456.9	0.0	10.7	70.0	0.9	22.5
27/01/2021 14:00	456.6	0.0	11.9	65.0	0.9	247.5
27/01/2021 15:00	456.4	7.6	5.8	87.0	0.9	315.0
27/01/2021 16:00	455.7	3.4	7.0	88.0	0.4	22.5
27/01/2021 17:00	455.4	2.0	8.6	83.0	1.3	22.5
27/01/2021 18:00	455.9	2.2	6.9	87.0	2.2	337.5
27/01/2021 19:00	456.2	0.6	5.8	88.0	2.2	0.0
27/01/2021 20:00	457.0	0.4	3.1	89.0	1.8	0.0
27/01/2021 21:00	457.2	0.2	2.8	91.0	0.9	315.0
27/01/2021 22:00	457.7	0.0	2.9	92.0	0.0	ND
27/01/2021 23:00	457.6	0.0	3.6	92.0	0.0	ND
28/01/2021 00:00	457.4	0.0	3.5	91.0	0.4	45.0
28/01/2021 01:00	457.1	0.0	3.3	91.0	0.0	ND
28/01/2021 02:00	456.6	0.0	2.6	91.0	0.0	ND
28/01/2021 03:00	456.3	0.0	2.1	93.0	0.0	ND
28/01/2021 04:00	456.3	0.0	2.5	93.0	0.4	0.0
28/01/2021 05:00	456.2	0.0	2.7	94.0	0.0	ND
28/01/2021 06:00	456.5	0.0	2.8	93.0	0.4	0.0
28/01/2021 07:00	456.9	0.0	3.4	93.0	0.4	22.5
28/01/2021 08:00	457.2	0.0	5.3	88.0	0.0	ND
28/01/2021 09:00	457.4	0.0	7.7	81.0	0.4	45.0
28/01/2021 10:00	457.7	0.0	8.8	74.0	0.9	247.5
28/01/2021 11:00	457.5	0.0	9.4	73.0	0.9	45.0
28/01/2021 12:00	457.1	0.2	9.4	70.0	0.9	22.5
28/01/2021 13:00	456.9	0.0	7.3	80.0	1.8	337.5
28/01/2021 14:00	456.9	0.2	5.8	87.0	2.2	0.0
28/01/2021 15:00	456.4	0.0	6.7	83.0	1.3	22.5
28/01/2021 16:00	456.0	0.0	6.8	82.0	1.8	45.0
28/01/2021 17:00	456.0	0.0	8.1	73.0	0.9	45.0
28/01/2021 18:00	456.6	0.0	5.1	86.0	1.8	315.0
28/01/2021 19:00	456.9	0.6	3.9	89.0	1.8	202.5
28/01/2021 20:00	457.2	0.0	3.5	90.0	2.2	180.0
28/01/2021 21:00	457.2	0.0	3.3	90.0	1.3	180.0
28/01/2021 22:00	457.6	0.0	3.2	90.0	0.0	ND
28/01/2021 23:00	457.5	0.0	3.6	89.0	0.4	225.0
29/01/2021 00:00	457.3	0.0	2.8	91.0	0.0	ND
29/01/2021 01:00	456.7	0.0	2.7	92.0	0.0	ND
29/01/2021 02:00	456.1	0.0	2.5	92.0	0.0	ND
29/01/2021 03:00	456.0	0.2	1.7	92.0	0.0	ND
29/01/2021 04:00	455.8	0.0	1.2	93.0	0.0	ND
29/01/2021 05:00	455.9	0.0	1.3	94.0	0.0	ND
29/01/2021 06:00	456.2	0.0	1.9	94.0	0.4	225.0
29/01/2021 07:00	456.9	0.0	2.0	94.0	0.4	225.0
29/01/2021 08:00	457.0	0.0	3.7	93.0	0.0	ND
29/01/2021 09:00	457.2	0.0	7.2	78.0	0.4	202.5
29/01/2021 10:00	457.2	0.0	8.5	73.0	0.4	225.0
29/01/2021 11:00	457.1	0.0	9.5	68.0	0.9	202.5
29/01/2021 12:00	457.0	0.2	8.4	75.0	1.3	45.0
29/01/2021 13:00	456.9	0.0	8.8	68.0	1.3	45.0

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	29/01/2021 14:00	456.6	0.8	4.7	85.0	2.2	180.0
	29/01/2021 15:00	456.0	0.2	6.2	81.0	0.9	22.5
	29/01/2021 16:00	455.7	0.0	7.7	72.0	0.9	315.0
	29/01/2021 17:00	455.7	0.0	6.3	80.0	1.8	202.5
	29/01/2021 18:00	455.9	0.0	5.9	81.0	1.3	225.0
	29/01/2021 19:00	456.3	0.0	4.7	85.0	1.3	315.0
	29/01/2021 20:00	456.6	0.0	4.6	85.0	0.9	292.5
	29/01/2021 21:00	456.9	0.0	4.8	86.0	0.4	315.0
	29/01/2021 22:00	457.1	0.0	4.6	84.0	0.9	315.0
	29/01/2021 23:00	457.3	0.0	3.8	87.0	0.4	337.5
	30/01/2021 00:00	456.9	0.0	3.8	88.0	0.4	337.5
	30/01/2021 01:00	456.5	0.0	3.7	88.0	0.0	ND
	30/01/2021 02:00	456.2	0.0	3.7	89.0	0.0	ND
	30/01/2021 03:00	456.0	0.0	3.7	90.0	0.0	ND
	30/01/2021 04:00	456.0	0.0	3.8	86.0	0.0	ND
	30/01/2021 05:00	456.0	0.4	3.1	90.0	0.4	225.0
	30/01/2021 06:00	456.4	0.2	2.6	90.0	0.9	202.5
	30/01/2021 07:00	456.9	0.2	2.3	90.0	0.4	22.5
	30/01/2021 08:00	457.4	1.0	1.9	90.0	0.0	ND
	30/01/2021 09:00	457.6	0.4	2.8	90.0	0.0	ND
	30/01/2021 10:00	457.8	0.6	3.1	89.0	0.4	157.5
	30/01/2021 11:00	457.6	0.4	4.2	88.0	0.0	ND
30	30/01/2021 12:00	457.2	0.2	6.1	85.0	0.4	45.0
	30/01/2021 13:00	457.1	0.0	6.8	81.0	0.4	22.5
	30/01/2021 14:00	456.7	0.0	8.3	76.0	0.4	225.0
	30/01/2021 15:00	456.3	0.0	9.7	72.0	0.9	45.0
	30/01/2021 16:00	456.0	0.0	9.2	73.0	1.8	0.0
	30/01/2021 17:00	456.0	0.0	7.3	80.0	2.2	337.5
	30/01/2021 18:00	456.3	0.0	6.1	81.0	1.8	337.5
	30/01/2021 19:00	456.7	0.0	5.3	84.0	1.8	0.0
	30/01/2021 20:00	457.3	0.0	3.8	91.0	1.3	225.0
	30/01/2021 21:00	457.5	0.0	3.7	88.0	1.3	202.5
	30/01/2021 22:00	457.8	0.0	3.8	88.0	0.9	202.5
	30/01/2021 23:00	457.9	0.0	3.8	89.0	0.4	247.5
	31/01/2021 00:00	457.7	0.0	3.8	91.0	0.4	247.5
	31/01/2021 01:00	457.2	0.0	3.4	91.0	0.9	202.5
	31/01/2021 02:00	457.0	0.0	3.3	91.0	0.9	202.5
	31/01/2021 03:00	457.0	0.4	3.1	90.0	0.4	225.0
	31/01/2021 04:00	457.0	0.6	2.4	91.0	0.4	45.0
	31/01/2021 05:00	457.1	0.0	3.0	92.0	0.4	45.0
	31/01/2021 06:00	457.3	0.0	2.7	90.0	0.4	22.5
	31/01/2021 07:00	457.6	0.0	2.6	92.0	0.4	22.5
	31/01/2021 08:00	457.8	0.0	7.5	75.0	0.4	22.5
	31/01/2021 09:00	458.1	0.0	9.4	67.0	0.9	45.0
	31/01/2021 10:00	458.4	0.0	7.3	74.0	1.8	0.0
31	31/01/2021 11:00	458.3	0.0	10.3	65.0	1.8	22.5
	31/01/2021 12:00	458.0	0.0	10.2	63.0	1.8	0.0
	31/01/2021 13:00	457.6	0.0	10.8	62.0	1.8	22.5
	31/01/2021 14:00	457.2	0.0	10.4	66.0	1.8	22.5
	31/01/2021 15:00	456.6	1.2	9.2	80.0	1.8	45.0
	31/01/2021 16:00	456.3	0.0	7.8	84.0	1.8	22.5
	31/01/2021 17:00	456.4	1.0	7.5	82.0	1.8	0.0
	31/01/2021 18:00	456.6	0.0	7.3	77.0	1.8	22.5
	31/01/2021 19:00	457.2	0.0	5.6	84.0	1.8	0.0
	31/01/2021 20:00	457.6	0.0	4.9	87.0	1.8	0.0
	31/01/2021 21:00	458.0	0.0	5.0	86.0	0.9	22.5
	31/01/2021 22:00	458.1	0.0	4.3	89.0	0.9	0.0
	31/01/2021 23:00	458.2	0.0	4.3	88.0	0.4	337.5

ND: No disponible porque no se registro dato

Tabla 3.1. Concentraciones horarias de PM<sub>10</sub>

TÍTULO DEL ESTUDIO:

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en febrero de 2021

ESTACIÓN DE MONITOREO:

CA-SB-01

CÓDIGO DE ACCIÓN:

0001-02-2021-412

DATOS DEL EQUIPO

EQUIPO: Monitor automático de partículas

MARCA: Thermo Scientific

MODELO: TEOM 1405

SERIE: 1405A208321003, 1405A208441003

Hora/Día	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	
00:00	5.8	5.9	6.6	LD	4.3	2.9	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	1.2	12.1	17.6	9.5	
01:00	2.9	3.7	8.0	1.8	0.8	1.1	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	0.8	10.8	12.9	10.4	
02:00	3.2	7.5	7.2	5.2	3.7	3.3	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	0.6	14.5	7.7	8.7	
03:00	5.5	6.7	7.6	2.8	3.1	4.9	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	LD	8.0	9.9	3.2	
04:00	4.3	12.0	7.2	5.5	3.2	1.7	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	LD	15.7	16.3	2.9	
05:00	9.4	8.1	12.9	3.7	2.6	1.3	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	LD	24.6	15.2	3.5	
06:00	7.2	9.5	11.6	5.2	4.6	3.6	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	1.7	35.6	41.3	11.2	
07:00	13.7	14.2	10.8	7.5	11.1	3.0	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	1.2	43.6	30.5	7.9	
08:00	13.2	16.1	11.8	5.3	6.5	4.7	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	4.1	38.2	30.9	14.4	
09:00	7.4	10.5	12.2	8.8	10.2	6.6	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	13.2	45.5	34.2	24.1	
10:00	7.2	7.2	22.0	6.3	10.7	8.6	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	1.2	22.7	38.9	36.1	19.5
11:00	6.4	7.2	7.5	4.6	5.7	6.2	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	64.6	37.3	30.3	24.2	
12:00	4.1	4.2	11.1	7.1	10.2	5.1	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	18.9	26.5	22.8	15.4	
13:00	4.4	5.8	9.3	6.1	14.3	11.6	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	14.7	21.5	34.0	21.0	
14:00	14.2	11.8	12.3	12.4	3.5	5.8	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	8.3	35.2	17.5	24.4	
15:00	17.7	13.8	11.1	4.5	4.4	4.2	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	19.2	26.2	24.6	20.2	
16:00	14.5	15.9	22.3	7.6	7.8	1.7	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	EE	14.9	22.9	27.0	23.9
17:00	7.5	12.7	15.0	6.3	9.5	5.6	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	18.4	27.8	47.9	23.1	
18:00	14.0	12.7	18.7	14.3	5.1	6.0	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	12.7	22.9	28.2	58.9	27.8
19:00	13.0	16.4	21.3	3.2	12.3	6.4	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	4.9	26.1	57.5	47.4	19.2
20:00	25.4	15.4	12.1	6.1	10.3	17.8	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	LD	29.1	60.4	25.0	17.9
21:00	14.3	12.4	4.8	4.3	7.3	3.9	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	LD	38.3	59.2	30.9	31.5
22:00	8.5	11.1	3.7	4.5	6.1	3.9	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	LD	40.4	32.5	17.7	17.2
23:00	6.8	8.6	0.6	6.4	3.7	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	8.2	33.5	21.6	23.2	12.2
Promedio de PM <sub>10</sub> en 24 h	9.6	10.4	11.2	6.1	6.7	5.3	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	IE	ID	18.8	31.0	27.5	16.4

100 µg/m<sup>3</sup> en periodo de 24 horas

LD: Dato que es menor al límite de detección del equipo

ID: Insuficiencia de datos para calcular promedio de 24 horas (menos del 75% de datos horarios)

IE: Dato no registrado por la interrupción eléctrica en la estación de vigilancia ambiental

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en febrero de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0001-02-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:** Estación meteorológica **MARCA:** Davis Instruments

**MODELO:** Vantage Pro 2 **SERIE:** BE181010012

FECHA Y HORA	Presión atmosférica (mmHg)	Precipitación (mm)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)	Dirección de Viento (°)
1/02/2021 00:00	458.1	0.0	3.6	90.0	0.4	22.5
1/02/2021 01:00	457.6	0.0	3.6	90.0	0.4	45.0
1/02/2021 02:00	457.4	0.0	3.7	89.0	0.0	ND
1/02/2021 03:00	457.2	0.0	3.6	90.0	0.4	22.5
1/02/2021 04:00	457.0	0.0	3.4	91.0	0.4	315.0
1/02/2021 05:00	457.2	0.0	3.4	90.0	0.0	ND
1/02/2021 06:00	457.4	0.0	3.2	89.0	0.0	ND
1/02/2021 07:00	457.5	0.0	3.7	89.0	0.0	ND
1/02/2021 08:00	457.8	0.0	4.7	89.0	0.9	180.0
1/02/2021 09:00	458.2	0.0	7.9	72.0	0.9	180.0
1/02/2021 10:00	458.1	0.0	8.3	70.0	1.3	0.0
1/02/2021 11:00	457.9	0.0	8.3	70.0	1.3	22.5
1/02/2021 12:00	457.8	0.0	10.4	60.0	1.3	337.5
1/02/2021 13:00	457.2	0.0	12.3	50.0	1.3	22.5
1/02/2021 14:00	456.9	0.0	10.2	65.0	2.7	337.5
1/02/2021 15:00	456.7	0.0	8.6	75.0	2.2	337.5
1/02/2021 16:00	456.5	0.4	6.8	82.0	1.3	22.5
1/02/2021 17:00	456.2	0.0	9.4	71.0	1.3	45.0
1/02/2021 18:00	456.4	0.0	8.1	74.0	1.3	45.0
1/02/2021 19:00	456.7	0.0	7.1	78.0	0.4	112.5
1/02/2021 20:00	457.2	0.0	6.1	86.0	0.9	337.5
1/02/2021 21:00	457.6	0.0	5.7	87.0	0.9	337.5
1/02/2021 22:00	457.8	0.0	5.6	86.0	0.4	0.0
1/02/2021 23:00	457.8	0.0	5.5	87.0	0.4	22.5
2/02/2021 00:00	457.6	0.0	5.4	88.0	0.4	22.5
2/02/2021 01:00	457.1	0.0	4.9	88.0	0.4	337.5
2/02/2021 02:00	456.9	0.0	3.9	91.0	0.4	0.0
2/02/2021 03:00	456.6	0.0	3.4	92.0	0.0	ND
2/02/2021 04:00	456.7	0.0	3.6	92.0	0.4	22.5
2/02/2021 05:00	456.7	0.0	3.8	91.0	0.0	ND
2/02/2021 06:00	456.9	0.0	3.7	90.0	0.0	ND
2/02/2021 07:00	457.4	0.0	3.6	91.0	0.4	22.5
2/02/2021 08:00	457.7	0.0	6.9	79.0	0.4	45.0
2/02/2021 09:00	458.0	0.0	7.0	76.0	0.9	45.0
2/02/2021 10:00	458.1	0.0	7.9	72.0	1.3	0.0
2/02/2021 11:00	457.8	0.0	11.5	60.0	1.3	22.5
2/02/2021 12:00	457.5	0.0	12.4	50.0	2.2	22.5
2/02/2021 13:00	457.2	0.0	11.8	51.0	2.7	337.5
2/02/2021 14:00	456.7	0.0	12.8	51.0	2.7	22.5
2/02/2021 15:00	456.4	0.0	11.1	64.0	2.7	337.5
2/02/2021 16:00	456.0	0.0	9.2	74.0	2.2	315.0
2/02/2021 17:00	455.9	0.0	9.9	70.0	1.8	22.5
2/02/2021 18:00	456.2	0.0	9.6	75.0	1.3	337.5
2/02/2021 19:00	456.6	0.0	6.9	83.0	1.8	22.5
2/02/2021 20:00	457.2	0.0	5.9	85.0	1.3	0.0
2/02/2021 21:00	457.7	0.0	5.6	88.0	0.4	45.0
2/02/2021 22:00	458.0	0.0	5.4	88.0	0.9	22.5
2/02/2021 23:00	458.1	0.0	5.2	87.0	0.4	45.0
3/02/2021 00:00	457.8	0.0	5.1	87.0	0.4	22.5
3/02/2021 01:00	457.5	0.0	5.1	88.0	0.4	337.5
3/02/2021 02:00	457.2	0.0	4.8	87.0	0.4	292.5
3/02/2021 03:00	456.9	0.0	4.3	89.0	0.0	ND
3/02/2021 04:00	457.0	0.0	4.0	89.0	0.0	ND
3/02/2021 05:00	457.0	0.0	3.6	89.0	0.4	292.5
3/02/2021 06:00	457.2	0.0	3.3	90.0	0.4	337.5
3/02/2021 07:00	457.6	0.0	3.5	89.0	0.4	315.0
3/02/2021 08:00	458.0	0.0	4.2	88.0	0.4	337.5
3/02/2021 09:00	458.4	0.0	5.6	82.0	0.9	0.0
3/02/2021 10:00	458.5	0.0	8.2	69.0	0.9	45.0
3/02/2021 11:00	458.4	0.0	9.8	62.0	0.9	45.0
3/02/2021 12:00	458.1	0.0	12.6	51.0	1.3	45.0
3/02/2021 13:00	457.7	0.0	11.9	55.0	2.7	315.0
3/02/2021 14:00	457.2	0.0	12.3	59.0	2.7	337.5

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3/02/2021 15:00	456.6	0.0	12.7	60.0	2.2	0.0
3/02/2021 16:00	456.2	0.0	13.5	59.0	2.2	22.5
3/02/2021 17:00	456.3	0.0	11.1	66.0	2.7	22.5
3/02/2021 18:00	456.8	0.0	7.7	79.0	2.7	337.5
3/02/2021 19:00	457.4	0.0	6.6	81.0	1.8	0.0
3/02/2021 20:00	458.1	0.0	6.3	83.0	1.3	0.0
3/02/2021 21:00	458.5	0.0	4.6	87.0	1.8	180.0
3/02/2021 22:00	458.7	0.2	3.9	90.0	1.3	135.0
3/02/2021 23:00	458.7	0.0	3.4	90.0	1.3	180.0
4/02/2021 00:00	458.4	0.0	3.7	87.0	0.9	157.5
4/02/2021 01:00	458.0	0.0	4.3	85.0	0.4	157.5
4/02/2021 02:00	457.7	0.0	3.9	89.0	0.9	157.5
4/02/2021 03:00	457.4	0.0	3.6	89.0	0.9	225.0
4/02/2021 04:00	457.4	0.0	3.3	89.0	0.9	225.0
4/02/2021 05:00	457.5	0.0	3.4	88.0	0.9	180.0
4/02/2021 06:00	457.8	0.0	3.4	87.0	0.9	157.5
4/02/2021 07:00	458.4	0.0	3.9	88.0	0.0	ND
4/02/2021 08:00	458.7	0.2	4.0	86.0	0.9	45.0
4/02/2021 09:00	459.1	0.4	4.1	87.0	0.9	45.0
4/02/2021 10:00	459.2	0.2	6.8	83.0	0.9	45.0
4/02/2021 11:00	459.0	0.0	10.3	67.0	0.9	135.0
4/02/2021 12:00	458.6	0.0	10.3	66.0	1.3	45.0
4/02/2021 13:00	458.1	0.0	11.7	64.0	1.3	22.5
4/02/2021 14:00	457.6	0.0	9.8	73.0	1.3	45.0
4/02/2021 15:00	457.3	0.0	8.7	76.0	1.3	22.5
4/02/2021 16:00	457.0	0.4	6.2	85.0	1.8	22.5
4/02/2021 17:00	457.1	0.2	6.6	85.0	1.8	0.0
4/02/2021 18:00	457.5	0.0	6.3	85.0	1.3	337.5
4/02/2021 19:00	457.8	0.0	4.8	87.0	0.9	225.0
4/02/2021 20:00	458.2	0.0	4.6	88.0	0.4	225.0
4/02/2021 21:00	458.6	0.0	4.8	88.0	0.4	202.5
4/02/2021 22:00	458.7	0.0	4.9	88.0	0.4	225.0
4/02/2021 23:00	458.7	0.0	4.9	88.0	0.4	225.0
5/02/2021 00:00	458.5	0.0	4.6	90.0	0.4	225.0
5/02/2021 01:00	458.2	1.0	4.1	89.0	0.4	202.5
5/02/2021 02:00	457.9	0.0	3.9	91.0	0.0	ND
5/02/2021 03:00	457.5	0.2	4.1	91.0	0.4	90.0
5/02/2021 04:00	457.5	0.0	4.3	88.0	0.4	157.5
5/02/2021 05:00	457.6	0.0	4.3	87.0	0.4	45.0
5/02/2021 06:00	457.8	0.0	4.0	87.0	0.0	ND
5/02/2021 07:00	458.4	0.0	3.9	91.0	0.4	157.5
5/02/2021 08:00	458.5	0.0	4.9	86.0	0.4	180.0
5/02/2021 09:00	458.6	0.0	7.2	79.0	0.4	247.5
5/02/2021 10:00	458.7	0.0	8.0	77.0	0.9	315.0
5/02/2021 11:00	458.6	0.0	10.6	66.0	0.9	22.5
5/02/2021 12:00	458.1	0.0	11.4	62.0	1.3	45.0
5/02/2021 13:00	457.8	0.0	10.4	68.0	1.8	22.5
5/02/2021 14:00	457.5	0.0	10.1	72.0	1.3	22.5
5/02/2021 15:00	457.3	0.0	8.7	72.0	2.7	337.5
5/02/2021 16:00	456.7	0.0	8.3	77.0	1.3	315.0
5/02/2021 17:00	456.7	0.0	7.8	79.0	2.2	180.0
5/02/2021 18:00	456.9	0.0	7.4	77.0	1.3	202.5
5/02/2021 19:00	457.4	0.2	6.0	85.0	0.9	45.0
5/02/2021 20:00	457.7	0.8	5.7	87.0	0.4	22.5
5/02/2021 21:00	458.1	0.0	6.2	87.0	0.0	ND
5/02/2021 22:00	458.3	0.2	5.8	88.0	0.9	45.0
5/02/2021 23:00	458.2	0.0	5.6	89.0	0.9	45.0
6/02/2021 00:00	458.1	0.0	5.0	89.0	0.4	135.0
6/02/2021 01:00	457.8	0.0	5.1	89.0	0.4	45.0
6/02/2021 02:00	457.4	0.2	4.9	90.0	0.4	45.0
6/02/2021 03:00	457.2	0.2	4.8	90.0	0.4	45.0
6/02/2021 04:00	457.2	1.0	4.2	90.0	0.4	180.0
6/02/2021 05:00	457.5	1.2	3.1	91.0	0.9	202.5
6/02/2021 06:00	457.8	1.0	2.8	91.0	0.9	112.5
6/02/2021 07:00	458.1	0.4	3.0	90.0	0.4	112.5
6/02/2021 08:00	458.5	0.0	4.2	87.0	0.4	157.5
6/02/2021 09:00	458.7	0.0	7.2	79.0	0.4	247.5
6/02/2021 10:00	458.7	0.0	7.7	79.0	0.9	22.5
6/02/2021 11:00	458.5	0.0	8.8	77.0	1.3	22.5
6/02/2021 12:00	458.2	0.0	10.8	70.0	1.8	337.5
6/02/2021 13:00	457.8	0.0	8.3	83.0	2.2	0.0
6/02/2021 14:00	457.5	0.4	6.0	87.0	2.2	337.5
6/02/2021 15:00	457.3	0.4	6.5	87.0	1.8	0.0
6/02/2021 16:00	457.0	0.4	6.2	87.0	2.2	0.0
6/02/2021 17:00	456.9	0.2	6.6	89.0	0.9	22.5
6/02/2021 18:00	457.2	1.2	5.9	89.0	0.9	45.0
6/02/2021 19:00	457.6	0.4	5.2	87.0	0.4	45.0
6/02/2021 20:00	458.0	0.2	5.3	90.0	0.4	180.0
6/02/2021 21:00	458.3	0.0	5.4	88.0	0.4	0.0
6/02/2021 22:00	458.5	0.0	4.9	91.0	0.4	180.0
6/02/2021 23:00	458.4	0.0	4.7	90.0	0.4	180.0
7/02/2021 00:00	458.3	0.0	4.8	91.0	0.4	202.5
7/02/2021 01:00	458.1	0.4	4.4	91.0	0.4	337.5
7/02/2021 02:00	457.7	0.0	4.6	91.0	0.4	22.5
7/02/2021 03:00	457.6	0.0	4.5	91.0	0.0	ND
7/02/2021 04:00	457.5	0.4	4.4	92.0	0.0	ND
7/02/2021 05:00	457.6	0.6	4.2	91.0	0.4	270.0
7/02/2021 06:00	458.0	0.6	3.4	90.0	0.9	315.0
7/02/2021 07:00	458.1	0.4	4.1	91.0	0.4	67.5

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7/02/2021 08:00	458.4	0.0	6.1	83.0	0.4	45.0
7/02/2021 09:00	458.7	0.0	6.7	83.0	0.4	225.0
7/02/2021 10:00	458.5	0.0	8.0	77.0	0.4	180.0
7/02/2021 11:00	458.5	0.0	11.9	62.0	0.9	135.0
7/02/2021 12:00	457.9	0.0	12.6	58.0	0.9	315.0
7/02/2021 13:00	457.4	0.0	13.3	67.0	1.3	0.0
7/02/2021 14:00	456.9	0.0	12.9	65.0	2.2	22.5
7/02/2021 15:00	457.0	0.2	9.1	72.0	3.1	337.5
7/02/2021 16:00	456.8	0.0	7.4	72.0	1.8	315.0
7/02/2021 17:00	456.7	0.0	7.3	74.0	0.9	157.5
7/02/2021 18:00	457.2	0.0	5.8	80.0	1.8	157.5
7/02/2021 19:00	457.2	0.0	6.0	77.0	0.4	180.0
7/02/2021 20:00	457.5	0.0	5.3	81.0	0.4	45.0
7/02/2021 21:00	458.1	0.0	5.1	82.0	0.4	22.5
7/02/2021 22:00	458.2	0.0	4.4	85.0	0.0	ND
7/02/2021 23:00	458.5	0.0	3.7	86.0	0.0	ND
8/02/2021 00:00	458.1	0.0	3.6	88.0	0.4	337.5
8/02/2021 01:00	457.7	0.0	2.8	90.0	0.0	ND
8/02/2021 02:00	457.4	0.0	3.3	90.0	0.4	337.5
8/02/2021 03:00	457.4	0.0	3.2	91.0	0.4	22.5
8/02/2021 04:00	457.5	0.0	3.2	92.0	0.4	22.5
8/02/2021 05:00	457.3	0.0	3.1	92.0	0.0	ND
8/02/2021 06:00	457.5	0.0	2.8	92.0	0.0	ND
8/02/2021 07:00	457.9	0.0	2.9	93.0	0.0	ND
8/02/2021 08:00	458.1	0.0	5.8	89.0	0.4	22.5
8/02/2021 09:00	458.5	0.0	8.4	78.0	0.9	202.5
8/02/2021 10:00	458.6	0.0	9.3	69.0	0.9	225.0
8/02/2021 11:00	458.4	0.0	11.8	57.0	0.9	315.0
8/02/2021 12:00	457.9	0.0	12.6	56.0	0.9	180.0
8/02/2021 13:00	457.4	0.0	12.9	58.0	1.3	315.0
8/02/2021 14:00	456.6	0.0	15.1	57.0	1.8	22.5
8/02/2021 15:00	456.3	0.0	11.4	70.0	1.8	337.5
8/02/2021 16:00	456.3	0.0	9.7	71.0	0.9	45.0
8/02/2021 17:00	456.5	0.0	8.6	71.0	0.9	135.0
8/02/2021 18:00	456.6	0.0	8.6	75.0	0.4	135.0
8/02/2021 19:00	456.8	0.0	8.2	76.0	0.4	157.5
8/02/2021 20:00	457.5	0.0	8.0	74.0	0.9	225.0
8/02/2021 21:00	457.9	0.0	7.3	82.0	0.4	315.0
8/02/2021 22:00	458.2	0.0	6.7	86.0	0.4	45.0
8/02/2021 23:00	458.4	0.0	6.4	87.0	0.0	ND
9/02/2021 00:00	457.6	0.0	6.2	88.0	0.4	337.5
9/02/2021 01:00	457.5	0.0	5.9	89.0	0.4	315.0
9/02/2021 02:00	457.3	0.0	5.4	90.0	0.0	ND
9/02/2021 03:00	457.3	0.0	5.4	89.0	0.0	ND
9/02/2021 04:00	456.9	0.0	5.3	88.0	0.0	ND
9/02/2021 05:00	456.9	0.0	4.9	88.0	0.4	247.5
9/02/2021 06:00	457.2	0.0	4.3	88.0	0.0	ND
9/02/2021 07:00	457.5	0.0	4.8	86.0	0.0	ND
9/02/2021 08:00	458.0	0.0	6.3	79.0	0.0	ND
9/02/2021 09:00	458.2	0.0	9.1	68.0	0.4	270.0
9/02/2021 10:00	458.2	0.0	10.5	61.0	0.9	247.5
9/02/2021 11:00	457.9	0.0	11.9	57.0	1.8	225.0
9/02/2021 12:00	457.4	0.0	13.0	52.0	1.8	270.0
9/02/2021 13:00	456.8	0.0	13.8	51.0	1.3	225.0
9/02/2021 14:00	456.3	0.0	11.9	68.0	1.3	202.5
9/02/2021 15:00	455.9	0.0	10.9	57.0	2.2	157.5
9/02/2021 16:00	455.9	0.8	8.1	74.0	0.9	22.5
9/02/2021 17:00	456.0	0.0	7.1	82.0	1.8	337.5
9/02/2021 18:00	456.3	0.0	7.6	81.0	0.9	22.5
9/02/2021 19:00	456.6	0.0	7.6	81.0	0.4	45.0
9/02/2021 20:00	457.2	0.0	7.1	78.0	0.9	180.0
9/02/2021 21:00	457.5	0.0	6.7	77.0	0.9	202.5
9/02/2021 22:00	457.6	0.0	5.8	85.0	0.9	202.5
9/02/2021 23:00	457.4	0.0	4.9	87.0	0.4	202.5
10/02/2021 00:00	457.6	0.0	4.6	87.0	0.4	202.5
10/02/2021 01:00	457.2	0.0	3.4	92.0	0.4	22.5
10/02/2021 02:00	456.7	0.0	3.5	93.0	0.4	45.0
10/02/2021 03:00	456.3	0.0	3.1	93.0	0.4	45.0
10/02/2021 04:00	456.3	0.0	2.6	93.0	0.4	157.5
10/02/2021 05:00	456.4	0.0	2.9	87.0	0.4	225.0
10/02/2021 06:00	456.5	0.0	2.7	86.0	0.4	225.0
10/02/2021 07:00	456.6	0.0	3.2	83.0	0.4	247.5
10/02/2021 08:00	456.9	0.0	4.9	77.0	0.9	202.5
10/02/2021 09:00	457.1	0.0	7.3	69.0	1.3	225.0
10/02/2021 10:00	457.4	0.0	9.2	63.0	0.9	180.0
10/02/2021 11:00	457.1	0.0	10.7	56.0	0.9	135.0
10/02/2021 12:00	456.7	0.0	11.5	53.0	1.3	157.5
10/02/2021 13:00	456.3	0.0	12.7	49.0	1.3	202.5
10/02/2021 14:00	455.7	0.0	13.3	51.0	0.9	202.5
10/02/2021 15:00	455.4	0.0	12.6	61.0	1.3	315.0
10/02/2021 16:00	455.4	0.0	9.7	72.0	1.8	337.5
10/02/2021 17:00	455.7	2.6	5.7	87.0	0.9	157.5
10/02/2021 18:00	455.8	1.0	5.7	85.0	0.9	202.5
10/02/2021 19:00	456.4	0.6	5.7	88.0	0.9	225.0
10/02/2021 20:00	456.8	0.0	5.8	83.0	0.9	225.0
10/02/2021 21:00	456.9	0.0	5.1	82.0	0.4	202.5
10/02/2021 22:00	457.2	0.0	5.1	80.0	0.9	202.5
10/02/2021 23:00	457.3	0.0	5.1	77.0	0.4	180.0
11/02/2021 00:00	457.1	0.0	4.9	78.0	0.4	225.0

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	11/02/2021 01:00	456.9	0.0	4.6	80.0	0.4	225.0
	11/02/2021 02:00	456.5	0.0	4.4	79.0	0.0	ND
	11/02/2021 03:00	456.3	0.0	3.7	84.0	0.0	ND
	11/02/2021 04:00	455.6	0.0	4.1	79.0	0.4	225.0
	11/02/2021 05:00	455.9	0.0	4.1	79.0	0.9	202.5
	11/02/2021 06:00	456.3	0.0	3.3	83.0	0.0	ND
	11/02/2021 07:00	456.6	0.0	3.4	84.0	0.0	ND
	11/02/2021 08:00	456.8	0.0	5.4	79.0	0.0	ND
	11/02/2021 09:00	457.1	0.0	7.4	69.0	0.4	180.0
	11/02/2021 10:00	457.3	0.0	9.6	61.0	0.4	202.5
	11/02/2021 11:00	457.2	0.2	10.4	60.0	0.9	45.0
	11/02/2021 12:00	456.9	0.0	11.8	58.0	1.3	22.5
	11/02/2021 13:00	456.6	0.0	11.5	64.0	1.3	22.5
	11/02/2021 14:00	456.1	0.0	12.5	63.0	1.8	0.0
	11/02/2021 15:00	455.7	1.6	9.4	77.0	1.3	45.0
	11/02/2021 16:00	455.3	0.8	8.7	79.0	1.3	22.5
	11/02/2021 17:00	455.5	0.0	8.7	80.0	1.3	45.0
	11/02/2021 18:00	456.0	0.0	7.7	82.0	1.3	0.0
	11/02/2021 19:00	456.6	0.0	5.2	79.0	2.7	225.0
	11/02/2021 20:00	456.8	0.0	3.8	84.0	3.1	180.0
	11/02/2021 21:00	457.2	0.0	3.3	85.0	2.2	202.5
	11/02/2021 22:00	457.3	0.0	4.7	80.0	0.9	157.5
	11/02/2021 23:00	457.1	0.0	4.7	81.0	0.4	22.5
	12/02/2021 00:00	456.8	0.0	4.2	83.0	0.9	45.0
	12/02/2021 01:00	456.4	0.0	3.9	86.0	0.0	ND
	12/02/2021 02:00	456.6	0.0	3.3	86.0	0.4	45.0
	12/02/2021 03:00	456.1	0.0	2.8	89.0	0.4	45.0
	12/02/2021 04:00	456.0	0.0	2.7	90.0	0.0	ND
	12/02/2021 05:00	456.3	0.0	2.8	91.0	0.0	ND
	12/02/2021 06:00	456.3	0.0	3.3	89.0	0.4	337.5
	12/02/2021 07:00	456.7	0.0	3.1	90.0	0.4	225.0
	12/02/2021 08:00	457.2	0.0	6.8	79.0	0.4	202.5
	12/02/2021 09:00	457.5	0.0	8.8	70.0	0.4	157.5
	12/02/2021 10:00	457.5	0.0	8.8	70.0	0.4	112.5
	12/02/2021 11:00	457.4	0.0	8.6	71.0	0.9	202.5
	12/02/2021 12:00	457.1	0.0	8.9	72.0	0.9	180.0
	12/02/2021 13:00	456.7	0.0	10.8	65.0	0.9	292.5
	12/02/2021 14:00	456.3	0.0	11.8	67.0	1.3	315.0
	12/02/2021 15:00	456.1	0.0	10.3	74.0	1.8	45.0
	12/02/2021 16:00	455.6	0.0	9.9	73.0	2.2	0.0
	12/02/2021 17:00	455.7	0.0	8.8	76.0	1.8	337.5
	12/02/2021 18:00	456.2	0.0	7.9	83.0	1.3	0.0
	12/02/2021 19:00	457.0	0.0	4.6	81.0	2.2	180.0
	12/02/2021 20:00	457.4	0.0	4.1	83.0	2.2	180.0
	12/02/2021 21:00	457.5	0.0	3.6	85.0	1.8	135.0
	12/02/2021 22:00	457.8	0.0	4.2	83.0	0.9	22.5
	12/02/2021 23:00	457.8	0.0	4.1	86.0	1.3	0.0
	13/02/2021 00:00	457.7	0.0	4.5	83.0	0.0	ND
	13/02/2021 01:00	457.4	0.0	4.3	83.0	0.4	0.0
	13/02/2021 02:00	457.1	0.0	3.6	84.0	0.0	ND
	13/02/2021 03:00	456.8	0.0	2.8	87.0	0.0	ND
	13/02/2021 04:00	456.7	0.0	1.8	90.0	0.0	ND
	13/02/2021 05:00	456.7	0.0	1.7	91.0	0.0	ND
	13/02/2021 06:00	456.9	0.0	1.3	92.0	0.0	ND
	13/02/2021 07:00	457.4	0.0	1.6	93.0	0.4	315.0
	13/02/2021 08:00	457.7	0.0	1.8	93.0	0.9	180.0
	13/02/2021 09:00	458.1	0.0	7.1	83.0	0.4	135.0
	13/02/2021 10:00	458.1	0.0	9.9	67.0	0.9	292.5
	13/02/2021 11:00	458.0	0.0	11.8	55.0	0.9	315.0
	13/02/2021 12:00	457.8	0.0	11.0	63.0	1.3	337.5
	13/02/2021 13:00	457.3	0.0	13.1	56.0	1.3	0.0
	13/02/2021 14:00	456.6	0.0	13.8	53.0	1.8	337.5
	13/02/2021 15:00	456.0	0.0	16.1	48.0	1.3	315.0
	13/02/2021 16:00	455.6	0.0	13.8	48.0	1.8	337.5
	13/02/2021 17:00	455.9	0.0	9.9	63.0	2.2	337.5
	13/02/2021 18:00	456.3	0.2	6.0	74.0	1.3	135.0
	13/02/2021 19:00	456.6	0.0	5.8	78.0	0.0	ND
	13/02/2021 20:00	457.1	0.6	5.8	85.0	0.4	67.5
	13/02/2021 21:00	457.7	0.8	5.7	89.0	0.0	ND
	13/02/2021 22:00	458.0	0.4	5.3	88.0	0.0	ND
	13/02/2021 23:00	458.1	0.6	4.8	82.0	0.4	45.0
	14/02/2021 00:00	457.9	0.0	3.8	85.0	0.0	ND
	14/02/2021 01:00	457.7	0.2	2.8	86.0	0.0	ND
	14/02/2021 02:00	457.0	0.0	2.2	86.0	0.0	ND
	14/02/2021 03:00	456.8	0.0	1.9	88.0	0.0	ND
	14/02/2021 04:00	456.9	0.0	0.9	90.0	0.0	ND
	14/02/2021 05:00	457.0	0.0	0.6	91.0	0.0	ND
	14/02/2021 06:00	457.3	0.0	-0.5	91.0	0.4	180.0
	14/02/2021 07:00	457.7	0.0	0.0	93.0	0.0	ND
	14/02/2021 08:00	457.9	0.2	3.2	81.0	0.0	ND
	14/02/2021 09:00	458.1	0.8	5.1	71.0	0.9	225.0
	14/02/2021 10:00	458.2	1.2	8.6	44.0	0.9	202.5
	14/02/2021 11:00	458.0	1.2	10.1	44.0	0.9	180.0
	14/02/2021 12:00	457.7	0.0	11.3	37.0	1.3	247.5
	14/02/2021 13:00	457.3	0.0	12.8	25.0	1.8	180.0
	14/02/2021 14:00	456.9	0.0	13.4	29.0	2.2	157.5
	14/02/2021 15:00	456.2	0.0	15.4	19.0	2.2	157.5
	14/02/2021 16:00	456.0	0.0	14.7	48.0	1.8	157.5
	14/02/2021 17:00	456.1	0.0	11.6	62.0	1.8	337.5

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14/02/2021 18:00	456.2	0.0	8.2	66.0	1.8	157.5
14/02/2021 19:00	456.9	0.0	7.1	77.0	1.3	135.0
14/02/2021 20:00	457.2	0.0	6.6	69.0	1.3	45.0
14/02/2021 21:00	457.6	0.0	5.8	74.0	1.8	180.0
14/02/2021 22:00	457.9	0.0	5.2	73.0	0.9	202.5
14/02/2021 23:00	458.4	0.0	4.9	75.0	0.4	202.5
15/02/2021 00:00	458.0	0.0	4.2	79.0	0.9	202.5
15/02/2021 01:00	457.9	0.0	3.7	82.0	0.4	202.5
15/02/2021 02:00	457.2	0.0	3.8	88.0	0.4	202.5
15/02/2021 03:00	456.7	0.0	2.9	84.0	0.9	225.0
15/02/2021 04:00	456.8	0.0	2.6	81.0	0.4	225.0
15/02/2021 05:00	456.9	0.0	3.2	78.0	0.4	225.0
15/02/2021 06:00	457.2	0.0	2.8	83.0	0.4	225.0
15/02/2021 07:00	457.5	0.0	2.7	84.0	0.4	225.0
15/02/2021 08:00	457.8	0.0	6.2	74.0	0.4	225.0
15/02/2021 09:00	458.4	0.0	6.9	66.0	0.9	225.0
15/02/2021 10:00	458.3	0.0	9.9	42.0	0.9	202.5
15/02/2021 11:00	458.1	0.0	11.3	41.0	1.3	202.5
15/02/2021 12:00	457.8	0.0	12.5	31.0	1.8	180.0
15/02/2021 13:00	457.4	0.0	13.2	30.0	2.2	157.5
15/02/2021 14:00	456.7	0.0	13.4	24.0	2.2	157.5
15/02/2021 15:00	456.2	0.0	14.0	47.0	1.8	45.0
15/02/2021 16:00	455.8	0.0	10.9	64.0	1.8	45.0
15/02/2021 17:00	456.0	0.4	8.4	70.0	0.9	45.0
15/02/2021 18:00	456.3	0.8	7.5	71.0	0.9	135.0
15/02/2021 19:00	457.1	0.2	5.9	79.0	1.8	135.0
15/02/2021 20:00	457.4	0.0	5.7	74.0	1.3	157.5
15/02/2021 21:00	457.8	0.0	5.2	70.0	1.3	202.5
15/02/2021 22:00	457.7	0.0	4.9	73.0	0.9	202.5
15/02/2021 23:00	458.1	0.0	4.3	78.0	0.4	202.5
16/02/2021 00:00	458.0	0.0	3.6	73.0	0.4	180.0
16/02/2021 01:00	457.5	0.0	2.8	76.0	0.0	ND
16/02/2021 02:00	457.2	0.0	3.0	79.0	0.4	180.0
16/02/2021 03:00	457.0	0.0	2.2	83.0	0.0	ND
16/02/2021 04:00	456.8	0.0	2.2	85.0	0.0	ND
16/02/2021 05:00	456.9	0.0	1.6	87.0	0.4	292.5
16/02/2021 06:00	457.0	0.0	1.1	91.0	0.4	0.0
16/02/2021 07:00	457.5	0.0	1.1	92.0	0.9	0.0
16/02/2021 08:00	457.6	0.0	2.2	89.0	0.4	22.5
16/02/2021 09:00	458.1	0.0	4.7	82.0	0.4	247.5
16/02/2021 10:00	458.1	0.0	7.6	65.0	0.9	180.0
16/02/2021 11:00	457.9	0.0	9.3	50.0	1.3	225.0
16/02/2021 12:00	457.8	0.0	10.1	51.0	1.3	180.0
16/02/2021 13:00	457.2	0.0	11.3	48.0	1.3	157.5
16/02/2021 14:00	456.5	0.0	13.2	44.0	1.3	315.0
16/02/2021 15:00	455.9	0.0	14.1	48.0	1.3	225.0
16/02/2021 16:00	455.6	0.0	12.8	55.0	1.8	22.5
16/02/2021 17:00	455.6	0.0	8.6	74.0	2.2	22.5
16/02/2021 18:00	456.2	2.2	5.2	85.0	2.2	337.5
16/02/2021 19:00	456.6	1.2	5.1	86.0	0.9	22.5
16/02/2021 20:00	457.1	2.4	2.9	87.0	0.9	225.0
16/02/2021 21:00	457.5	0.4	3.3	88.0	0.0	ND
16/02/2021 22:00	457.6	0.2	4.4	81.0	0.4	270.0
16/02/2021 23:00	457.7	0.0	3.9	83.0	0.4	157.5
17/02/2021 00:00	457.5	0.0	3.5	86.0	0.0	ND
17/02/2021 01:00	457.3	0.2	3.6	85.0	0.4	180.0
17/02/2021 02:00	456.9	0.0	3.7	87.0	0.4	22.5
17/02/2021 03:00	456.6	0.0	2.7	89.0	0.9	225.0
17/02/2021 04:00	456.6	0.0	2.1	90.0	0.0	ND
17/02/2021 05:00	456.5	0.0	2.2	84.0	0.4	225.0
17/02/2021 06:00	456.7	0.0	2.2	75.0	0.0	ND
17/02/2021 07:00	457.1	0.0	2.6	74.0	0.4	225.0
17/02/2021 08:00	457.5	0.0	5.5	46.0	0.9	225.0
17/02/2021 09:00	457.8	0.0	7.7	36.0	1.3	180.0
17/02/2021 10:00	457.7	0.0	10.1	37.0	0.9	202.5
17/02/2021 11:00	457.5	0.0	10.4	44.0	1.3	157.5
17/02/2021 12:00	457.2	0.0	10.9	43.0	1.3	315.0
17/02/2021 13:00	456.7	0.0	12.7	41.0	0.9	0.0
17/02/2021 14:00	456.1	0.0	13.2	43.0	0.9	45.0
17/02/2021 15:00	455.6	0.0	14.0	39.0	0.9	315.0
17/02/2021 16:00	455.3	0.0	11.3	52.0	1.8	157.5
17/02/2021 17:00	455.4	0.0	9.2	63.0	2.7	157.5
17/02/2021 18:00	455.8	0.0	8.4	59.0	2.2	225.0
17/02/2021 19:00	456.3	0.0	6.4	66.0	2.7	225.0
17/02/2021 20:00	456.7	0.0	5.2	69.0	1.8	180.0
17/02/2021 21:00	457.1	0.0	4.5	70.0	1.8	202.5
17/02/2021 22:00	457.5	0.0	4.0	74.0	1.3	202.5
17/02/2021 23:00	457.7	0.0	3.2	74.0	1.3	225.0
18/02/2021 00:00	457.2	0.0	2.4	76.0	0.9	180.0
18/02/2021 01:00	456.8	0.0	2.2	71.0	1.3	180.0
18/02/2021 02:00	456.6	0.0	2.4	67.0	0.9	202.5
18/02/2021 03:00	456.4	0.0	2.3	61.0	1.3	202.5
18/02/2021 04:00	456.2	0.0	2.3	58.0	1.3	202.5
18/02/2021 05:00	456.3	0.0	2.4	52.0	1.3	180.0
18/02/2021 06:00	456.9	0.0	2.6	52.0	0.9	225.0
18/02/2021 07:00	457.2	0.0	3.1	51.0	0.4	180.0
18/02/2021 08:00	457.5	0.0	3.6	50.0	0.9	180.0
18/02/2021 09:00	457.8	0.0	4.8	44.0	1.3	202.5
18/02/2021 10:00	457.8	0.0	6.1	42.0	1.3	225.0

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18	18/02/2021 11:00	457.8	0.0	8.0	38.0	1.3	180.0
	18/02/2021 12:00	457.5	0.0	9.1	38.0	1.3	202.5
	18/02/2021 13:00	457.1	0.0	10.3	37.0	0.9	315.0
	18/02/2021 14:00	456.7	0.0	11.2	38.0	0.9	270.0
	18/02/2021 15:00	456.3	0.0	10.8	37.0	1.3	225.0
	18/02/2021 16:00	456.2	0.0	10.7	37.0	1.8	180.0
	18/02/2021 17:00	456.0	0.0	9.2	46.0	2.7	202.5
	18/02/2021 18:00	456.7	0.0	6.8	58.0	2.7	225.0
	18/02/2021 19:00	457.2	0.0	5.2	51.0	1.3	225.0
	18/02/2021 20:00	457.5	0.0	4.3	41.0	1.8	225.0
	18/02/2021 21:00	458.1	0.0	3.5	42.0	1.3	202.5
	18/02/2021 22:00	458.3	0.0	2.7	45.0	1.3	202.5
	18/02/2021 23:00	458.3	0.0	1.9	45.0	0.9	202.5
	19/02/2021 00:00	458.2	0.0	0.6	47.0	0.4	225.0
	19/02/2021 01:00	458.0	0.0	0.7	46.0	0.4	157.5
	19/02/2021 02:00	457.5	0.0	0.7	47.0	0.4	202.5
	19/02/2021 03:00	457.2	0.0	0.8	44.0	0.9	225.0
	19	19/02/2021 04:00	457.1	0.0	0.6	43.0	0.9
19/02/2021 05:00		457.3	0.0	0.1	44.0	0.9	247.5
19/02/2021 06:00		457.4	0.0	-0.2	47.0	0.4	247.5
19/02/2021 07:00		457.6	0.0	0.3	44.0	0.9	247.5
19/02/2021 08:00		457.9	0.0	3.8	28.0	1.8	202.5
19/02/2021 09:00		458.2	0.0	6.3	25.0	2.2	180.0
19/02/2021 10:00		458.0	0.0	8.2	28.0	2.2	180.0
19/02/2021 11:00		457.9	0.0	10.8	19.0	1.3	180.0
19/02/2021 12:00		457.5	0.0	11.4	20.0	1.3	157.5
19/02/2021 13:00		456.9	0.0	11.6	22.0	1.8	180.0
19/02/2021 14:00		456.5	0.0	13.3	21.0	1.3	180.0
19/02/2021 15:00		456.1	0.0	14.1	21.0	1.3	225.0
19/02/2021 16:00		456.0	0.0	14.7	21.0	1.8	180.0
19/02/2021 17:00		456.3	0.0	11.9	52.0	1.3	0.0
19/02/2021 18:00		456.5	0.0	9.4	71.0	1.3	135.0
19/02/2021 19:00		457.0	0.2	6.9	74.0	0.9	45.0
19/02/2021 20:00		457.6	0.0	5.8	67.0	0.9	315.0
19/02/2021 21:00		458.1	0.0	4.6	67.0	1.3	180.0
19/02/2021 22:00	458.4	0.0	4.1	71.0	0.9	202.5	
19/02/2021 23:00	458.3	0.0	3.2	81.0	0.4	292.5	
20	20/02/2021 00:00	457.9	0.0	2.8	81.0	0.4	270.0
	20/02/2021 01:00	457.8	0.0	2.3	82.0	0.4	225.0
	20/02/2021 02:00	457.5	0.0	2.3	75.0	0.4	225.0
	20/02/2021 03:00	457.4	0.0	1.8	52.0	0.9	247.5
	20/02/2021 04:00	457.4	0.0	1.6	50.0	0.4	247.5
	20/02/2021 05:00	457.4	0.0	1.1	49.0	0.4	247.5
	20/02/2021 06:00	457.8	0.0	0.6	52.0	0.0	ND
	20/02/2021 07:00	458.1	0.0	1.0	49.0	0.0	ND
	20/02/2021 08:00	458.4	0.0	4.6	34.0	0.9	135.0
	20/02/2021 09:00	458.5	0.0	6.5	32.0	1.3	225.0
	20/02/2021 10:00	458.4	0.0	8.6	37.0	1.3	135.0
	20/02/2021 11:00	458.3	0.0	11.8	37.0	0.9	157.5
	20/02/2021 12:00	457.8	0.0	12.8	39.0	1.3	45.0
	20/02/2021 13:00	457.4	0.0	12.2	41.0	1.3	45.0
	20/02/2021 14:00	456.8	0.0	12.0	43.0	0.9	0.0
	20/02/2021 15:00	456.3	0.0	12.7	47.0	1.8	315.0
	20/02/2021 16:00	455.9	0.0	14.0	48.0	1.8	337.5
	20/02/2021 17:00	455.9	0.0	10.2	62.0	1.8	22.5
20/02/2021 18:00	456.1	1.0	6.4	70.0	1.8	45.0	
20/02/2021 19:00	456.9	0.0	5.8	80.0	0.9	22.5	
20/02/2021 20:00	457.3	0.0	6.2	68.0	0.9	45.0	
20/02/2021 21:00	457.5	0.0	4.1	80.0	1.8	157.5	
20/02/2021 22:00	457.8	0.0	3.6	82.0	0.9	157.5	
20/02/2021 23:00	457.9	0.0	3.8	71.0	1.3	225.0	
21	21/02/2021 00:00	457.9	0.0	3.7	61.0	1.3	202.5
	21/02/2021 01:00	457.4	0.0	3.3	63.0	1.3	202.5
	21/02/2021 02:00	457.1	0.0	3.4	64.0	0.9	202.5
	21/02/2021 03:00	456.9	0.0	3.4	67.0	0.4	225.0
	21/02/2021 04:00	456.8	0.0	3.3	67.0	0.9	202.5
	21/02/2021 05:00	456.9	0.0	3.2	66.0	0.4	225.0
	21/02/2021 06:00	457.3	0.0	3.0	84.0	0.9	180.0
	21/02/2021 07:00	457.5	0.0	3.3	81.0	0.4	180.0
	21/02/2021 08:00	457.8	0.0	6.4	64.0	0.9	180.0
	21/02/2021 09:00	458.1	0.0	5.7	73.0	1.8	157.5
	21/02/2021 10:00	458.0	0.0	6.8	70.0	1.3	157.5
	21/02/2021 11:00	457.8	0.0	7.2	69.0	0.9	157.5
	21/02/2021 12:00	457.4	0.0	7.4	69.0	0.9	112.5
	21/02/2021 13:00	457.0	0.8	6.8	78.0	0.9	157.5
	21/02/2021 14:00	456.5	0.0	7.3	80.0	0.9	315.0
	21/02/2021 15:00	456.3	0.0	6.4	80.0	0.9	292.5
	21/02/2021 16:00	456.0	0.0	6.6	80.0	1.3	315.0
	21/02/2021 17:00	456.5	0.2	1.6	89.0	1.8	225.0
21/02/2021 18:00	456.9	0.2	0.9	91.0	1.8	202.5	
21/02/2021 19:00	457.1	0.4	0.9	91.0	1.3	225.0	
21/02/2021 20:00	457.5	0.2	1.1	92.0	0.9	225.0	
21/02/2021 21:00	457.8	0.0	1.1	90.0	0.9	225.0	
21/02/2021 22:00	457.9	0.0	1.4	89.0	0.9	225.0	
21/02/2021 23:00	457.9	0.2	1.7	89.0	0.4	225.0	
22/02/2021 00:00	457.6	0.6	0.9	91.0	0.4	180.0	
22/02/2021 01:00	457.4	0.2	0.7	92.0	0.4	180.0	
22/02/2021 02:00	457.0	0.6	0.8	93.0	0.4	180.0	
22/02/2021 03:00	456.7	0.2	0.8	93.0	0.4	225.0	

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22/02/2021 04:00	456.7	0.2	0.9	93.0	0.9	202.5
22/02/2021 05:00	456.7	0.0	1.3	94.0	0.9	202.5
22/02/2021 06:00	456.9	0.0	1.4	93.0	0.9	202.5
22/02/2021 07:00	457.2	0.2	1.7	93.0	0.9	225.0
22/02/2021 08:00	457.4	0.0	2.4	93.0	0.9	202.5
22/02/2021 09:00	457.6	0.0	4.8	87.0	0.4	202.5
22/02/2021 10:00	457.8	0.0	6.8	84.0	1.3	45.0
22/02/2021 11:00	457.7	0.0	6.8	83.0	1.8	45.0
22/02/2021 12:00	457.7	0.0	9.3	71.0	2.2	22.5
22/02/2021 13:00	457.2	0.0	10.7	66.0	1.8	45.0
22/02/2021 14:00	457.0	0.0	8.7	76.0	1.8	22.5
22/02/2021 15:00	456.3	0.0	9.2	70.0	2.7	45.0
22/02/2021 16:00	456.3	0.0	8.5	73.0	1.8	45.0
22/02/2021 17:00	456.2	0.0	8.1	73.0	1.8	45.0
22/02/2021 18:00	456.5	0.0	7.1	75.0	1.8	45.0
22/02/2021 19:00	456.9	0.0	5.8	80.0	1.3	45.0
22/02/2021 20:00	457.5	0.0	5.3	81.0	1.3	45.0
22/02/2021 21:00	457.9	0.0	5.0	83.0	0.9	45.0
22/02/2021 22:00	458.2	0.0	4.7	84.0	0.9	45.0
22/02/2021 23:00	458.2	0.0	4.6	84.0	0.9	45.0
23/02/2021 00:00	458.1	0.0	4.5	85.0	0.4	45.0
23/02/2021 01:00	457.8	0.0	4.2	87.0	0.9	45.0
23/02/2021 02:00	457.5	0.0	3.9	88.0	0.4	45.0
23/02/2021 03:00	457.2	0.0	3.9	87.0	0.0	ND
23/02/2021 04:00	457.1	0.0	3.3	87.0	0.4	112.5
23/02/2021 05:00	457.4	0.0	3.1	87.0	0.4	112.5
23/02/2021 06:00	457.5	0.0	2.8	86.0	0.4	157.5
23/02/2021 07:00	457.8	0.0	4.1	82.0	0.4	90.0
23/02/2021 08:00	458.2	0.0	5.3	80.0	0.9	22.5
23/02/2021 09:00	458.3	0.0	6.4	77.0	1.3	45.0
23/02/2021 10:00	458.4	0.0	7.7	75.0	1.3	45.0
23/02/2021 11:00	458.4	0.0	10.1	65.0	1.3	22.5
23/02/2021 12:00	458.1	0.0	8.1	78.0	1.8	22.5
23/02/2021 13:00	457.6	0.0	8.5	81.0	1.8	0.0
23/02/2021 14:00	457.2	0.0	11.9	67.0	2.2	45.0
23/02/2021 15:00	456.8	0.2	11.6	66.0	1.3	22.5
23/02/2021 16:00	456.6	0.0	9.9	69.0	2.2	45.0
23/02/2021 17:00	456.7	0.0	8.1	75.0	1.8	45.0
23/02/2021 18:00	456.8	0.0	7.1	77.0	1.3	45.0
23/02/2021 19:00	457.5	0.0	5.9	81.0	1.3	45.0
23/02/2021 20:00	457.8	0.0	5.3	83.0	0.9	45.0
23/02/2021 21:00	458.1	0.0	4.3	85.0	0.9	45.0
23/02/2021 22:00	458.4	0.0	4.1	85.0	1.3	45.0
23/02/2021 23:00	458.6	0.0	3.9	85.0	1.3	45.0
24/02/2021 00:00	458.4	0.0	3.8	83.0	1.3	45.0
24/02/2021 01:00	458.1	0.0	4.0	84.0	0.9	22.5
24/02/2021 02:00	457.8	0.0	3.4	86.0	0.4	112.5
24/02/2021 03:00	457.5	0.0	3.4	87.0	0.4	45.0
24/02/2021 04:00	457.4	0.0	3.6	88.0	0.4	45.0
24/02/2021 05:00	457.5	0.0	3.8	86.0	0.4	45.0
24/02/2021 06:00	457.8	0.0	3.8	86.0	0.4	45.0
24/02/2021 07:00	458.2	0.0	3.8	89.0	0.9	45.0
24/02/2021 08:00	458.8	0.0	4.8	84.0	0.9	45.0
24/02/2021 09:00	459.1	0.2	5.7	81.0	1.8	22.5
24/02/2021 10:00	459.2	0.0	8.3	71.0	1.3	22.5
24/02/2021 11:00	459.3	0.0	8.6	69.0	1.3	157.5
24/02/2021 12:00	458.8	0.0	10.4	63.0	1.8	22.5
24/02/2021 13:00	458.5	0.0	10.8	62.0	1.8	45.0
24/02/2021 14:00	457.8	0.0	11.9	60.0	1.8	22.5
24/02/2021 15:00	457.2	0.2	11.7	65.0	1.8	45.0
24/02/2021 16:00	457.0	0.0	8.2	77.0	2.2	22.5
24/02/2021 17:00	456.8	0.0	9.1	70.0	2.2	45.0
24/02/2021 18:00	457.3	0.0	7.5	75.0	1.3	22.5
24/02/2021 19:00	457.5	0.0	6.1	78.0	0.9	157.5
24/02/2021 20:00	457.9	0.0	5.8	78.0	0.9	157.5
24/02/2021 21:00	458.3	0.0	5.5	80.0	0.9	90.0
24/02/2021 22:00	458.7	0.0	5.0	82.0	0.9	135.0
24/02/2021 23:00	458.7	0.0	4.9	83.0	0.9	45.0
25/02/2021 00:00	458.3	0.0	4.9	82.0	0.9	45.0
25/02/2021 01:00	458.1	0.0	4.9	82.0	0.9	67.5
25/02/2021 02:00	457.7	0.0	4.3	86.0	0.9	22.5
25/02/2021 03:00	457.5	0.0	3.8	88.0	0.4	157.5
25/02/2021 04:00	457.5	0.2	3.8	89.0	0.4	112.5
25/02/2021 05:00	457.8	0.0	3.7	89.0	0.4	112.5
25/02/2021 06:00	458.1	0.0	3.6	88.0	0.4	135.0
25/02/2021 07:00	458.4	0.0	3.6	89.0	0.4	135.0
25/02/2021 08:00	459.0	0.0	4.4	85.0	0.9	135.0
25/02/2021 09:00	459.3	0.0	5.2	82.0	1.3	157.5
25/02/2021 10:00	459.3	0.0	5.7	72.0	1.8	135.0
25/02/2021 11:00	459.3	0.0	7.7	65.0	1.3	135.0
25/02/2021 12:00	459.2	0.0	8.6	57.0	1.8	157.5
25/02/2021 13:00	458.7	0.2	8.6	65.0	1.3	157.5
25/02/2021 14:00	458.2	0.0	10.0	59.0	1.8	157.5
25/02/2021 15:00	457.7	0.0	10.7	56.0	1.3	22.5
25/02/2021 16:00	457.5	0.0	10.0	59.0	1.3	157.5
25/02/2021 17:00	457.1	0.0	8.7	61.0	1.3	135.0
25/02/2021 18:00	457.1	0.0	7.4	66.0	0.9	157.5
25/02/2021 19:00	457.4	0.0	6.0	71.0	0.4	22.5
25/02/2021 20:00	457.7	0.0	5.1	74.0	0.9	45.0

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25/02/2021 21:00	458.2	0.0	4.4	71.0	0.4	45.0
25/02/2021 22:00	458.4	0.0	4.1	70.0	0.4	45.0
25/02/2021 23:00	458.5	0.0	3.6	70.0	0.0	ND
26/02/2021 00:00	458.1	0.0	2.8	72.0	0.0	ND
26/02/2021 01:00	457.8	0.0	2.2	76.0	0.0	ND
26/02/2021 02:00	457.5	0.0	1.7	80.0	0.0	ND
26/02/2021 03:00	457.1	0.0	1.2	84.0	0.0	ND
26/02/2021 04:00	457.0	0.0	0.9	86.0	0.0	ND
26/02/2021 05:00	457.1	0.0	0.3	88.0	0.0	ND
26/02/2021 06:00	457.4	0.0	-0.1	88.0	0.0	ND
26/02/2021 07:00	457.6	0.0	2.7	83.0	0.4	135.0
26/02/2021 08:00	458.1	0.0	3.8	77.0	0.9	202.5
26/02/2021 09:00	458.4	0.0	7.7	61.0	1.3	157.5
26/02/2021 10:00	458.7	0.0	8.9	56.0	1.8	157.5
26/02/2021 11:00	458.6	0.0	9.6	55.0	1.8	157.5
26/02/2021 12:00	458.3	0.0	11.1	50.0	1.8	22.5
26/02/2021 13:00	457.8	0.0	11.1	51.0	2.2	157.5
26/02/2021 14:00	457.2	0.0	12.2	46.0	1.8	157.5
26/02/2021 15:00	456.7	0.0	12.1	44.0	1.3	157.5
26/02/2021 16:00	456.3	0.0	11.6	48.0	1.3	157.5
26/02/2021 17:00	456.3	0.0	11.8	46.0	1.3	157.5
26/02/2021 18:00	456.2	0.0	11.0	48.0	0.9	157.5
26/02/2021 19:00	456.7	0.0	7.7	70.0	0.9	45.0
26/02/2021 20:00	456.9	0.0	6.7	72.0	0.9	22.5
26/02/2021 21:00	457.6	0.0	6.1	74.0	0.9	45.0
26/02/2021 22:00	457.8	0.0	5.1	83.0	0.9	45.0
26/02/2021 23:00	458.1	0.0	4.0	89.0	0.4	315.0
27/02/2021 00:00	458.0	0.0	3.7	90.0	0.4	315.0
27/02/2021 01:00	457.5	0.0	4.1	86.0	0.4	0.0
27/02/2021 02:00	457.2	0.0	4.0	85.0	0.4	22.5
27/02/2021 03:00	457.0	0.0	3.9	85.0	0.0	ND
27/02/2021 04:00	456.6	0.0	3.7	87.0	0.4	225.0
27/02/2021 05:00	456.9	0.0	3.8	86.0	0.0	ND
27/02/2021 06:00	456.9	0.0	3.8	86.0	0.0	ND
27/02/2021 07:00	457.4	0.0	3.9	83.0	0.0	ND
27/02/2021 08:00	457.7	0.0	5.0	79.0	0.4	135.0
27/02/2021 09:00	457.9	0.0	6.8	74.0	0.4	135.0
27/02/2021 10:00	458.1	0.0	8.8	67.0	0.9	45.0
27/02/2021 11:00	457.9	0.0	9.6	65.0	0.9	45.0
27/02/2021 12:00	457.7	0.0	11.3	59.0	0.9	135.0
27/02/2021 13:00	457.2	0.0	11.0	58.0	1.3	22.5
27/02/2021 14:00	456.5	0.0	12.8	51.0	1.3	22.5
27/02/2021 15:00	456.3	0.0	11.4	64.0	1.3	45.0
27/02/2021 16:00	455.9	0.0	11.5	63.0	1.3	0.0
27/02/2021 17:00	455.8	0.2	8.0	73.0	1.3	337.5
27/02/2021 18:00	456.1	0.0	7.3	79.0	1.3	45.0
27/02/2021 19:00	456.6	0.0	6.2	84.0	1.3	22.5
27/02/2021 20:00	457.0	0.0	5.6	82.0	0.9	45.0
27/02/2021 21:00	457.4	0.0	5.2	83.0	0.9	45.0
27/02/2021 22:00	457.8	0.0	5.2	84.0	0.9	45.0
27/02/2021 23:00	457.8	0.0	5.3	82.0	0.9	45.0
28/02/2021 00:00	457.5	0.0	4.8	82.0	0.9	22.5
28/02/2021 01:00	457.3	0.0	4.8	83.0	0.9	135.0
28/02/2021 02:00	456.9	0.0	4.5	84.0	0.9	22.5
28/02/2021 03:00	456.8	0.0	4.4	83.0	0.4	45.0
28/02/2021 04:00	456.6	0.0	4.1	85.0	0.9	157.5
28/02/2021 05:00	456.5	0.0	3.9	86.0	0.9	157.5
28/02/2021 06:00	456.8	0.0	3.9	85.0	0.4	135.0
28/02/2021 07:00	457.1	0.0	4.0	83.0	0.4	157.5
28/02/2021 08:00	457.5	0.0	5.7	79.0	0.4	112.5
28/02/2021 09:00	457.7	0.0	9.1	68.0	1.3	157.5
28/02/2021 10:00	457.8	0.0	9.5	67.0	1.3	157.5
28/02/2021 11:00	457.9	0.0	8.3	70.0	1.3	157.5
28/02/2021 12:00	457.6	0.0	11.2	60.0	1.3	157.5
28/02/2021 13:00	457.2	0.2	10.0	66.0	1.8	135.0
28/02/2021 14:00	456.6	0.0	9.6	65.0	1.8	157.5
28/02/2021 15:00	456.2	0.0	10.2	65.0	1.8	157.5
28/02/2021 16:00	456.0	0.0	8.8	69.0	1.8	22.5
28/02/2021 17:00	455.7	0.0	8.0	71.0	1.8	22.5
28/02/2021 18:00	455.9	0.0	6.3	75.0	2.2	45.0
28/02/2021 19:00	456.3	0.0	5.2	79.0	1.3	45.0
28/02/2021 20:00	456.4	0.0	4.6	80.0	0.9	45.0
28/02/2021 21:00	456.8	0.0	4.3	83.0	0.4	112.5
28/02/2021 22:00	457.2	0.0	4.1	83.0	1.3	45.0
28/02/2021 23:00	457.2	0.0	4.0	79.0	1.3	45.0

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ND: No disponible porque no se registro dato

Tabla 3.1. Concentraciones horarias de PM<sub>10</sub>

TÍTULO DEL ESTUDIO:

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en marzo de 2021

ESTACIÓN DE MONITOREO:

CA-SB-01

CÓDIGO DE ACCIÓN:

No aplica

EQUIPO:

Monitor automático de partículas

MARCA:

Thermo Scientific

MODELO:

TEOM 1405

SERIE:

1405A208321003, 1405A208441003

DATOS DEL EQUIPO

Hora/Día	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
00:00	13.6	7.6	20.1	10.9	14.0	0.5	2.3	5.3	11.2	8.0	11.0	4.1	6.0	8.7	2.2	11.1	5.8	6.9	4.3	7.6	17.5	0.4	6.8	1.0	10.7	7.5	8.6	3.3	13.2	6.1	1.9
01:00	24.1	12.4	37.4	7.9	11.6	LD	0.4	5.9	7.5	0.2	16.9	4.4	5.8	17.6	3.0	15.7	11.0	3.7	1.7	16.4	15.0	3.0	2.5	LD	3.7	2.2	3.5	2.3	15.6	12.0	1.3
02:00	2.7	15.5	9.1	17.7	12.5	LD	6.4	2.5	18.3	1.3	18.8	4.9	0.1	13.2	3.1	6.1	3.8	8.8	4.2	21.0	9.3	6.1	3.7	3.7	8.0	7.8	3.3	LD	LD	2.7	2.7
03:00	9.0	12.2	16.0	9.7	11.3	0.4	4.8	13.5	16.7	0.7	4.3	0.9	2.1	13.0	0.5	7.5	15.8	13.0	12.2	11.2	13.6	5.5	3.1	2.4	9.8	10.0	4.1	2.2	1.7	2.1	2.3
04:00	5.2	25.3	15.6	5.5	11.5	LD	4.0	3.5	7.5	3.1	4.8	1.0	7.0	15.2	2.1	2.5	26.4	7.1	6.6	5.1	14.9	7.3	5.2	4.1	12.7	12.0	12.9	1.8	16.1	1.7	2.1
05:00	5.3	9.5	18.8	9.1	3.4	4.7	3.2	4.1	7.1	3.5	8.0	4.3	21.6	21.7	3.5	16.5	17.1	9.7	7.8	13.8	20.4	15.6	2.6	3.9	10.2	6.4	15.2	3.7	8.5	4.0	3.1
06:00	12.5	39.8	31.0	19.2	0.9	3.1	8.2	5.1	19.2	9.3	6.6	6.0	34.0	20.9	5.8	24.0	25.6	2.7	7.1	9.0	42.0	8.1	5.7	5.3	12.5	4.5	15.8	6.4	13.6	3.3	2.9
07:00	21.6	67.1	44.5	30.0	6.2	8.5	14.1	4.6	23.5	13.9	6.1	4.4	31.9	16.0	5.5	24.0	31.7	10.8	10.7	14.1	28.6	18.4	6.3	7.2	15.8	16.4	11.0	7.7	12.7	5.2	12.0
08:00	51.9	43.9	30.9	49.7	11.2	13.2	17.5	7.6	36.0	10.2	17.6	7.8	48.6	18.1	11.2	28.0	24.4	10.8	17.1	24.4	26.7	27.7	14.3	10.4	36.9	23.5	13.1	14.6	20.1	8.5	10.9
09:00	28.2	37.9	34.8	37.7	18.4	16.9	26.9	12.1	35.3	15.8	25.9	16.0	47.9	22.3	13.2	23.1	15.9	10.0	11.3	16.8	34.5	23.0	13.0	14.2	10.6	14.5	13.1	10.3	21.8	12.9	26.4
10:00	20.9	41.3	42.4	17.2	15.2	21.8	16.9	20.2	23.7	24.8	15.0	11.2	31.1	20.9	18.8	27.4	18.1	10.7	15.5	27.8	39.0	32.7	4.8	20.2	18.7	21.6	19.4	15.7	23.5	15.7	26.4
11:00	6.6	30.6	162.2	29.6	29.0	23.1	16.6	21.8	17.7	19.5	17.1	14.3	21.9	30.2	32.6	24.2	11.1	7.8	15.4	15.3	37.1	24.0	15.6	12.2	34.0	5.7	27.8	17.8	31.2	13.5	27.5
12:00	26.6	30.4	207.2	24.9	11.8	14.7	15.0	12.4	18.3	17.3	28.8	14.5	22.0	16.8	8.1	11.4	15.4	31.0	14.1	24.5	19.0	20.6	27.5	19.4	10.3	24.4	23.8	16.3	19.7	15.8	24.4
13:00	30.0	17.3	87.9	28.7	14.5	18.3	12.4	17.5	13.8	19.0	12.5	12.4	52.1	10.1	7.3	20.3	16.9	36.5	15.6	13.1	24.2	15.2	14.5	14.6	9.3	20.3	21.7	15.8	31.3	28.3	5.1
14:00	44.2	31.2	39.0	25.4	8.9	6.0	11.5	14.3	13.0	8.7	17.9	13.4	11.3	10.0	11.5	16.4	17.1	37.4	18.2	41.5	6.6	7.5	38.0	16.8	33.0	3.1	26.6	16.6	14.2	5.9	21.3
15:00	26.5	33.8	37.6	18.8	12.6	9.8	11.7	14.4	23.2	17.5	13.2	14.1	35.2	17.8	7.9	13.9	14.8	14.3	18.6	20.2	10.2	9.7	13.2	6.0	36.0	17.8	14.5	13.8	13.4	8.1	23.0
16:00	26.9	47.7	47.4	22.1	11.1	10.2	6.9	15.9	20.3	17.6	12.1	18.9	18.8	9.0	17.8	10.7	10.3	10.7	36.6	25.6	30.8	4.1	26.3	9.0	12.4	19.2	12.4	7.9	21.4	8.0	29.2
17:00	23.2	41.4	28.4	23.6	11.4	17.2	16.3	14.8	19.1	23.0	6.0	16.2	23.3	8.6	32.1	4.1	30.3	7.3	45.2	50.4	11.4	12.1	21.3	11.0	38.4	22.9	16.7	5.2	14.9	13.9	25.2
18:00	36.9	55.9	31.0	23.0	20.2	14.4	19.6	31.3	8.5	35.3	7.3	14.9	22.6	9.9	17.4	10.5	13.6	5.2	32.8	46.8	17.8	28.1	26.8	25.2	25.9	18.6	27.3	26.9	20.1	26.8	21.1
19:00	40.5	37.8	36.1	33.2	28.3	13.5	13.0	27.0	4.0	37.2	5.5	7.7	10.0	5.5	38.3	13.0	8.7	13.9	20.4	54.8	7.1	26.4	16.3	10.2	23.3	31.3	46.6	20.9	17.1	11.5	32.9
20:00	29.1	48.2	33.7	36.6	21.0	7.3	14.1	6.9	7.4	31.0	5.6	18.1	7.7	8.2	28.4	13.6	7.6	14.7	21.5	41.7	9.2	17.4	12.1	3.9	7.3	29.6	40.2	21.6	13.0	9.6	5.7
21:00	44.9	66.2	69.7	27.5	11.9	8.8	12.1	9.4	5.3	24.0	2.9	35.7	15.4	3.9	9.6	9.5	3.3	4.9	14.6	38.2	4.9	14.4	6.3	9.4	8.3	34.2	29.0	14.3	4.3	9.8	LD
22:00	22.9	36.7	44.6	28.5	10.4	11.1	3.9	10.4	4.0	14.1	12.8	18.2	24.6	4.9	10.8	16.9	4.8	7.3	11.9	30.3	3.5	12.0	6.3	24.1	6.1	25.2	8.3	5.5	5.9	6.4	3.2
23:00	6.3	22.7	22.4	20.4	6.2	7.7	6.4	21.5	9.8	12.6	4.9	7.7	7.6	3.3	11.5	7.5	6.0	7.5	6.5	21.3	1.9	10.2	5.6	3.9	3.2	13.1	8.2	21.5	8.7	4.2	2.4
Promedio de PM <sub>10</sub> en 24 h	23.3	33.9	47.8	25.2	13.1	11.0	11.0	12.6	15.4	15.3	11.7	11.3	21.2	13.6	12.6	14.9	14.8	12.2	15.4	24.6	18.6	14.6	12.4	10.4	16.5	16.3	17.6	11.8	15.7	10.5	13.6
ECA aire de PM <sub>10</sub>	100 µg/m <sup>3</sup> en periodo de 24 horas																														

LD: Dato que es menor al límite de detección del equipo

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en marzo de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** No aplica

**DATOS DEL EQUIPO**

**EQUIPO:** Estación meteorológica **MARCA:** Davis Instruments

**MODELO:** Vantage Pro 2 **SERIE:** BE181010012

FECHA Y HORA	Presión atmosférica (mmHg)	Precipitación (mm)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)	Dirección de Viento (°)
1/03/2021 00:00	456.9	0.0	3.9	80.0	0.9	22.5
1/03/2021 01:00	456.6	0.0	3.9	80.0	0.9	22.5
1/03/2021 02:00	456.2	0.0	4.0	78.0	0.4	22.5
1/03/2021 03:00	456.2	0.0	4.1	79.0	0.0	ND
1/03/2021 04:00	456.0	0.0	4.1	79.0	0.4	90.0
1/03/2021 05:00	455.9	0.0	4.1	80.0	0.4	67.5
1/03/2021 06:00	456.1	0.0	4.0	78.0	0.0	ND
1/03/2021 07:00	456.6	0.0	3.9	78.0	0.4	135.0
1/03/2021 08:00	456.8	0.0	5.7	74.0	0.9	180.0
1/03/2021 09:00	457.2	0.0	8.9	62.0	0.9	157.5
1/03/2021 10:00	457.0	0.0	9.6	57.0	0.9	157.5
1/03/2021 11:00	456.8	0.0	12.1	49.0	0.9	135.0
1/03/2021 12:00	456.4	0.0	10.6	49.0	1.3	157.5
1/03/2021 13:00	456.2	0.0	9.3	55.0	2.2	180.0
1/03/2021 14:00	455.9	0.0	8.9	67.0	1.3	45.0
1/03/2021 15:00	455.5	0.0	8.4	72.0	1.3	45.0
1/03/2021 16:00	455.1	0.0	7.3	79.0	0.9	135.0
1/03/2021 17:00	455.1	0.0	9.5	70.0	0.9	135.0
1/03/2021 18:00	455.3	0.0	7.1	76.0	0.9	45.0
1/03/2021 19:00	455.6	0.0	5.9	78.0	0.9	45.0
1/03/2021 20:00	456.1	0.0	5.3	80.0	1.3	22.5
1/03/2021 21:00	456.3	0.0	4.8	82.0	0.9	45.0
1/03/2021 22:00	456.6	0.0	4.3	84.0	0.9	45.0
1/03/2021 23:00	456.8	0.0	4.4	84.0	0.9	45.0
2/03/2021 00:00	456.6	0.0	4.1	84.0	0.9	45.0
2/03/2021 01:00	456.4	0.0	4.3	83.0	0.4	45.0
2/03/2021 02:00	456.0	0.0	4.2	83.0	0.4	45.0
2/03/2021 03:00	455.8	0.0	4.3	82.0	0.4	45.0
2/03/2021 04:00	455.7	0.0	4.3	82.0	0.4	45.0
2/03/2021 05:00	455.8	0.0	4.1	83.0	0.4	45.0
2/03/2021 06:00	456.0	0.0	3.9	82.0	0.4	22.5
2/03/2021 07:00	456.4	0.0	4.1	83.0	0.4	45.0
2/03/2021 08:00	456.8	0.0	5.9	77.0	0.9	22.5
2/03/2021 09:00	457.1	0.0	6.0	76.0	1.3	45.0
2/03/2021 10:00	457.1	0.0	9.8	62.0	1.3	22.5
2/03/2021 11:00	457.1	0.0	10.4	59.0	1.3	22.5
2/03/2021 12:00	456.9	0.0	11.3	52.0	1.3	22.5
2/03/2021 13:00	456.4	0.0	12.3	51.0	1.3	135.0
2/03/2021 14:00	456.0	0.0	11.7	57.0	1.3	22.5
2/03/2021 15:00	455.6	0.0	12.1	52.0	1.8	45.0
2/03/2021 16:00	455.4	0.0	13.1	50.0	2.2	45.0
2/03/2021 17:00	455.4	0.0	9.9	58.0	1.8	45.0
2/03/2021 18:00	455.7	0.0	8.5	63.0	1.8	45.0
2/03/2021 19:00	456.3	0.0	7.1	69.0	0.9	45.0
2/03/2021 20:00	456.7	0.0	5.6	75.0	0.9	45.0
2/03/2021 21:00	457.2	0.0	5.1	79.0	0.9	45.0
2/03/2021 22:00	457.4	0.0	4.8	81.0	0.9	45.0
2/03/2021 23:00	457.5	0.0	4.8	81.0	0.4	22.5
3/03/2021 00:00	457.5	0.0	4.6	81.0	0.4	22.5
3/03/2021 01:00	457.2	0.0	4.4	81.0	0.4	67.5
3/03/2021 02:00	457.0	0.0	4.1	82.0	0.4	45.0
3/03/2021 03:00	456.9	0.0	3.2	85.0	0.4	45.0
3/03/2021 04:00	456.9	0.0	2.8	85.0	0.0	ND
3/03/2021 05:00	457.1	0.0	2.3	88.0	0.0	ND
3/03/2021 06:00	457.2	0.0	1.7	88.0	0.0	ND
3/03/2021 07:00	457.6	0.0	2.7	87.0	0.0	ND
3/03/2021 08:00	457.9	0.0	4.0	80.0	0.4	45.0
3/03/2021 09:00	458.1	0.0	5.3	76.0	0.9	45.0
3/03/2021 10:00	458.1	0.0	6.7	71.0	0.9	45.0
3/03/2021 11:00	458.3	0.0	9.1	64.0	1.3	45.0
3/03/2021 12:00	458.2	0.0	9.4	68.0	1.3	157.5
3/03/2021 13:00	457.8	0.0	9.8	65.0	2.2	45.0
3/03/2021 14:00	457.3	0.0	10.7	61.0	1.8	22.5

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	3/03/2021 15:00	456.9	0.0	10.9	60.0	1.8	0.0
	3/03/2021 16:00	456.6	0.0	10.9	58.0	1.8	157.5
	3/03/2021 17:00	456.5	0.0	10.7	59.0	1.3	157.5
	3/03/2021 18:00	456.6	0.0	7.8	68.0	1.3	45.0
	3/03/2021 19:00	457.4	0.0	6.4	71.0	0.9	45.0
	3/03/2021 20:00	457.6	0.0	5.1	71.0	0.9	45.0
	3/03/2021 21:00	457.9	0.0	4.6	74.0	0.4	45.0
	3/03/2021 22:00	458.1	0.0	4.1	78.0	0.9	45.0
	3/03/2021 23:00	458.3	0.0	3.9	81.0	0.9	45.0
	4/03/2021 00:00	458.3	0.0	3.9	80.0	0.4	45.0
	4/03/2021 01:00	457.6	0.0	3.9	81.0	0.4	45.0
	4/03/2021 02:00	457.5	0.0	4.0	80.0	0.4	45.0
	4/03/2021 03:00	457.3	0.0	3.5	82.0	0.4	157.5
	4/03/2021 04:00	457.1	0.0	3.7	82.0	0.4	157.5
	4/03/2021 05:00	457.3	0.0	3.2	83.0	0.4	45.0
	4/03/2021 06:00	457.4	0.0	2.6	83.0	0.4	22.5
	4/03/2021 07:00	457.5	0.0	3.1	84.0	0.0	ND
	4/03/2021 08:00	458.1	0.0	5.7	75.0	0.4	202.5
	4/03/2021 09:00	458.4	0.0	8.8	58.0	0.9	135.0
	4/03/2021 10:00	458.4	0.0	9.9	55.0	1.3	45.0
	4/03/2021 11:00	458.3	0.0	10.6	56.0	1.3	22.5
	4/03/2021 12:00	458.1	0.0	11.1	54.0	1.3	45.0
	4/03/2021 13:00	457.8	0.0	10.4	62.0	1.8	22.5
	4/03/2021 14:00	457.1	0.0	12.2	56.0	2.7	337.5
	4/03/2021 15:00	456.6	0.0	11.6	58.0	1.8	337.5
	4/03/2021 16:00	456.3	0.0	11.9	55.0	1.8	22.5
	4/03/2021 17:00	456.1	0.0	11.6	60.0	2.2	337.5
	4/03/2021 18:00	456.3	0.0	8.6	68.0	2.2	0.0
	4/03/2021 19:00	456.7	0.0	6.6	79.0	2.2	0.0
	4/03/2021 20:00	457.0	0.0	5.9	82.0	1.8	0.0
	4/03/2021 21:00	457.3	0.0	5.5	85.0	0.9	0.0
	4/03/2021 22:00	457.6	0.0	5.4	87.0	0.9	45.0
	4/03/2021 23:00	457.6	0.0	5.1	86.0	0.9	315.0
	5/03/2021 00:00	457.5	0.0	5.3	85.0	0.9	337.5
	5/03/2021 01:00	457.2	0.0	5.3	84.0	0.4	337.5
	5/03/2021 02:00	456.9	0.0	4.8	86.0	0.9	22.5
	5/03/2021 03:00	456.7	0.0	4.9	87.0	0.9	0.0
	5/03/2021 04:00	456.6	2.0	4.1	86.0	0.4	45.0
	5/03/2021 05:00	456.7	1.2	2.9	89.0	1.3	315.0
	5/03/2021 06:00	456.9	0.0	3.0	89.0	0.9	315.0
	5/03/2021 07:00	457.4	1.4	2.9	90.0	0.4	315.0
	5/03/2021 08:00	457.8	0.2	3.2	89.0	0.4	90.0
	5/03/2021 09:00	458.1	0.0	4.4	87.0	0.4	45.0
	5/03/2021 10:00	458.1	0.0	7.6	78.0	1.3	22.5
	5/03/2021 11:00	457.7	0.0	7.6	77.0	1.3	22.5
	5/03/2021 12:00	457.6	0.0	10.3	64.0	1.3	0.0
	5/03/2021 13:00	457.1	0.0	11.0	65.0	1.3	315.0
	5/03/2021 14:00	456.4	0.0	11.7	61.0	2.7	337.5
	5/03/2021 15:00	456.0	0.0	9.7	71.0	2.2	0.0
	5/03/2021 16:00	455.7	0.0	10.8	64.0	2.7	337.5
	5/03/2021 17:00	455.7	0.0	8.9	71.0	1.8	337.5
	5/03/2021 18:00	455.8	0.0	7.7	78.0	1.3	0.0
	5/03/2021 19:00	456.3	0.0	6.1	85.0	1.3	0.0
	5/03/2021 20:00	456.9	0.0	5.3	87.0	1.3	337.5
	5/03/2021 21:00	457.2	0.0	5.4	86.0	1.3	337.5
	5/03/2021 22:00	457.6	0.0	5.8	86.0	0.4	0.0
	5/03/2021 23:00	457.6	0.6	4.6	89.0	1.3	135.0
	6/03/2021 00:00	457.5	1.0	3.7	89.0	1.3	180.0
	6/03/2021 01:00	457.2	2.6	3.3	89.0	0.9	315.0
	6/03/2021 02:00	456.9	3.4	3.1	90.0	0.4	337.5
	6/03/2021 03:00	456.6	1.8	2.7	91.0	0.9	315.0
	6/03/2021 04:00	456.6	1.0	2.5	90.0	0.4	315.0
	6/03/2021 05:00	456.7	0.4	2.8	91.0	0.0	ND
	6/03/2021 06:00	456.9	0.6	2.8	90.0	0.4	22.5
	6/03/2021 07:00	457.1	0.0	3.6	91.0	0.4	45.0
	6/03/2021 08:00	457.6	0.0	6.1	81.0	0.9	22.5
	6/03/2021 09:00	458.0	0.0	5.7	82.0	0.9	0.0
	6/03/2021 10:00	458.1	0.0	7.5	76.0	1.3	22.5
	6/03/2021 11:00	457.9	0.0	8.0	75.0	1.3	22.5
	6/03/2021 12:00	457.8	0.0	8.5	75.0	1.3	315.0
	6/03/2021 13:00	457.3	0.0	7.8	77.0	1.8	337.5
	6/03/2021 14:00	457.0	0.2	11.3	66.0	2.2	337.5
	6/03/2021 15:00	456.6	0.2	8.6	79.0	1.3	45.0
	6/03/2021 16:00	456.3	0.2	7.7	84.0	1.3	22.5
	6/03/2021 17:00	456.5	1.8	6.2	86.0	0.9	45.0
	6/03/2021 18:00	456.8	1.0	5.6	86.0	0.9	45.0
	6/03/2021 19:00	457.2	0.0	5.2	88.0	0.9	22.5
	6/03/2021 20:00	457.7	0.0	4.8	89.0	0.9	22.5
	6/03/2021 21:00	458.0	0.0	4.9	87.0	0.9	337.5
	6/03/2021 22:00	458.2	0.0	4.9	88.0	0.4	0.0
	6/03/2021 23:00	458.4	0.0	3.9	90.0	0.4	22.5
	7/03/2021 00:00	458.2	0.0	3.4	92.0	0.4	45.0
	7/03/2021 01:00	457.8	0.0	3.7	92.0	0.4	315.0
	7/03/2021 02:00	457.4	0.0	3.9	89.0	0.4	157.5
	7/03/2021 03:00	457.2	0.0	4.0	88.0	0.4	180.0
	7/03/2021 04:00	456.9	0.0	3.9	88.0	0.9	315.0
	7/03/2021 05:00	456.9	0.0	3.8	88.0	0.4	202.5
	7/03/2021 06:00	457.5	0.0	3.6	89.0	0.4	202.5
	7/03/2021 07:00	457.8	0.0	4.2	88.0	0.4	135.0

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7/03/2021 08:00	458.3	0.0	5.5	85.0	0.4	135.0
7/03/2021 09:00	458.6	0.0	6.9	79.0	0.9	45.0
7/03/2021 10:00	458.7	0.0	7.7	74.0	0.9	45.0
7/03/2021 11:00	458.4	0.0	7.7	78.0	0.9	22.5
7/03/2021 12:00	458.3	0.0	8.8	75.0	1.3	0.0
7/03/2021 13:00	457.8	0.0	10.9	68.0	2.2	0.0
7/03/2021 14:00	457.5	0.0	9.8	72.0	2.2	0.0
7/03/2021 15:00	456.8	0.0	8.7	75.0	1.8	0.0
7/03/2021 16:00	456.7	0.0	10.1	70.0	1.3	22.5
7/03/2021 17:00	456.6	0.0	7.4	83.0	2.2	337.5
7/03/2021 18:00	456.9	0.2	6.4	87.0	1.3	22.5
7/03/2021 19:00	457.5	0.4	5.8	89.0	0.9	45.0
7/03/2021 20:00	457.9	1.2	5.2	88.0	0.9	22.5
7/03/2021 21:00	458.2	2.0	4.8	89.0	0.4	45.0
7/03/2021 22:00	458.6	0.2	4.6	88.0	0.4	180.0
7/03/2021 23:00	458.6	0.6	3.5	92.0	1.3	202.5
8/03/2021 00:00	458.6	0.2	3.3	92.0	1.3	180.0
8/03/2021 01:00	458.3	0.2	3.4	91.0	0.4	202.5
8/03/2021 02:00	458.0	0.0	3.3	91.0	0.4	270.0
8/03/2021 03:00	457.8	0.0	3.5	90.0	0.4	270.0
8/03/2021 04:00	457.5	0.0	3.4	90.0	0.9	225.0
8/03/2021 05:00	457.7	0.0	3.3	90.0	0.4	247.5
8/03/2021 06:00	457.8	0.0	3.6	91.0	0.4	247.5
8/03/2021 07:00	458.2	0.0	3.4	91.0	0.4	225.0
8/03/2021 08:00	458.4	0.0	4.6	88.0	0.4	225.0
8/03/2021 09:00	458.7	0.0	6.2	82.0	0.4	225.0
8/03/2021 10:00	458.8	0.0	8.1	74.0	0.9	22.5
8/03/2021 11:00	458.7	0.0	9.7	74.0	1.3	22.5
8/03/2021 12:00	458.4	0.0	12.2	67.0	1.8	0.0
8/03/2021 13:00	458.0	0.0	10.3	71.0	1.8	22.5
8/03/2021 14:00	457.5	0.0	8.2	75.0	1.8	22.5
8/03/2021 15:00	457.0	0.0	9.4	74.0	1.3	202.5
8/03/2021 16:00	456.9	0.0	8.3	76.0	1.8	337.5
8/03/2021 17:00	456.9	0.0	7.6	80.0	1.3	337.5
8/03/2021 18:00	457.1	0.0	7.0	76.0	0.9	45.0
8/03/2021 19:00	457.4	0.0	6.4	82.0	0.4	67.5
8/03/2021 20:00	457.9	0.0	5.9	82.0	0.9	180.0
8/03/2021 21:00	458.2	0.0	5.3	86.0	0.9	202.5
8/03/2021 22:00	458.7	0.0	4.7	87.0	0.4	135.0
8/03/2021 23:00	458.6	0.0	4.3	87.0	0.0	ND
9/03/2021 00:00	458.4	0.0	4.1	89.0	0.4	157.5
9/03/2021 01:00	457.8	0.0	3.3	90.0	0.0	ND
9/03/2021 02:00	457.5	0.0	3.8	92.0	0.0	ND
9/03/2021 03:00	457.1	0.0	3.7	92.0	0.0	ND
9/03/2021 04:00	457.0	0.0	3.5	89.0	0.4	22.5
9/03/2021 05:00	457.2	0.0	3.3	89.0	0.0	ND
9/03/2021 06:00	457.4	0.0	4.1	85.0	0.0	ND
9/03/2021 07:00	457.8	0.0	4.5	84.0	0.4	67.5
9/03/2021 08:00	457.8	0.0	5.1	83.0	0.9	225.0
9/03/2021 09:00	458.3	0.0	6.9	77.0	0.9	45.0
9/03/2021 10:00	458.4	0.0	7.8	73.0	0.9	0.0
9/03/2021 11:00	458.3	0.0	9.9	63.0	0.9	0.0
9/03/2021 12:00	457.8	0.0	10.5	65.0	0.9	22.5
9/03/2021 13:00	457.3	0.0	9.7	70.0	1.3	315.0
9/03/2021 14:00	456.6	0.0	8.6	71.0	2.2	315.0
9/03/2021 15:00	456.3	0.0	8.1	75.0	2.2	22.5
9/03/2021 16:00	456.3	0.0	5.9	80.0	1.3	135.0
9/03/2021 17:00	456.1	0.0	6.1	78.0	0.9	112.5
9/03/2021 18:00	456.8	0.0	4.4	88.0	1.8	202.5
9/03/2021 19:00	457.2	0.2	4.3	87.0	1.3	202.5
9/03/2021 20:00	457.6	0.4	3.3	88.0	1.3	135.0
9/03/2021 21:00	458.1	0.4	2.6	89.0	0.9	90.0
9/03/2021 22:00	458.4	0.6	1.3	89.0	0.4	112.5
9/03/2021 23:00	458.4	0.0	0.7	92.0	0.0	ND
10/03/2021 00:00	458.1	0.4	1.3	93.0	0.0	ND
10/03/2021 01:00	457.8	0.8	1.8	91.0	0.0	ND
10/03/2021 02:00	457.5	0.6	1.8	90.0	0.4	157.5
10/03/2021 03:00	457.2	0.8	1.4	91.0	0.4	157.5
10/03/2021 04:00	457.1	0.6	1.0	92.0	0.4	157.5
10/03/2021 05:00	457.3	0.4	1.4	92.0	0.4	135.0
10/03/2021 06:00	457.5	0.2	1.4	89.0	0.4	135.0
10/03/2021 07:00	457.8	0.2	1.7	88.0	0.4	45.0
10/03/2021 08:00	458.1	0.4	2.7	85.0	0.4	135.0
10/03/2021 09:00	458.5	0.2	4.2	79.0	0.4	157.5
10/03/2021 10:00	458.7	0.0	5.5	73.0	0.9	135.0
10/03/2021 11:00	458.4	0.0	6.4	69.0	0.9	135.0
10/03/2021 12:00	458.2	0.0	7.5	70.0	0.9	157.5
10/03/2021 13:00	457.7	0.0	7.1	71.0	0.9	157.5
10/03/2021 14:00	457.2	0.0	9.9	61.0	1.3	22.5
10/03/2021 15:00	456.8	0.0	9.0	65.0	1.3	45.0
10/03/2021 16:00	456.4	0.0	9.1	65.0	1.3	22.5
10/03/2021 17:00	456.1	0.0	7.9	71.0	1.3	45.0
10/03/2021 18:00	456.3	0.0	6.3	78.0	1.3	45.0
10/03/2021 19:00	456.7	0.0	5.1	79.0	1.3	45.0
10/03/2021 20:00	457.0	0.0	4.6	83.0	0.9	45.0
10/03/2021 21:00	457.2	0.2	4.2	85.0	0.4	45.0
10/03/2021 22:00	457.5	0.0	4.1	85.0	0.4	45.0
10/03/2021 23:00	457.6	0.0	3.7	85.0	0.9	45.0
11/03/2021 00:00	457.4	0.0	3.6	86.0	0.4	45.0

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11/03/2021 01:00	456.9	0.0	3.4	86.0	0.4	22.5
11/03/2021 02:00	456.7	0.0	3.3	84.0	0.4	45.0
11/03/2021 03:00	456.4	0.0	2.9	85.0	0.4	135.0
11/03/2021 04:00	456.3	0.0	2.9	83.0	0.0	ND
11/03/2021 05:00	456.4	0.0	2.6	86.0	0.0	ND
11/03/2021 06:00	456.7	0.0	2.6	86.0	0.4	180.0
11/03/2021 07:00	457.1	0.0	2.9	85.0	0.0	ND
11/03/2021 08:00	457.6	0.0	4.6	81.0	0.4	0.0
11/03/2021 09:00	457.8	0.0	4.7	84.0	0.4	135.0
11/03/2021 10:00	457.9	0.0	5.8	79.0	0.9	315.0
11/03/2021 11:00	457.8	0.0	7.7	73.0	0.4	225.0
11/03/2021 12:00	457.5	0.0	8.3	68.0	1.8	45.0
11/03/2021 13:00	456.9	1.6	4.6	86.0	1.3	22.5
11/03/2021 14:00	456.5	0.6	5.1	84.0	1.3	337.5
11/03/2021 15:00	456.2	0.6	5.4	86.0	0.9	0.0
11/03/2021 16:00	456.0	0.0	6.4	79.0	0.9	45.0
11/03/2021 17:00	456.0	0.0	5.3	84.0	1.3	315.0
11/03/2021 18:00	456.6	0.0	4.4	85.0	1.3	292.5
11/03/2021 19:00	456.8	0.2	3.6	87.0	0.9	270.0
11/03/2021 20:00	457.0	0.2	3.6	88.0	0.4	315.0
11/03/2021 21:00	457.5	0.0	3.4	88.0	0.4	315.0
11/03/2021 22:00	457.8	0.0	3.3	89.0	0.0	ND
11/03/2021 23:00	457.8	0.0	3.4	90.0	0.4	22.5

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12/03/2021 00:00	457.5	0.4	3.4	90.0	0.4	45.0
12/03/2021 01:00	457.1	0.0	3.4	90.0	0.4	45.0
12/03/2021 02:00	456.8	0.0	2.7	90.0	0.4	45.0
12/03/2021 03:00	456.6	0.2	2.3	91.0	0.4	22.5
12/03/2021 04:00	456.7	1.0	1.7	90.0	0.4	0.0
12/03/2021 05:00	456.8	0.4	1.2	91.0	0.0	ND
12/03/2021 06:00	457.2	0.8	1.3	91.0	0.4	45.0
12/03/2021 07:00	457.7	0.2	1.3	92.0	0.4	45.0
12/03/2021 08:00	458.0	1.4	1.2	92.0	0.0	ND
12/03/2021 09:00	458.4	0.8	2.8	91.0	0.4	45.0
12/03/2021 10:00	458.4	0.0	3.3	87.0	0.9	45.0
12/03/2021 11:00	458.4	0.4	4.0	89.0	1.3	337.5
12/03/2021 12:00	458.1	0.0	8.3	77.0	1.3	22.5
12/03/2021 13:00	457.8	0.0	9.4	69.0	1.8	22.5
12/03/2021 14:00	457.1	0.0	10.1	68.0	1.3	45.0
12/03/2021 15:00	456.5	0.0	10.9	67.0	1.8	45.0
12/03/2021 16:00	456.3	0.0	9.4	69.0	2.2	315.0
12/03/2021 17:00	456.3	0.0	6.6	77.0	1.8	225.0
12/03/2021 18:00	456.6	0.0	5.1	82.0	2.7	180.0
12/03/2021 19:00	457.0	0.0	3.6	85.0	1.8	225.0
12/03/2021 20:00	457.5	0.0	3.9	83.0	0.4	180.0
12/03/2021 21:00	457.8	0.0	4.4	82.0	0.0	ND
12/03/2021 22:00	458.2	0.0	4.1	86.0	0.4	22.5
12/03/2021 23:00	458.1	0.0	3.8	87.0	0.4	45.0

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13/03/2021 00:00	458.1	0.0	3.3	88.0	0.4	45.0
13/03/2021 01:00	457.8	0.0	3.1	89.0	0.9	315.0
13/03/2021 02:00	457.3	0.0	3.4	86.0	0.4	315.0
13/03/2021 03:00	457.0	0.0	2.0	89.0	0.4	315.0
13/03/2021 04:00	457.0	0.0	1.6	90.0	0.0	ND
13/03/2021 05:00	457.2	0.0	1.8	91.0	0.0	ND
13/03/2021 06:00	457.5	0.0	1.3	92.0	0.0	ND
13/03/2021 07:00	457.6	0.0	1.1	93.0	0.4	202.5
13/03/2021 08:00	458.0	0.0	6.3	74.0	0.0	ND
13/03/2021 09:00	458.3	0.0	7.9	63.0	0.4	202.5
13/03/2021 10:00	458.3	0.0	8.4	58.0	0.9	157.5
13/03/2021 11:00	458.2	0.0	10.3	51.0	1.3	180.0
13/03/2021 12:00	457.9	0.0	11.4	61.0	1.3	315.0
13/03/2021 13:00	457.5	0.0	7.2	61.0	3.1	315.0
13/03/2021 14:00	456.9	0.0	12.6	49.0	1.8	22.5
13/03/2021 15:00	456.3	0.0	12.6	56.0	1.8	22.5
13/03/2021 16:00	456.0	0.0	11.1	57.0	2.7	0.0
13/03/2021 17:00	456.0	0.0	8.1	72.0	2.2	0.0
13/03/2021 18:00	456.9	0.0	4.4	87.0	2.2	180.0
13/03/2021 19:00	456.9	1.8	4.1	86.0	1.8	180.0
13/03/2021 20:00	457.1	0.0	4.4	85.0	0.4	157.5
13/03/2021 21:00	457.5	0.0	5.1	82.0	0.0	ND
13/03/2021 22:00	457.9	0.0	4.5	84.0	0.4	202.5
13/03/2021 23:00	458.0	0.0	3.8	86.0	0.4	202.5

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14/03/2021 00:00	457.9	0.0	3.9	86.0	0.4	202.5
14/03/2021 01:00	457.5	0.0	3.5	89.0	0.4	22.5
14/03/2021 02:00	456.9	0.0	3.5	89.0	0.4	22.5
14/03/2021 03:00	456.6	0.0	3.2	91.0	0.4	315.0
14/03/2021 04:00	456.6	0.0	2.7	91.0	0.4	202.5
14/03/2021 05:00	456.6	0.0	2.2	92.0	0.4	202.5
14/03/2021 06:00	456.7	0.0	2.2	90.0	0.4	45.0
14/03/2021 07:00	457.2	0.0	2.7	87.0	0.4	0.0
14/03/2021 08:00	457.4	0.0	3.6	84.0	0.4	45.0
14/03/2021 09:00	457.7	0.0	5.0	81.0	0.9	22.5
14/03/2021 10:00	457.9	0.0	7.9	72.0	0.9	0.0
14/03/2021 11:00	457.8	0.0	7.7	73.0	0.9	45.0
14/03/2021 12:00	457.8	0.4	5.8	85.0	1.8	337.5
14/03/2021 13:00	457.1	0.6	8.3	78.0	0.9	135.0
14/03/2021 14:00	456.6	0.0	10.3	70.0	1.8	0.0
14/03/2021 15:00	456.3	0.6	7.2	80.0	2.2	337.5
14/03/2021 16:00	456.0	2.0	5.0	85.0	0.9	135.0
14/03/2021 17:00	456.3	0.8	4.7	87.0	0.9	0.0



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14/03/2021 18:00	456.4	0.0	4.2	88.0	1.3	337.5
14/03/2021 19:00	456.9	0.4	3.8	89.0	0.4	270.0
14/03/2021 20:00	457.2	0.6	3.6	89.0	0.9	0.0
14/03/2021 21:00	457.5	0.0	3.6	90.0	0.4	0.0
14/03/2021 22:00	457.8	0.0	3.6	90.0	0.4	0.0
14/03/2021 23:00	458.0	0.0	3.6	90.0	0.4	45.0
15/03/2021 00:00	457.8	0.0	3.5	90.0	0.4	0.0
15/03/2021 01:00	457.4	0.0	3.3	91.0	0.4	45.0
15/03/2021 02:00	457.2	0.4	3.2	91.0	0.4	0.0
15/03/2021 03:00	456.9	0.0	3.2	90.0	0.0	ND
15/03/2021 04:00	456.7	0.0	3.3	90.0	0.4	45.0
15/03/2021 05:00	456.8	0.0	3.3	90.0	0.4	45.0
15/03/2021 06:00	456.9	0.0	3.2	90.0	0.0	ND
15/03/2021 07:00	457.1	0.0	3.3	90.0	0.4	45.0
15/03/2021 08:00	457.5	0.0	4.1	87.0	0.4	45.0
15/03/2021 09:00	457.7	0.0	5.9	84.0	0.4	135.0
15/03/2021 10:00	457.8	0.0	9.3	68.0	0.9	157.5
15/03/2021 11:00	458.0	0.2	6.2	84.0	1.8	22.5
15/03/2021 12:00	457.8	0.2	7.1	83.0	1.3	0.0
15/03/2021 13:00	457.2	0.2	9.2	78.0	1.3	337.5
15/03/2021 14:00	456.9	0.8	7.2	81.0	1.8	45.0
15/03/2021 15:00	456.4	0.2	8.1	75.0	0.9	45.0
15/03/2021 16:00	456.0	0.4	6.9	85.0	1.8	45.0
15/03/2021 17:00	456.1	0.0	8.6	75.0	1.8	45.0
15/03/2021 18:00	456.0	0.0	7.7	76.0	0.9	22.5
15/03/2021 19:00	456.7	0.0	5.9	86.0	0.4	45.0
15/03/2021 20:00	457.2	0.0	5.6	89.0	0.4	0.0
15/03/2021 21:00	457.5	0.0	5.3	88.0	0.9	45.0
15/03/2021 22:00	457.6	0.0	4.7	88.0	0.9	22.5
15/03/2021 23:00	457.4	0.0	4.3	89.0	0.9	22.5
16/03/2021 00:00	457.5	0.0	4.3	88.0	0.4	22.5
16/03/2021 01:00	457.1	0.0	4.2	88.0	0.4	45.0
16/03/2021 02:00	456.8	0.0	4.1	87.0	0.4	45.0
16/03/2021 03:00	456.6	0.0	3.7	89.0	0.4	45.0
16/03/2021 04:00	456.4	0.0	3.8	88.0	0.0	ND
16/03/2021 05:00	456.7	0.0	3.1	88.0	0.0	ND
16/03/2021 06:00	456.8	0.0	2.6	89.0	0.0	ND
16/03/2021 07:00	457.2	0.0	3.1	91.0	0.0	ND
16/03/2021 08:00	457.8	0.0	5.3	84.0	0.4	45.0
16/03/2021 09:00	458.1	0.0	8.3	71.0	0.9	45.0
16/03/2021 10:00	458.0	0.0	9.6	65.0	1.3	22.5
16/03/2021 11:00	457.9	0.0	9.1	71.0	1.3	45.0
16/03/2021 12:00	457.4	0.0	10.1	64.0	2.2	22.5
16/03/2021 13:00	457.0	0.0	10.3	72.0	1.8	22.5
16/03/2021 14:00	456.6	0.8	8.6	77.0	2.2	337.5
16/03/2021 15:00	456.3	0.0	7.5	77.0	2.7	337.5
16/03/2021 16:00	456.3	1.4	5.6	86.0	1.3	0.0
16/03/2021 17:00	456.3	0.0	4.6	87.0	1.8	0.0
16/03/2021 18:00	456.6	0.0	4.4	85.0	1.3	0.0
16/03/2021 19:00	456.9	0.0	4.2	85.0	0.9	0.0
16/03/2021 20:00	457.2	0.0	4.1	87.0	0.4	315.0
16/03/2021 21:00	457.6	0.0	3.7	87.0	0.0	ND
16/03/2021 22:00	457.7	0.0	3.9	87.0	0.0	ND
16/03/2021 23:00	457.7	0.0	4.0	86.0	0.4	45.0
17/03/2021 00:00	457.5	0.0	3.9	87.0	0.4	45.0
17/03/2021 01:00	457.2	0.0	4.1	88.0	0.0	ND
17/03/2021 02:00	457.0	0.0	3.9	88.0	0.0	ND
17/03/2021 03:00	456.8	0.0	3.9	90.0	0.4	315.0
17/03/2021 04:00	456.6	0.0	3.8	90.0	0.4	202.5
17/03/2021 05:00	456.7	0.0	3.8	89.0	0.0	ND
17/03/2021 06:00	456.9	0.0	3.7	89.0	0.0	ND
17/03/2021 07:00	457.2	0.0	3.9	89.0	0.0	ND
17/03/2021 08:00	457.8	0.0	6.5	79.0	0.4	0.0
17/03/2021 09:00	458.0	0.0	7.8	73.0	0.9	315.0
17/03/2021 10:00	458.0	0.0	8.3	71.0	1.3	22.5
17/03/2021 11:00	457.8	0.0	11.4	58.0	1.8	337.5
17/03/2021 12:00	457.5	0.0	10.2	61.0	1.8	22.5
17/03/2021 13:00	456.7	0.0	9.9	68.0	1.3	337.5
17/03/2021 14:00	456.3	0.0	7.7	77.0	1.3	157.5
17/03/2021 15:00	456.5	2.0	4.4	90.0	1.3	45.0
17/03/2021 16:00	456.1	0.0	8.6	72.0	0.4	135.0
17/03/2021 17:00	456.0	0.0	6.8	77.0	1.3	45.0
17/03/2021 18:00	456.5	0.0	4.6	86.0	1.8	315.0
17/03/2021 19:00	456.8	0.4	4.1	87.0	0.9	202.5
17/03/2021 20:00	457.1	0.0	3.9	87.0	0.4	225.0
17/03/2021 21:00	457.3	0.0	3.5	87.0	0.4	135.0
17/03/2021 22:00	457.7	0.0	2.9	90.0	0.4	202.5
17/03/2021 23:00	457.9	0.0	2.6	90.0	0.0	ND
18/03/2021 00:00	457.5	0.0	2.6	89.0	0.0	ND
18/03/2021 01:00	457.4	0.0	1.8	90.0	0.0	ND
18/03/2021 02:00	457.0	0.0	2.3	91.0	0.0	ND
18/03/2021 03:00	456.9	0.2	2.7	90.0	0.0	ND
18/03/2021 04:00	456.9	0.2	2.8	90.0	0.0	ND
18/03/2021 05:00	457.0	0.4	2.9	90.0	0.0	ND
18/03/2021 06:00	457.2	0.0	2.7	89.0	0.4	135.0
18/03/2021 07:00	457.5	0.0	3.1	89.0	0.0	ND
18/03/2021 08:00	457.9	0.0	4.7	84.0	0.4	202.5
18/03/2021 09:00	458.0	0.0	7.0	77.0	0.9	202.5
18/03/2021 10:00	458.0	0.0	8.0	70.0	0.9	180.0

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18	18/03/2021 11:00	457.8	0.0	9.9	66.0	0.9	157.5
	18/03/2021 12:00	457.0	0.0	12.0	61.0	0.9	0.0
	18/03/2021 13:00	456.9	0.0	9.1	72.0	2.2	0.0
	18/03/2021 14:00	456.5	0.0	9.3	72.0	1.3	22.5
	18/03/2021 15:00	456.6	1.2	5.0	85.0	1.8	180.0
	18/03/2021 16:00	456.4	0.6	4.4	86.0	1.8	180.0
	18/03/2021 17:00	456.3	0.0	4.5	84.0	1.8	135.0
	18/03/2021 18:00	456.3	0.0	4.4	86.0	1.3	157.5
	18/03/2021 19:00	456.5	0.0	3.7	88.0	0.9	157.5
	18/03/2021 20:00	456.7	0.0	3.8	88.0	0.9	157.5
	18/03/2021 21:00	457.2	0.0	3.8	89.0	0.4	202.5
	18/03/2021 22:00	457.5	0.0	3.8	86.0	0.9	202.5
	18/03/2021 23:00	457.3	0.0	4.2	81.0	1.3	202.5
	19/03/2021 00:00	457.2	0.0	3.9	79.0	1.8	180.0
	19/03/2021 01:00	457.2	0.0	3.9	77.0	1.3	180.0
	19/03/2021 02:00	456.6	0.0	3.6	80.0	0.9	202.5
	19/03/2021 03:00	456.3	0.0	3.2	80.0	0.9	180.0
	19/03/2021 04:00	456.3	0.0	3.1	79.0	1.3	202.5
19/03/2021 05:00	456.4	0.0	3.1	75.0	1.3	180.0	
19/03/2021 06:00	456.3	0.0	3.1	71.0	0.9	202.5	
19/03/2021 07:00	456.7	0.0	3.1	71.0	0.4	180.0	
19/03/2021 08:00	457.4	0.0	4.2	70.0	0.4	180.0	
19/03/2021 09:00	457.5	0.0	6.1	66.0	0.9	202.5	
19/03/2021 10:00	457.5	0.0	7.5	62.0	1.3	180.0	
19/03/2021 11:00	457.5	0.0	8.8	61.0	1.3	180.0	
19	19/03/2021 12:00	457.2	0.0	9.5	61.0	1.8	180.0
	19/03/2021 13:00	456.7	0.0	9.7	58.0	1.8	157.5
	19/03/2021 14:00	456.3	0.0	9.9	59.0	1.8	180.0
	19/03/2021 15:00	456.0	0.0	9.9	59.0	2.7	180.0
	19/03/2021 16:00	455.6	0.0	9.8	59.0	2.7	202.5
	19/03/2021 17:00	455.7	0.0	8.0	62.0	2.7	225.0
	19/03/2021 18:00	456.0	0.0	6.8	67.0	2.2	225.0
	19/03/2021 19:00	456.1	0.0	5.7	69.0	2.2	225.0
	19/03/2021 20:00	456.5	0.0	5.1	71.0	1.8	225.0
	19/03/2021 21:00	456.6	0.0	4.6	74.0	1.3	202.5
	19/03/2021 22:00	456.8	0.0	4.3	74.0	0.9	202.5
	19/03/2021 23:00	457.0	0.0	3.8	71.0	1.3	180.0
	20/03/2021 00:00	456.9	0.0	3.2	70.0	0.9	180.0
	20/03/2021 01:00	456.7	0.0	2.6	72.0	1.3	202.5
	20/03/2021 02:00	456.4	0.0	2.0	73.0	1.3	202.5
	20/03/2021 03:00	456.0	0.0	1.6	75.0	1.3	202.5
	20/03/2021 04:00	456.1	0.0	1.2	76.0	0.9	202.5
	20/03/2021 05:00	456.1	0.0	0.6	77.0	0.4	202.5
20/03/2021 06:00	456.3	0.0	0.7	77.0	0.9	202.5	
20/03/2021 07:00	456.6	0.0	0.8	78.0	0.9	202.5	
20/03/2021 08:00	456.9	0.0	2.3	72.0	1.8	202.5	
20/03/2021 09:00	457.2	0.0	4.4	64.0	1.3	180.0	
20/03/2021 10:00	457.2	0.0	7.1	56.0	0.9	202.5	
20	20/03/2021 11:00	457.2	0.0	9.2	49.0	1.3	180.0
	20/03/2021 12:00	456.7	0.0	10.0	49.0	1.8	180.0
	20/03/2021 13:00	456.4	0.0	10.6	40.0	1.8	157.5
	20/03/2021 14:00	456.0	0.0	11.1	34.0	1.8	225.0
	20/03/2021 15:00	455.5	0.0	11.8	35.0	2.2	135.0
	20/03/2021 16:00	455.4	0.0	12.7	29.0	1.8	180.0
	20/03/2021 17:00	455.4	0.0	11.9	53.0	1.3	337.5
	20/03/2021 18:00	455.7	0.0	8.2	69.0	1.8	0.0
	20/03/2021 19:00	455.9	0.0	6.1	83.0	1.3	0.0
	20/03/2021 20:00	456.5	0.0	5.8	86.0	1.3	337.5
	20/03/2021 21:00	456.8	0.0	5.7	86.0	1.3	315.0
	20/03/2021 22:00	457.2	0.0	5.8	84.0	0.9	337.5
	20/03/2021 23:00	457.2	0.0	5.1	88.0	0.9	337.5
	21/03/2021 00:00	456.9	0.0	5.1	86.0	0.9	337.5
	21/03/2021 01:00	456.8	0.0	4.2	88.0	0.4	45.0
	21/03/2021 02:00	456.3	0.0	4.3	87.0	0.4	22.5
	21/03/2021 03:00	456.2	0.0	4.7	85.0	0.4	45.0
	21/03/2021 04:00	456.1	0.0	4.3	87.0	0.4	45.0
21/03/2021 05:00	456.3	0.0	4.0	85.0	0.4	45.0	
21/03/2021 06:00	456.7	0.0	3.7	85.0	0.4	22.5	
21/03/2021 07:00	457.1	0.0	4.2	83.0	0.4	45.0	
21/03/2021 08:00	457.5	0.0	5.9	79.0	0.4	135.0	
21/03/2021 09:00	457.7	0.0	6.4	74.0	0.9	90.0	
21/03/2021 10:00	457.8	0.0	7.2	71.0	1.3	135.0	
21	21/03/2021 11:00	457.8	0.0	6.5	82.0	0.9	22.5
	21/03/2021 12:00	457.7	0.0	8.6	72.0	1.8	45.0
	21/03/2021 13:00	457.3	0.8	5.9	85.0	1.8	45.0
	21/03/2021 14:00	457.0	0.2	6.5	84.0	1.3	45.0
	21/03/2021 15:00	456.6	0.0	6.8	82.0	1.3	45.0
	21/03/2021 16:00	456.6	0.2	6.1	83.0	0.9	157.5
	21/03/2021 17:00	456.6	0.0	5.4	83.0	0.9	135.0
	21/03/2021 18:00	457.0	1.2	2.8	88.0	1.3	22.5
	21/03/2021 19:00	457.4	0.4	2.7	89.0	0.4	22.5
	21/03/2021 20:00	457.8	0.0	2.7	92.0	0.4	0.0
	21/03/2021 21:00	458.1	0.0	2.8	91.0	0.4	0.0
	21/03/2021 22:00	458.3	0.0	2.3	92.0	0.4	270.0
	21/03/2021 23:00	458.3	0.0	2.2	92.0	0.4	292.5
	22/03/2021 00:00	458.1	0.0	2.5	92.0	0.4	315.0
	22/03/2021 01:00	457.8	0.0	2.8	90.0	0.4	157.5
	22/03/2021 02:00	457.5	0.0	2.8	89.0	0.9	135.0
	22/03/2021 03:00	457.2	0.0	2.9	88.0	0.4	135.0

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22/03/2021 04:00	456.9	0.0	2.8	89.0	0.4	180.0
22/03/2021 05:00	457.3	0.0	2.7	89.0	0.4	180.0
22/03/2021 06:00	457.3	0.0	2.7	88.0	0.4	180.0
22/03/2021 07:00	457.5	0.0	2.3	90.0	0.0	ND
22/03/2021 08:00	457.9	0.0	4.1	86.0	0.4	202.5
22/03/2021 09:00	458.2	0.0	5.9	77.0	0.4	180.0
22/03/2021 10:00	458.3	0.0	9.1	67.0	0.4	315.0
22/03/2021 11:00	458.0	0.0	9.3	64.0	1.3	0.0
22/03/2021 12:00	457.6	0.0	9.3	69.0	1.8	337.5
22/03/2021 13:00	457.3	1.8	5.4	85.0	1.8	45.0
22/03/2021 14:00	456.8	0.4	6.9	76.0	1.3	45.0
22/03/2021 15:00	456.6	0.6	6.2	80.0	1.3	45.0
22/03/2021 16:00	456.0	0.4	6.1	81.0	1.8	337.5
22/03/2021 17:00	456.1	0.0	7.8	76.0	0.9	337.5
22/03/2021 18:00	456.5	0.0	7.1	79.0	1.3	0.0
22/03/2021 19:00	456.9	0.6	5.2	84.0	0.9	22.5
22/03/2021 20:00	457.4	0.0	5.2	85.0	0.4	292.5
22/03/2021 21:00	457.8	0.0	5.1	85.0	0.4	22.5
22/03/2021 22:00	458.1	0.0	4.6	89.0	0.4	45.0
22/03/2021 23:00	458.1	0.0	4.6	89.0	0.4	45.0
23/03/2021 00:00	457.8	0.0	4.2	88.0	0.4	45.0
23/03/2021 01:00	457.5	0.0	4.1	87.0	0.4	45.0
23/03/2021 02:00	457.2	0.0	4.1	87.0	0.4	45.0
23/03/2021 03:00	456.9	0.0	3.9	87.0	0.4	45.0
23/03/2021 04:00	456.9	0.2	3.2	90.0	0.9	157.5
23/03/2021 05:00	457.0	0.6	2.8	89.0	0.9	157.5
23/03/2021 06:00	457.3	0.2	2.8	91.0	0.4	157.5
23/03/2021 07:00	457.8	0.0	2.4	90.0	0.9	157.5
23/03/2021 08:00	458.1	0.2	3.9	88.0	0.9	157.5
23/03/2021 09:00	458.4	0.0	4.9	86.0	0.9	157.5
23/03/2021 10:00	458.4	0.0	7.6	79.0	0.9	202.5
23/03/2021 11:00	458.1	0.0	7.9	74.0	0.9	180.0
23/03/2021 12:00	457.6	0.0	8.1	72.0	2.2	180.0
23/03/2021 13:00	457.0	0.0	10.4	64.0	2.2	157.5
23/03/2021 14:00	456.6	1.0	6.1	86.0	1.8	0.0
23/03/2021 15:00	456.1	0.0	7.5	83.0	2.7	337.5
23/03/2021 16:00	456.1	0.0	8.9	76.0	2.2	337.5
23/03/2021 17:00	456.1	0.0	7.4	81.0	1.8	337.5
23/03/2021 18:00	456.4	1.4	5.4	87.0	1.3	0.0
23/03/2021 19:00	457.0	0.0	4.7	88.0	1.8	0.0
23/03/2021 20:00	457.4	0.0	4.4	89.0	1.3	0.0
23/03/2021 21:00	457.8	0.0	4.0	90.0	1.3	0.0
23/03/2021 22:00	458.1	1.0	3.9	89.0	0.4	22.5
23/03/2021 23:00	458.2	1.2	3.2	90.0	0.9	45.0
24/03/2021 00:00	458.1	0.8	3.2	90.0	0.4	22.5
24/03/2021 01:00	457.7	0.0	3.2	91.0	0.4	22.5
24/03/2021 02:00	457.4	0.0	3.4	91.0	0.0	ND
24/03/2021 03:00	457.0	0.0	3.5	90.0	0.4	112.5
24/03/2021 04:00	457.1	0.0	3.5	90.0	0.4	112.5
24/03/2021 05:00	457.2	0.0	3.4	90.0	0.4	157.5
24/03/2021 06:00	457.4	0.0	3.2	89.0	0.4	157.5
24/03/2021 07:00	457.8	0.4	3.3	91.0	0.0	ND
24/03/2021 08:00	458.3	0.0	5.2	84.0	0.4	157.5
24/03/2021 09:00	458.7	0.0	6.2	80.0	0.4	135.0
24/03/2021 10:00	458.9	0.0	8.3	72.0	0.9	135.0
24/03/2021 11:00	458.7	0.0	9.8	67.0	0.9	45.0
24/03/2021 12:00	458.2	0.0	7.7	79.0	1.3	135.0
24/03/2021 13:00	457.6	1.8	7.3	81.0	1.3	337.5
24/03/2021 14:00	457.2	1.8	7.2	84.0	1.8	315.0
24/03/2021 15:00	457.0	1.8	5.6	88.0	0.9	0.0
24/03/2021 16:00	456.8	0.0	6.6	86.0	0.9	22.5
24/03/2021 17:00	456.7	0.0	6.1	83.0	0.9	45.0
24/03/2021 18:00	457.1	0.6	5.3	88.0	0.4	45.0
24/03/2021 19:00	457.5	0.0	5.0	87.0	0.4	22.5
24/03/2021 20:00	457.8	0.0	4.6	85.0	0.4	157.5
24/03/2021 21:00	458.3	0.0	4.4	85.0	0.4	135.0
24/03/2021 22:00	458.7	0.0	3.9	86.0	0.4	90.0
24/03/2021 23:00	458.5	0.0	3.8	86.0	0.4	67.5
25/03/2021 00:00	458.4	0.0	3.6	86.0	0.0	ND
25/03/2021 01:00	458.1	0.0	3.2	88.0	0.0	ND
25/03/2021 02:00	457.8	0.0	2.6	90.0	0.0	ND
25/03/2021 03:00	457.6	0.0	2.0	91.0	0.0	ND
25/03/2021 04:00	457.5	0.0	1.8	92.0	0.0	ND
25/03/2021 05:00	457.5	0.0	1.9	93.0	0.4	225.0
25/03/2021 06:00	457.8	0.0	1.6	93.0	0.4	225.0
25/03/2021 07:00	458.1	0.0	1.5	94.0	0.0	ND
25/03/2021 08:00	458.4	0.0	4.7	94.0	0.0	ND
25/03/2021 09:00	458.9	0.0	6.7	78.0	0.4	180.0
25/03/2021 10:00	459.0	0.0	9.0	64.0	0.9	22.5
25/03/2021 11:00	458.8	0.0	9.8	62.0	1.3	45.0
25/03/2021 12:00	458.4	0.0	10.7	60.0	0.9	22.5
25/03/2021 13:00	457.8	0.0	11.7	59.0	0.9	22.5
25/03/2021 14:00	456.9	0.0	8.4	72.0	1.3	22.5
25/03/2021 15:00	456.7	0.0	7.7	78.0	1.8	0.0
25/03/2021 16:00	456.6	0.0	7.2	80.0	1.8	337.5
25/03/2021 17:00	456.5	1.4	6.3	82.0	1.3	0.0
25/03/2021 18:00	457.2	0.0	5.2	85.0	1.3	0.0
25/03/2021 19:00	457.8	0.0	4.7	86.0	1.3	0.0
25/03/2021 20:00	458.2	0.4	4.4	88.0	0.9	22.5

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25/03/2021 21:00	458.6	0.4	4.2	87.0	0.4	22.5
25/03/2021 22:00	458.7	0.0	3.9	86.0	0.4	90.0
25/03/2021 23:00	458.7	0.0	3.6	87.0	0.0	ND
26/03/2021 00:00	458.6	0.0	3.2	90.0	0.0	ND
26/03/2021 01:00	458.1	0.0	3.1	90.0	0.4	135.0
26/03/2021 02:00	457.8	0.0	2.8	91.0	0.4	135.0
26/03/2021 03:00	457.5	0.0	2.4	91.0	0.0	ND
26/03/2021 04:00	457.3	0.0	1.9	92.0	0.0	ND
26/03/2021 05:00	457.2	0.0	1.6	92.0	0.4	157.5
26/03/2021 06:00	457.5	0.0	1.5	93.0	0.4	157.5
26/03/2021 07:00	457.8	0.0	1.9	94.0	0.0	ND
26/03/2021 08:00	458.2	0.0	4.0	84.0	0.4	180.0
26/03/2021 09:00	458.5	0.0	6.2	75.0	0.9	135.0
26/03/2021 10:00	458.8	0.0	7.7	71.0	0.9	135.0
26/03/2021 11:00	458.4	0.0	8.9	66.0	0.9	157.5
26/03/2021 12:00	458.3	0.0	8.9	73.0	0.9	45.0
26/03/2021 13:00	457.7	0.2	6.7	80.0	1.3	337.5
26/03/2021 14:00	457.2	0.0	10.7	68.0	1.3	22.5
26/03/2021 15:00	456.6	0.0	8.6	78.0	2.2	337.5
26/03/2021 16:00	456.5	0.0	9.7	72.0	2.2	337.5
26/03/2021 17:00	456.4	0.0	7.9	78.0	2.2	337.5
26/03/2021 18:00	456.6	0.0	6.8	81.0	1.3	337.5
26/03/2021 19:00	456.9	0.0	5.9	84.0	0.4	0.0
26/03/2021 20:00	457.4	0.0	5.6	85.0	0.4	0.0
26/03/2021 21:00	457.9	0.0	4.8	88.0	0.0	ND
26/03/2021 22:00	458.0	0.0	4.2	89.0	0.0	ND
26/03/2021 23:00	458.1	0.0	3.8	91.0	0.4	22.5
27/03/2021 00:00	458.1	0.0	4.4	88.0	0.4	45.0
27/03/2021 01:00	457.5	0.0	3.7	91.0	0.4	0.0
27/03/2021 02:00	457.1	0.0	3.9	90.0	0.4	22.5
27/03/2021 03:00	456.9	0.0	3.6	90.0	0.4	45.0
27/03/2021 04:00	456.9	0.0	3.4	89.0	0.4	45.0
27/03/2021 05:00	456.9	0.0	3.4	89.0	0.4	45.0
27/03/2021 06:00	457.1	0.0	3.4	90.0	0.4	45.0
27/03/2021 07:00	457.4	0.0	3.6	90.0	0.0	ND
27/03/2021 08:00	457.5	0.0	4.9	86.0	0.4	0.0
27/03/2021 09:00	457.9	0.0	6.6	79.0	0.9	202.5
27/03/2021 10:00	458.1	0.0	10.6	63.0	0.9	180.0
27/03/2021 11:00	458.1	0.0	10.7	65.0	1.8	337.5
27/03/2021 12:00	457.7	0.0	11.9	64.0	2.7	0.0
27/03/2021 13:00	457.2	0.0	11.1	62.0	2.7	337.5
27/03/2021 14:00	456.8	0.0	10.9	68.0	3.6	315.0
27/03/2021 15:00	456.3	0.0	9.9	69.0	3.1	337.5
27/03/2021 16:00	456.0	0.0	10.8	65.0	2.2	0.0
27/03/2021 17:00	456.0	0.0	10.8	67.0	1.8	22.5
27/03/2021 18:00	456.2	0.0	7.2	81.0	2.2	0.0
27/03/2021 19:00	456.7	0.0	6.2	84.0	1.3	0.0
27/03/2021 20:00	457.2	0.0	5.4	86.0	0.9	22.5
27/03/2021 21:00	457.5	0.0	4.7	87.0	0.4	22.5
27/03/2021 22:00	457.8	0.0	4.8	87.0	0.9	337.5
27/03/2021 23:00	457.8	0.0	4.9	88.0	0.9	22.5
28/03/2021 00:00	457.6	2.4	4.4	89.0	0.9	22.5
28/03/2021 01:00	457.3	1.0	4.4	89.0	0.9	0.0
28/03/2021 02:00	457.0	0.0	4.0	89.0	1.3	337.5
28/03/2021 03:00	456.6	0.0	3.9	89.0	1.3	315.0
28/03/2021 04:00	456.6	0.0	3.3	89.0	1.3	0.0
28/03/2021 05:00	456.8	0.0	2.9	90.0	0.4	22.5
28/03/2021 06:00	456.8	0.0	3.2	89.0	0.4	45.0
28/03/2021 07:00	457.4	0.0	3.8	88.0	0.4	45.0
28/03/2021 08:00	457.8	0.0	6.1	81.0	0.4	45.0
28/03/2021 09:00	458.2	0.0	8.6	68.0	0.9	45.0
28/03/2021 10:00	458.2	0.0	9.3	65.0	1.3	45.0
28/03/2021 11:00	458.1	0.0	9.7	65.0	1.3	45.0
28/03/2021 12:00	457.7	0.0	9.7	69.0	1.3	22.5
28/03/2021 13:00	457.3	0.0	10.1	69.0	1.3	22.5
28/03/2021 14:00	456.7	0.4	8.3	82.0	1.3	0.0
28/03/2021 15:00	456.3	0.0	8.1	79.0	2.2	337.5
28/03/2021 16:00	456.3	0.0	5.2	85.0	1.3	22.5
28/03/2021 17:00	456.2	0.0	6.0	84.0	0.9	180.0
28/03/2021 18:00	456.4	0.0	6.3	81.0	0.4	45.0
28/03/2021 19:00	456.7	0.0	5.7	86.0	0.0	ND
28/03/2021 20:00	457.0	0.0	5.2	86.0	0.4	45.0
28/03/2021 21:00	457.3	0.0	4.4	87.0	0.9	45.0
28/03/2021 22:00	457.6	0.0	3.9	86.0	0.9	45.0
28/03/2021 23:00	457.8	0.0	3.9	85.0	0.9	45.0
29/03/2021 00:00	457.6	0.0	4.0	88.0	0.9	45.0
29/03/2021 01:00	457.4	0.0	4.0	89.0	0.4	112.5
29/03/2021 02:00	456.9	0.0	3.8	87.0	0.4	67.5
29/03/2021 03:00	456.6	0.0	3.8	87.0	0.4	22.5
29/03/2021 04:00	456.7	0.0	3.6	87.0	0.4	45.0
29/03/2021 05:00	456.8	0.0	3.6	87.0	0.4	45.0
29/03/2021 06:00	457.1	0.0	3.7	86.0	0.4	45.0
29/03/2021 07:00	457.4	0.0	4.1	85.0	0.4	45.0
29/03/2021 08:00	457.9	0.0	4.8	84.0	0.9	45.0
29/03/2021 09:00	458.2	0.0	6.0	78.0	0.9	45.0
29/03/2021 10:00	458.5	0.0	9.4	66.0	1.3	22.5
29/03/2021 11:00	458.1	0.0	9.4	64.0	1.8	45.0
29/03/2021 12:00	457.9	0.0	10.7	64.0	1.8	22.5
29/03/2021 13:00	457.6	0.0	11.4	66.0	1.8	22.5

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	29/03/2021 14:00	457.1	0.0	9.9	71.0	1.8	22.5
	29/03/2021 15:00	456.6	0.0	10.4	68.0	2.2	0.0
	29/03/2021 16:00	456.3	0.0	7.4	80.0	1.8	0.0
	29/03/2021 17:00	456.4	0.2	4.9	87.0	1.8	337.5
	29/03/2021 18:00	456.9	0.2	5.2	87.0	1.3	0.0
	29/03/2021 19:00	457.2	0.0	5.3	87.0	0.4	22.5
	29/03/2021 20:00	457.5	0.0	5.2	87.0	0.4	0.0
	29/03/2021 21:00	457.9	0.0	4.3	87.0	1.3	0.0
	29/03/2021 22:00	458.2	0.0	4.4	88.0	0.9	0.0
	29/03/2021 23:00	458.3	0.0	4.3	88.0	0.4	22.5
	30/03/2021 00:00	458.0	0.0	4.4	87.0	0.4	22.5
	30/03/2021 01:00	457.8	0.0	4.2	89.0	0.4	22.5
	30/03/2021 02:00	457.5	0.2	3.8	91.0	0.4	45.0
	30/03/2021 03:00	457.3	0.8	3.4	91.0	0.4	22.5
	30/03/2021 04:00	457.1	0.0	3.4	91.0	0.9	337.5
	30/03/2021 05:00	457.2	0.2	3.4	92.0	0.4	0.0
	30/03/2021 06:00	457.4	0.2	3.4	92.0	0.4	22.5
	30/03/2021 07:00	457.8	0.0	3.5	91.0	0.4	45.0
	30/03/2021 08:00	458.3	0.0	5.3	88.0	0.4	135.0
	30/03/2021 09:00	458.4	0.0	5.7	84.0	0.9	22.5
	30/03/2021 10:00	458.5	0.0	8.1	77.0	1.3	22.5
	30/03/2021 11:00	458.4	0.0	10.2	68.0	1.8	22.5
30	30/03/2021 12:00	458.1	0.0	8.4	77.0	2.2	0.0
	30/03/2021 13:00	457.8	0.2	6.3	85.0	2.2	337.5
	30/03/2021 14:00	457.2	2.4	5.7	87.0	1.3	22.5
	30/03/2021 15:00	456.8	0.2	7.1	85.0	1.3	22.5
	30/03/2021 16:00	456.6	0.0	8.2	77.0	1.8	337.5
	30/03/2021 17:00	456.6	2.2	4.3	88.0	0.9	157.5
	30/03/2021 18:00	456.9	0.8	5.2	89.0	0.4	0.0
	30/03/2021 19:00	457.2	0.0	4.9	88.0	1.3	0.0
	30/03/2021 20:00	457.6	0.0	4.6	89.0	1.3	337.5
	30/03/2021 21:00	457.8	0.0	4.3	89.0	1.3	0.0
	30/03/2021 22:00	457.8	0.0	4.1	89.0	0.9	22.5
	30/03/2021 23:00	458.0	0.0	4.3	89.0	0.9	337.5
	31/03/2021 00:00	457.8	0.0	4.1	88.0	0.9	337.5
	31/03/2021 01:00	457.6	0.0	4.0	89.0	0.4	0.0
	31/03/2021 02:00	457.5	0.0	3.8	90.0	0.4	22.5
	31/03/2021 03:00	457.4	0.0	3.8	90.0	0.9	337.5
	31/03/2021 04:00	457.2	0.0	3.8	89.0	0.4	0.0
	31/03/2021 05:00	457.2	0.4	3.6	90.0	0.4	22.5
	31/03/2021 06:00	457.2	0.0	3.4	90.0	0.4	337.5
	31/03/2021 07:00	457.5	0.0	3.7	89.0	0.0	ND
	31/03/2021 08:00	457.8	0.0	6.1	82.0	0.4	45.0
	31/03/2021 09:00	458.1	0.0	6.6	79.0	0.9	0.0
	31/03/2021 10:00	458.2	0.0	7.4	74.0	1.3	337.5
31	31/03/2021 11:00	458.1	0.0	8.1	73.0	1.3	22.5
	31/03/2021 12:00	457.7	0.0	8.1	79.0	1.3	22.5
	31/03/2021 13:00	457.2	0.0	12.9	61.0	1.3	45.0
	31/03/2021 14:00	456.3	0.0	13.3	62.0	1.8	22.5
	31/03/2021 15:00	456.0	0.0	11.8	65.0	1.3	22.5
	31/03/2021 16:00	456.1	0.0	7.6	79.0	2.7	0.0
	31/03/2021 17:00	456.1	0.0	6.6	83.0	2.2	337.5
	31/03/2021 18:00	456.3	0.0	6.4	82.0	1.3	22.5
	31/03/2021 19:00	457.0	0.0	4.2	83.0	1.3	0.0
	31/03/2021 20:00	457.5	2.0	1.3	92.0	1.3	202.5
	31/03/2021 21:00	457.8	1.0	0.4	92.0	0.9	225.0
	31/03/2021 22:00	457.8	0.0	0.5	93.0	0.4	225.0
	31/03/2021 23:00	457.8	0.0	0.7	93.0	0.0	ND

ND: No disponible porque no se registro dato

Tabla 3.1. Concentraciones horarias y 24 horas de PM<sub>10</sub>

TÍTULO DEL ESTUDIO:

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en abril de 2021

ESTACIÓN DE MONITOREO:

CA-SB-01

CÓDIGO DE ACCIÓN:

0003-4-2021-412

DATOS DEL EQUIPO

EQUIPO:

Monitor automático de partículas

Thermo Scientific

MODELO:

TEOM 1405

1405A208321003

Hora/Día	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
00:00	11.1	7.0	4.9	0.3	0.1	7.5	20.1	15.9	45.4	9.5	9.2	8.4	12.2	6.3	8.3	30.5	27.9	21.3	35.8	39.7	14.0	32.0	9.5	9.2	8.8	11.2	21.2	10.5	9.1	2.4
01:00	9.8	3.4	3.2	LD	LD	3.9	11.9	1.6	13.8	LD	1.8	8.1	2.8	4.0	0.6	26.9	31.6	29.2	23.0	42.1	28.4	27.1	11.6	6.0	13.5	8.7	18.3	18.0	13.6	0.4
02:00	9.7	6.7	3.0	0.9	LD	0.6	8.6	2.8	7.0	7.0	1.0	14.6	LD	1.6	6.2	28.3	8.8	23.3	24.7	34.7	16.8	26.3	4.4	12.1	9.8	9.8	25.7	63.7	7.9	0.7
03:00	7.4	0.8	5.5	0.3	9.1	LD	17.4	2.3	9.7	1.4	1.5	9.7	15.5	2.1	7.6	198.9	9.9	32.1	38.2	19.9	9.1	15.1	5.6	5.7	21.4	16.3	15.4	22.5	8.3	LD
04:00	3.5	4.0	6.3	2.4	1.2	1.5	9.4	3.5	7.5	0.5	3.4	10.1	11.8	10.4	6.5	46.2	8.3	23.1	19.2	17.1	21.6	4.4	9.0	4.2	16.7	30.0	5.0	13.6	11.1	1.6
05:00	4.2	1.6	1.3	1.6	9.7	2.0	13.4	6.9	11.4	0.8	5.2	6.6	18.8	14.0	9.0	44.4	8.5	25.3	18.7	18.2	20.4	9.8	12.6	8.8	9.8	16.4	19.5	10.8	9.5	4.5
06:00	2.5	6.7	4.9	3.0	3.4	5.0	16.3	16.0	9.6	12.7	5.7	7.5	12.8	10.0	7.5	38.0	17.5	20.9	19.4	25.1	31.2	16.1	15.5	19.7	13.2	20.3	32.6	17.9	15.3	10.1
07:00	8.2	4.8	6.0	6.4	5.7	5.4	22.5	18.3	6.2	9.9	8.9	9.0	12.7	7.4	14.9	50.7	16.9	13.6	31.3	80.8	53.5	30.1	14.6	10.3	26.4	25.7	98.2	14.9	23.3	LD
08:00	8.3	11.5	6.1	7.7	7.1	7.3	33.2	22.6	6.2	12.3	18.8	19.8	13.7	8.8	15.6	37.9	21.7	37.8	28.5	53.7	72.7	16.4	69.4	35.1	22.3	40.3	37.2	11.1	22.7	27.1
09:00	11.6	19.1	15.8	8.1	8.8	17.8	21.9	28.8	15.6	25.5	24.9	28.7	24.0	7.8	12.9	30.2	38.1	47.1	52.9	40.8	34.0	18.6	23.5	64.3	27.7	36.5	27.9	21.2	34.7	43.7
10:00	17.6	9.3	22.2	18.8	26.1	16.4	13.3	24.1	12.3	20.0	21.1	24.3	21.3	10.0	17.2	30.3	48.5	26.0	57.1	29.1	25.9	36.9	15.2	22.0	23.9	36.9	20.6	20.3	18.4	43.8
11:00	12.4	17.1	12.1	22.3	16.3	12.4	17.2	13.9	13.8	16.1	7.9	17.6	24.0	18.9	24.2	26.0	42.9	56.9	49.1	30.6	12.3	25.7	10.1	16.6	5.7	36.2	25.7	13.6	23.4	12.6
12:00	9.5	6.5	17.4	8.1	12.2	12.2	10.6	29.7	17.6	10.3	16.5	16.4	29.7	7.3	23.7	33.7	26.2	106.0	35.5	20.4	24.5	11.9	23.0	16.2	6.0	11.2	LD	9.0	19.4	24.0
13:00	4.2	14.0	14.1	9.0	8.4	6.3	13.4	12.2	14.3	23.2	21.5	18.1	15.5	12.1	34.8	39.3	33.6	33.6	27.4	28.4	24.0	23.8	28.8	16.5	12.2	12.1	11.4	28.8	22.3	9.7
14:00	25.3	3.7	14.7	16.7	10.7	9.6	21.0	16.2	15.6	34.7	19.5	14.3	9.3	11.8	34.9	24.5	36.8	29.5	36.5	19.8	16.9	25.0	19.4	16.8	23.8	23.1	33.1	2.0	24.0	14.7
15:00	10.9	6.2	13.3	14.3	25.8	13.4	25.8	0.5	17.8	20.9	10.6	19.7	31.5	21.2	30.9	49.6	33.8	27.4	34.7	1.7	18.5	34.8	36.5	21.4	25.6	39.1	25.2	20.5	17.9	33.3
16:00	17.3	9.1	8.8	25.0	7.2	13.7	22.2	19.4	13.0	39.7	33.1	25.3	23.1	37.5	34.9	48.3	66.0	27.2	36.3	49.8	39.9	39.1	44.7	30.4	35.9	34.7	27.8	21.3	12.8	29.3
17:00	9.2	18.1	2.6	13.4	15.7	13.7	15.9	26.6	22.3	28.5	17.1	10.5	22.5	32.5	36.2	48.8	66.9	36.5	31.9	22.7	29.8	27.8	33.2	34.1	27.3	9.0	32.4	30.9	19.1	28.4
18:00	15.2	25.4	16.5	32.0	25.9	1.6	24.7	9.3	39.3	35.0	24.3	21.2	38.9	22.9	40.2	62.7	59.8	45.3	45.9	13.7	42.9	39.6	12.7	21.6	29.0	19.8	29.9	25.0	29.4	24.9
19:00	5.5	33.4	24.2	24.5	13.5	8.5	25.4	4.5	82.9	37.6	20.9	22.1	31.0	20.8	39.8	102.8	67.9	54.1	55.8	8.8	35.6	28.6	13.3	33.1	31.4	15.1	26.3	45.6	19.6	23.2
20:00	5.2	19.8	12.8	25.9	14.6	21.8	19.2	4.9	28.8	8.2	6.3	16.2	30.0	4.1	26.5	54.4	58.7	46.7	51.6	21.4	27.0	26.6	11.4	37.4	41.3	12.3	24.5	36.8	15.8	14.0
21:00	7.0	15.1	8.4	10.0	6.8	10.4	15.5	3.4	29.1	LD	3.8	15.8	24.6	6.5	25.2	33.3	46.5	20.3	78.8	15.3	14.6	6.9	9.6	35.7	29.7	17.4	22.8	30.2	14.1	4.0
22:00	9.3	7.6	6.4	6.9	7.4	10.1	5.5	13.2	13.7	LD	14.0	4.9	17.0	3.3	29.2	29.4	32.3	13.5	55.6	11.2	16.3	4.4	10.7	20.2	20.0	23.4	20.8	22.9	8.0	7.4
23:00	20.4	5.6	2.0	2.4	8.7	17.8	3.5	33.3	14.3	0.7	27.0	4.4	11.5	5.0	27.4	19.1	30.5	25.6	68.2	10.9	21.3	7.7	12.2	4.1	26.7	12.6	11.9	16.9	3.0	6.3
Promedio de PM <sub>10</sub> en 24 h	10.2	10.7	9.7	11.3	11.1	9.5	17.0	13.7	19.5	16.9	13.5	14.7	19.7	11.9	21.4	47.3	35.0	34.3	39.8	27.3	27.1	22.3	19.0	20.9	21.2	21.6	26.7	22.0	16.8	16.6

100 µg/m<sup>3</sup> en periodo de 24 horas

LD: Dato que es menor al límite de detección del equipo

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en abril de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0003-4-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:** Estación meteorológica **MARCA:** Davis Instruments

**MODELO:** Vantage Pro 2 **SERIE:** BE181010012

FECHA Y HORA	Presión atmosférica (mmHg)	Precipitación (mm)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)	Dirección de Viento (°)
1/04/2021 00:00	457.6	1.6	1.3	93.0	0.0	225.0
1/04/2021 01:00	457.2	1.0	1.3	93.0	0.4	202.5
1/04/2021 02:00	457.0	0.8	1.7	93.0	0.0	202.5
1/04/2021 03:00	456.7	1.0	1.6	92.0	0.4	202.5
1/04/2021 04:00	456.8	1.2	1.4	91.0	0.0	202.5
1/04/2021 05:00	456.7	1.0	0.8	92.0	0.0	202.5
1/04/2021 06:00	456.8	0.8	0.9	93.0	0.0	202.5
1/04/2021 07:00	457.0	0.6	1.3	93.0	0.4	337.5
1/04/2021 08:00	457.8	1.2	2.5	91.0	0.4	292.5
1/04/2021 09:00	457.8	1.4	4.4	88.0	0.4	292.5
1/04/2021 10:00	458.1	1.2	7.3	80.0	1.3	45.0
1/04/2021 11:00	457.9	0.0	8.6	75.0	1.3	45.0
1/04/2021 12:00	457.2	0.0	10.8	63.0	1.3	45.0
1/04/2021 13:00	456.7	0.0	10.9	68.0	1.3	315.0
1/04/2021 14:00	456.3	0.4	6.3	80.0	1.3	22.5
1/04/2021 15:00	456.1	1.0	5.7	82.0	0.9	22.5
1/04/2021 16:00	455.8	0.4	6.1	80.0	1.3	202.5
1/04/2021 17:00	455.9	0.0	6.1	80.0	1.3	180.0
1/04/2021 18:00	456.4	0.8	3.2	87.0	2.2	157.5
1/04/2021 19:00	456.7	1.8	2.3	90.0	0.9	112.5
1/04/2021 20:00	457.0	0.8	2.7	90.0	0.9	135.0
1/04/2021 21:00	457.5	0.4	3.2	89.0	0.4	135.0
1/04/2021 22:00	457.8	0.8	2.3	90.0	0.4	45.0
1/04/2021 23:00	457.8	0.0	2.3	90.0	0.4	45.0
2/04/2021 00:00	457.7	0.0	2.5	89.0	0.4	22.5
2/04/2021 01:00	457.5	0.0	2.7	89.0	0.4	45.0
2/04/2021 02:00	457.1	0.0	2.5	90.0	0.4	67.5
2/04/2021 03:00	456.5	0.0	2.4	90.0	0.4	135.0
2/04/2021 04:00	456.6	0.0	2.8	89.0	0.4	112.5
2/04/2021 05:00	456.7	0.0	2.9	89.0	0.4	225.0
2/04/2021 06:00	457.2	0.0	2.8	88.0	0.0	225.0
2/04/2021 07:00	457.2	0.0	3.2	87.0	0.0	225.0
2/04/2021 08:00	457.5	0.0	7.1	79.0	0.4	315.0
2/04/2021 09:00	457.9	0.0	9.3	70.0	0.9	315.0
2/04/2021 10:00	458.1	0.0	9.9	67.0	1.3	45.0
2/04/2021 11:00	458.0	0.0	9.0	68.0	1.8	22.5
2/04/2021 12:00	457.5	0.0	11.8	60.0	1.8	0.0
2/04/2021 13:00	456.9	0.0	13.3	58.0	2.2	22.5
2/04/2021 14:00	456.3	0.0	14.3	53.0	2.2	0.0
2/04/2021 15:00	456.0	0.0	13.1	62.0	2.7	315.0
2/04/2021 16:00	455.9	0.0	13.8	51.0	2.2	0.0
2/04/2021 17:00	456.0	0.0	10.2	71.0	1.8	337.5
2/04/2021 18:00	456.3	0.0	8.1	81.0	2.2	0.0
2/04/2021 19:00	456.6	0.0	6.7	85.0	2.2	0.0
2/04/2021 20:00	457.1	0.0	6.6	86.0	0.9	45.0
2/04/2021 21:00	457.5	0.0	6.2	87.0	1.3	337.5
2/04/2021 22:00	457.6	0.0	5.4	87.0	1.3	0.0
2/04/2021 23:00	457.7	0.0	5.6	87.0	0.9	0.0
3/04/2021 00:00	457.7	0.4	5.1	90.0	1.3	337.5
3/04/2021 01:00	457.3	1.4	4.2	90.0	0.9	45.0
3/04/2021 02:00	457.1	0.6	3.3	90.0	0.9	45.0
3/04/2021 03:00	457.0	0.2	2.8	89.0	0.9	45.0
3/04/2021 04:00	456.8	0.0	2.6	89.0	0.4	22.5
3/04/2021 05:00	456.9	0.0	2.9	89.0	0.0	22.5
3/04/2021 06:00	457.1	0.0	2.9	90.0	0.0	22.5
3/04/2021 07:00	457.5	0.0	3.4	90.0	0.4	22.5
3/04/2021 08:00	458.0	0.0	4.3	88.0	0.0	22.5
3/04/2021 09:00	458.4	0.0	5.2	85.0	0.9	0.0
3/04/2021 10:00	458.4	0.0	6.8	80.0	0.9	22.5
3/04/2021 11:00	458.2	0.0	6.1	85.0	1.8	22.5
3/04/2021 12:00	457.9	0.2	8.3	79.0	1.8	0.0
3/04/2021 13:00	457.5	0.2	6.3	86.0	1.8	22.5
3/04/2021 14:00	457.1	0.0	8.2	83.0	1.8	337.5

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3/04/2021 15:00	456.7	0.2	7.7	83.0	1.8	0.0
3/04/2021 16:00	456.6	0.0	8.0	80.0	2.2	0.0
3/04/2021 17:00	456.8	0.0	6.4	84.0	1.8	0.0
3/04/2021 18:00	456.9	0.0	5.7	86.0	1.3	0.0
3/04/2021 19:00	457.3	0.0	5.1	88.0	1.3	0.0
3/04/2021 20:00	457.7	0.0	4.8	88.0	1.3	0.0
3/04/2021 21:00	457.9	0.0	4.6	88.0	1.3	0.0
3/04/2021 22:00	458.0	0.0	4.7	88.0	1.3	0.0
3/04/2021 23:00	458.1	0.2	3.9	89.0	0.9	22.5
4/04/2021 00:00	457.9	0.0	4.1	90.0	0.9	315.0
4/04/2021 01:00	457.5	0.2	3.9	91.0	0.9	337.5
4/04/2021 02:00	457.2	0.2	3.7	92.0	0.9	22.5
4/04/2021 03:00	456.9	0.0	3.4	91.0	0.9	22.5
4/04/2021 04:00	457.1	0.0	3.6	91.0	0.9	337.5
4/04/2021 05:00	457.1	0.0	3.4	91.0	0.4	0.0
4/04/2021 06:00	457.3	0.0	3.5	91.0	0.9	315.0
4/04/2021 07:00	457.8	0.0	3.6	91.0	0.4	337.5
4/04/2021 08:00	458.1	0.0	3.8	92.0	0.9	337.5
4/04/2021 09:00	458.4	0.0	5.1	88.0	0.9	337.5
4/04/2021 10:00	458.5	0.0	7.1	82.0	0.9	22.5
4/04/2021 11:00	458.2	0.0	7.6	78.0	1.8	337.5
4/04/2021 12:00	457.9	0.0	10.4	69.0	1.8	337.5
4/04/2021 13:00	457.5	0.0	10.8	69.0	2.2	315.0
4/04/2021 14:00	456.9	0.0	12.2	62.0	2.2	315.0
4/04/2021 15:00	456.6	0.0	12.8	63.0	2.2	0.0
4/04/2021 16:00	456.3	0.0	11.1	66.0	1.8	22.5
4/04/2021 17:00	456.3	0.0	8.6	76.0	2.2	337.5
4/04/2021 18:00	456.7	0.0	6.8	84.0	1.8	337.5
4/04/2021 19:00	457.2	0.0	6.3	85.0	1.8	337.5
4/04/2021 20:00	457.5	0.0	6.2	86.0	1.3	0.0
4/04/2021 21:00	457.9	0.0	5.8	87.0	1.3	0.0
4/04/2021 22:00	458.1	0.0	5.2	89.0	1.3	0.0
4/04/2021 23:00	458.1	0.0	4.9	89.0	0.9	337.5
5/04/2021 00:00	457.8	0.0	4.6	88.0	0.9	0.0
5/04/2021 01:00	457.4	0.0	4.8	88.0	0.4	315.0
5/04/2021 02:00	457.1	0.0	3.8	88.0	0.9	180.0
5/04/2021 03:00	457.1	1.6	3.4	89.0	0.4	157.5
5/04/2021 04:00	457.2	2.2	2.7	90.0	0.4	22.5
5/04/2021 05:00	457.2	0.2	2.9	91.0	0.0	22.5
5/04/2021 06:00	457.5	0.2	2.9	91.0	0.0	22.5
5/04/2021 07:00	458.1	1.2	2.9	90.0	0.0	22.5
5/04/2021 08:00	458.5	2.8	2.7	90.0	0.4	22.5
5/04/2021 09:00	458.4	1.8	3.4	90.0	0.4	45.0
5/04/2021 10:00	458.6	0.0	6.2	83.0	0.4	112.5
5/04/2021 11:00	458.2	0.0	7.7	79.0	1.3	337.5
5/04/2021 12:00	457.9	0.0	5.9	85.0	1.3	22.5
5/04/2021 13:00	457.5	0.8	7.9	82.0	0.9	135.0
5/04/2021 14:00	457.1	0.0	8.9	81.0	1.3	45.0
5/04/2021 15:00	456.6	0.2	8.9	76.0	0.9	45.0
5/04/2021 16:00	456.4	0.6	8.6	80.0	1.3	22.5
5/04/2021 17:00	456.5	0.2	7.8	82.0	1.3	45.0
5/04/2021 18:00	456.8	0.0	6.6	86.0	1.3	45.0
5/04/2021 19:00	457.1	0.0	6.0	88.0	1.3	45.0
5/04/2021 20:00	457.5	0.0	5.7	90.0	0.9	45.0
5/04/2021 21:00	457.7	0.0	5.4	90.0	1.3	45.0
5/04/2021 22:00	457.8	0.0	5.2	90.0	0.9	45.0
5/04/2021 23:00	457.8	0.0	5.0	90.0	0.9	45.0
6/04/2021 00:00	457.8	0.0	4.6	90.0	0.9	45.0
6/04/2021 01:00	457.5	1.0	4.3	90.0	0.9	0.0
6/04/2021 02:00	457.4	0.0	4.1	91.0	0.4	0.0
6/04/2021 03:00	457.2	0.0	3.8	92.0	0.4	22.5
6/04/2021 04:00	457.2	0.2	3.6	91.0	0.9	315.0
6/04/2021 05:00	457.3	2.2	3.2	90.0	0.9	22.5
6/04/2021 06:00	457.5	0.6	3.7	92.0	0.9	0.0
6/04/2021 07:00	457.9	0.0	4.0	92.0	0.9	0.0
6/04/2021 08:00	458.2	0.0	4.6	88.0	0.9	22.5
6/04/2021 09:00	458.6	0.0	5.4	86.0	0.9	0.0
6/04/2021 10:00	458.5	0.4	6.3	86.0	0.4	0.0
6/04/2021 11:00	458.4	0.0	7.3	83.0	1.8	22.5
6/04/2021 12:00	458.1	0.0	9.2	77.0	0.9	22.5
6/04/2021 13:00	457.7	0.4	8.9	79.0	0.9	22.5
6/04/2021 14:00	457.3	0.6	6.9	84.0	0.9	22.5
6/04/2021 15:00	457.2	0.0	7.4	83.0	1.8	0.0
6/04/2021 16:00	457.2	2.6	4.3	87.0	2.2	22.5
6/04/2021 17:00	457.2	0.4	4.4	88.0	1.8	0.0
6/04/2021 18:00	457.2	0.0	4.6	86.0	0.4	315.0
6/04/2021 19:00	457.8	0.0	3.5	88.0	0.4	315.0
6/04/2021 20:00	458.2	0.0	3.4	90.0	0.4	270.0
6/04/2021 21:00	458.4	0.0	3.1	91.0	0.0	270.0
6/04/2021 22:00	458.7	0.0	2.4	91.0	0.0	270.0
6/04/2021 23:00	458.4	0.0	1.9	92.0	0.0	270.0
7/04/2021 00:00	458.4	0.0	1.7	92.0	0.0	270.0
7/04/2021 01:00	458.0	0.0	1.6	93.0	0.0	270.0
7/04/2021 02:00	457.8	0.0	1.9	93.0	0.4	247.5
7/04/2021 03:00	457.8	0.0	1.7	93.0	0.4	202.5
7/04/2021 04:00	457.7	0.0	2.0	94.0	0.0	202.5
7/04/2021 05:00	457.7	0.0	2.2	93.0	0.4	180.0
7/04/2021 06:00	458.1	0.0	1.8	93.0	0.4	225.0
7/04/2021 07:00	458.3	0.0	1.9	93.0	0.0	225.0

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7/04/2021 08:00	458.6	0.0	4.1	92.0	0.4	225.0
7/04/2021 09:00	459.0	0.0	6.8	81.0	0.4	247.5
7/04/2021 10:00	459.0	0.0	8.6	72.0	0.9	22.5
7/04/2021 11:00	458.8	0.0	10.7	67.0	1.3	45.0
7/04/2021 12:00	458.4	0.0	11.9	61.0	1.3	337.5
7/04/2021 13:00	458.1	0.0	11.1	63.0	1.8	0.0
7/04/2021 14:00	457.3	0.0	13.4	57.0	1.8	22.5
7/04/2021 15:00	457.0	0.0	9.1	74.0	1.8	22.5
7/04/2021 16:00	456.9	0.0	8.3	79.0	1.8	0.0
7/04/2021 17:00	456.9	0.0	7.4	82.0	1.8	0.0
7/04/2021 18:00	457.2	0.0	5.9	87.0	2.2	337.5
7/04/2021 19:00	457.8	0.0	5.7	88.0	1.3	0.0
7/04/2021 20:00	458.1	0.0	5.7	87.0	0.9	0.0
7/04/2021 21:00	458.5	0.0	5.3	86.0	0.9	0.0
7/04/2021 22:00	458.5	0.0	4.9	88.0	0.9	0.0
7/04/2021 23:00	458.7	0.0	4.2	88.0	0.9	22.5
8/04/2021 00:00	458.5	0.0	4.4	87.0	0.4	45.0
8/04/2021 01:00	458.2	0.0	4.4	87.0	0.4	22.5
8/04/2021 02:00	458.0	0.0	3.9	87.0	0.4	45.0
8/04/2021 03:00	457.8	0.0	4.0	88.0	0.4	45.0
8/04/2021 04:00	457.7	0.0	4.2	88.0	0.0	45.0
8/04/2021 05:00	457.8	0.0	4.1	88.0	0.0	45.0
8/04/2021 06:00	458.1	0.0	4.1	88.0	0.0	45.0
8/04/2021 07:00	458.5	0.0	4.3	87.0	0.0	45.0
8/04/2021 08:00	459.0	0.0	6.1	79.0	0.4	112.5
8/04/2021 09:00	459.3	0.0	7.8	71.0	0.4	135.0
8/04/2021 10:00	459.3	0.0	9.6	68.0	0.9	135.0
8/04/2021 11:00	459.0	0.0	9.8	64.0	0.9	22.5
8/04/2021 12:00	458.5	0.0	8.4	76.0	2.2	22.5
8/04/2021 13:00	458.1	0.0	10.0	70.0	2.7	337.5
8/04/2021 14:00	457.4	0.2	9.4	79.0	1.8	0.0
8/04/2021 15:00	457.1	0.0	10.7	68.0	2.2	0.0
8/04/2021 16:00	456.8	0.0	7.3	80.0	1.8	202.5
8/04/2021 17:00	457.2	3.2	4.8	89.0	1.3	135.0
8/04/2021 18:00	457.2	0.6	5.0	89.0	0.9	180.0
8/04/2021 19:00	457.5	0.2	4.7	90.0	0.9	202.5
8/04/2021 20:00	457.8	0.0	4.4	89.0	0.9	157.5
8/04/2021 21:00	458.3	0.0	4.2	89.0	0.4	180.0
8/04/2021 22:00	458.4	0.0	3.8	90.0	0.0	180.0
8/04/2021 23:00	458.1	0.0	3.6	92.0	0.0	180.0
9/04/2021 00:00	458.1	0.0	3.5	92.0	0.0	180.0
9/04/2021 01:00	458.1	0.0	3.2	92.0	0.4	67.5
9/04/2021 02:00	457.6	0.0	3.1	93.0	0.4	337.5
9/04/2021 03:00	457.5	0.0	3.2	93.0	0.0	337.5
9/04/2021 04:00	457.4	0.0	3.5	93.0	0.0	337.5
9/04/2021 05:00	457.5	0.0	3.8	92.0	0.0	337.5
9/04/2021 06:00	457.8	0.4	4.0	91.0	0.0	337.5
9/04/2021 07:00	458.5	0.4	3.2	89.0	0.4	45.0
9/04/2021 08:00	459.0	0.8	3.4	91.0	0.4	45.0
9/04/2021 09:00	459.1	0.4	3.6	89.0	0.4	67.5
9/04/2021 10:00	459.3	0.6	3.8	89.0	0.4	0.0
9/04/2021 11:00	459.1	0.2	5.1	87.0	0.9	45.0
9/04/2021 12:00	459.0	0.2	6.9	82.0	1.3	0.0
9/04/2021 13:00	458.4	0.0	7.3	78.0	1.8	337.5
9/04/2021 14:00	457.8	0.0	9.9	70.0	1.3	337.5
9/04/2021 15:00	457.2	0.0	11.7	62.0	1.8	22.5
9/04/2021 16:00	457.2	0.0	10.3	67.0	1.8	315.0
9/04/2021 17:00	456.9	0.0	9.8	70.0	2.2	337.5
9/04/2021 18:00	457.1	0.0	7.6	78.0	1.8	337.5
9/04/2021 19:00	457.5	0.0	6.8	78.0	0.9	0.0
9/04/2021 20:00	458.0	0.0	5.5	88.0	0.9	0.0
9/04/2021 21:00	458.4	0.0	5.2	89.0	0.4	22.5
9/04/2021 22:00	458.6	0.0	4.9	90.0	0.4	22.5
9/04/2021 23:00	458.4	0.0	5.1	88.0	0.4	22.5
10/04/2021 00:00	458.3	0.2	4.2	89.0	0.9	22.5
10/04/2021 01:00	458.1	0.0	3.9	90.0	1.3	157.5
10/04/2021 02:00	457.9	0.6	3.8	91.0	0.9	157.5
10/04/2021 03:00	457.6	1.2	3.4	91.0	0.9	225.0
10/04/2021 04:00	457.5	0.2	3.5	90.0	0.4	157.5
10/04/2021 05:00	457.5	0.0	3.2	89.0	0.4	225.0
10/04/2021 06:00	457.7	0.0	2.8	92.0	0.0	225.0
10/04/2021 07:00	458.3	0.0	3.2	91.0	0.4	202.5
10/04/2021 08:00	458.5	0.0	4.4	88.0	0.0	202.5
10/04/2021 09:00	458.8	0.0	6.4	81.0	0.4	202.5
10/04/2021 10:00	459.0	0.0	7.2	75.0	0.4	225.0
10/04/2021 11:00	458.4	0.0	8.2	70.0	0.4	315.0
10/04/2021 12:00	458.2	0.0	10.1	67.0	0.9	45.0
10/04/2021 13:00	457.6	0.0	10.2	70.0	1.3	22.5
10/04/2021 14:00	457.2	0.0	7.7	78.0	1.3	22.5
10/04/2021 15:00	456.8	0.0	9.9	70.0	1.3	45.0
10/04/2021 16:00	456.4	0.0	7.6	78.0	1.8	0.0
10/04/2021 17:00	456.5	0.0	6.8	82.0	1.8	0.0
10/04/2021 18:00	456.6	0.0	5.8	85.0	1.3	0.0
10/04/2021 19:00	457.0	0.0	5.2	86.0	1.3	0.0
10/04/2021 20:00	457.8	0.0	3.2	87.0	1.3	22.5
10/04/2021 21:00	458.2	0.0	2.3	90.0	1.3	180.0
10/04/2021 22:00	458.4	0.4	2.3	90.0	0.9	202.5
10/04/2021 23:00	458.3	0.6	2.3	91.0	0.4	180.0
11/04/2021 00:00	458.2	0.4	2.9	91.0	0.0	180.0

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11/04/2021 01:00	457.7	0.2	2.9	91.0	0.4	67.5
11/04/2021 02:00	457.5	0.0	2.6	93.0	0.4	45.0
11/04/2021 03:00	457.2	0.0	2.8	92.0	0.0	45.0
11/04/2021 04:00	457.1	0.0	2.8	91.0	0.0	45.0
11/04/2021 05:00	457.0	0.0	2.8	92.0	0.4	202.5
11/04/2021 06:00	457.2	0.0	3.2	91.0	0.0	202.5
11/04/2021 07:00	457.4	0.0	3.6	89.0	0.0	202.5
11/04/2021 08:00	457.8	0.0	5.5	82.0	0.0	202.5
11/04/2021 09:00	458.0	0.0	6.0	82.0	0.9	0.0
11/04/2021 10:00	458.1	0.0	7.1	80.0	0.9	22.5
11/04/2021 11:00	458.2	0.0	9.6	73.0	1.3	22.5
11/04/2021 12:00	457.8	0.0	10.1	70.0	0.9	22.5
11/04/2021 13:00	457.3	0.0	9.9	69.0	1.3	22.5
11/04/2021 14:00	456.9	0.0	12.3	66.0	1.8	22.5
11/04/2021 15:00	456.0	0.2	8.6	59.0	1.3	22.5
11/04/2021 16:00	456.1	0.0	7.9	79.0	1.8	22.5
11/04/2021 17:00	456.4	0.0	6.9	81.0	1.8	0.0
11/04/2021 18:00	456.7	0.0	5.8	84.0	1.3	0.0
11/04/2021 19:00	457.2	0.0	5.2	84.0	0.9	315.0
11/04/2021 20:00	457.7	0.0	4.2	85.0	0.9	247.5
11/04/2021 21:00	458.1	0.0	3.7	86.0	1.3	247.5
11/04/2021 22:00	458.0	0.0	3.9	85.0	0.4	180.0
11/04/2021 23:00	458.3	0.0	4.3	85.0	0.4	45.0

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12/04/2021 00:00	458.3	0.0	3.9	86.0	0.4	22.5
12/04/2021 01:00	457.9	0.0	3.9	87.0	0.4	337.5
12/04/2021 02:00	457.5	0.0	4.3	87.0	0.4	0.0
12/04/2021 03:00	457.3	0.0	4.3	87.0	0.4	22.5
12/04/2021 04:00	457.4	0.0	3.9	90.0	0.0	22.5
12/04/2021 05:00	457.3	0.2	3.7	91.0	0.4	22.5
12/04/2021 06:00	457.6	0.0	3.6	89.0	0.0	22.5
12/04/2021 07:00	457.8	0.0	4.1	87.0	0.4	337.5
12/04/2021 08:00	458.4	0.0	5.3	84.0	0.4	90.0
12/04/2021 09:00	458.7	0.0	5.9	83.0	0.9	45.0
12/04/2021 10:00	459.0	0.0	8.4	71.0	0.9	45.0
12/04/2021 11:00	458.8	0.0	9.4	71.0	0.9	45.0
12/04/2021 12:00	458.1	0.0	8.1	77.0	1.8	315.0
12/04/2021 13:00	457.8	0.0	8.6	75.0	1.8	0.0
12/04/2021 14:00	457.4	0.0	10.7	67.0	1.8	22.5
12/04/2021 15:00	457.2	0.0	7.4	82.0	1.8	45.0
12/04/2021 16:00	457.0	0.8	5.8	87.0	1.3	0.0
12/04/2021 17:00	457.1	0.0	6.2	84.0	0.9	22.5
12/04/2021 18:00	457.4	0.0	5.6	86.0	0.9	22.5
12/04/2021 19:00	457.8	0.0	5.3	88.0	0.9	0.0
12/04/2021 20:00	458.2	0.0	4.9	90.0	0.9	22.5
12/04/2021 21:00	458.5	0.0	4.8	88.0	0.9	22.5
12/04/2021 22:00	458.8	0.0	4.2	90.0	0.9	45.0
12/04/2021 23:00	458.7	0.0	3.8	91.0	0.4	22.5

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13/04/2021 00:00	458.8	0.0	4.2	89.0	0.4	45.0
13/04/2021 01:00	458.4	0.2	3.8	91.0	0.4	67.5
13/04/2021 02:00	458.3	0.0	3.9	90.0	0.4	112.5
13/04/2021 03:00	458.1	0.0	3.7	88.0	0.4	22.5
13/04/2021 04:00	458.0	0.0	3.8	88.0	0.4	45.0
13/04/2021 05:00	458.1	0.0	3.7	88.0	0.0	45.0
13/04/2021 06:00	458.4	0.0	3.7	89.0	0.4	90.0
13/04/2021 07:00	458.8	0.0	4.1	88.0	0.4	112.5
13/04/2021 08:00	459.3	0.0	5.3	83.0	0.4	67.5
13/04/2021 09:00	459.4	0.0	6.3	81.0	0.4	45.0
13/04/2021 10:00	459.4	0.0	7.4	75.0	1.3	157.5
13/04/2021 11:00	459.3	0.0	9.2	68.0	1.3	22.5
13/04/2021 12:00	459.0	0.0	8.8	74.0	1.3	135.0
13/04/2021 13:00	458.7	0.0	11.7	68.0	1.8	22.5
13/04/2021 14:00	458.2	0.0	11.6	66.0	1.8	22.5
13/04/2021 15:00	457.8	0.0	9.4	72.0	1.8	22.5
13/04/2021 16:00	457.8	0.0	8.6	78.0	1.3	45.0
13/04/2021 17:00	457.8	0.0	7.0	82.0	1.3	22.5
13/04/2021 18:00	458.1	0.0	6.2	83.0	0.9	0.0
13/04/2021 19:00	458.4	0.0	5.8	84.0	0.4	337.5
13/04/2021 20:00	458.6	0.0	5.2	86.0	0.4	45.0
13/04/2021 21:00	459.0	0.0	4.4	87.0	0.0	45.0
13/04/2021 22:00	459.2	0.0	3.7	89.0	0.4	45.0
13/04/2021 23:00	459.4	0.0	4.1	89.0	0.4	22.5

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14/04/2021 00:00	459.1	0.0	4.1	87.0	0.4	22.5
14/04/2021 01:00	458.7	0.0	4.1	87.0	0.4	135.0
14/04/2021 02:00	458.2	0.0	4.2	87.0	0.4	45.0
14/04/2021 03:00	457.8	0.0	4.2	87.0	0.0	45.0
14/04/2021 04:00	458.1	0.0	4.0	88.0	0.4	22.5
14/04/2021 05:00	457.9	0.0	3.9	89.0	0.4	22.5
14/04/2021 06:00	458.3	0.0	3.8	90.0	0.4	0.0
14/04/2021 07:00	459.0	0.2	3.6	90.0	0.4	45.0
14/04/2021 08:00	459.4	1.2	2.6	88.0	0.4	45.0
14/04/2021 09:00	459.7	1.2	2.9	90.0	0.9	45.0
14/04/2021 10:00	459.6	0.4	5.5	86.0	0.4	45.0
14/04/2021 11:00	459.6	0.0	8.3	75.0	1.3	22.5
14/04/2021 12:00	459.2	0.0	8.9	73.0	0.9	22.5
14/04/2021 13:00	458.6	0.0	10.2	65.0	1.8	22.5
14/04/2021 14:00	457.9	0.0	11.2	66.0	1.3	22.5
14/04/2021 15:00	457.3	0.0	9.1	73.0	1.3	45.0
14/04/2021 16:00	457.1	0.0	7.9	76.0	1.3	337.5
14/04/2021 17:00	457.2	0.0	7.2	82.0	1.3	337.5

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14/04/2021 18:00	457.5	0.0	6.4	83.0	1.3	0.0
14/04/2021 19:00	457.9	0.2	5.2	84.0	1.3	0.0
14/04/2021 20:00	458.2	0.4	4.0	88.0	0.4	180.0
14/04/2021 21:00	458.5	0.0	4.8	89.0	0.0	180.0
14/04/2021 22:00	458.6	0.0	4.8	87.0	0.4	22.5
14/04/2021 23:00	458.7	0.0	4.1	89.0	0.0	22.5
15/04/2021 00:00	458.2	0.0	4.4	90.0	0.0	22.5
15/04/2021 01:00	458.0	0.0	3.8	90.0	0.4	45.0
15/04/2021 02:00	457.6	0.0	4.1	91.0	0.0	45.0
15/04/2021 03:00	457.3	0.0	4.4	91.0	0.0	45.0
15/04/2021 04:00	457.2	0.0	3.9	90.0	0.4	67.5
15/04/2021 05:00	457.2	0.0	4.0	91.0	0.0	67.5
15/04/2021 06:00	457.5	0.0	4.1	89.0	0.4	45.0
15/04/2021 07:00	458.0	0.0	4.1	90.0	0.0	45.0
15/04/2021 08:00	458.5	0.0	4.7	89.0	0.4	45.0
15/04/2021 09:00	458.7	0.2	6.4	83.0	0.9	45.0
15/04/2021 10:00	458.7	0.0	8.3	76.0	0.9	22.5
15/04/2021 11:00	458.6	0.0	10.4	67.0	1.3	22.5
15/04/2021 12:00	458.2	0.0	10.7	64.0	1.3	157.5
15/04/2021 13:00	457.9	0.0	11.3	64.0	1.3	22.5
15/04/2021 14:00	457.5	0.0	11.3	69.0	1.8	22.5
15/04/2021 15:00	456.9	0.0	11.9	60.0	1.8	22.5
15/04/2021 16:00	456.7	0.0	10.4	64.0	1.3	45.0
15/04/2021 17:00	456.9	0.0	10.2	66.0	1.3	45.0
15/04/2021 18:00	457.0	0.0	7.3	82.0	1.3	337.5
15/04/2021 19:00	457.2	0.0	5.9	87.0	0.9	22.5
15/04/2021 20:00	457.6	0.0	5.8	89.0	0.9	0.0
15/04/2021 21:00	457.8	0.0	5.3	88.0	0.9	45.0
15/04/2021 22:00	458.0	0.0	4.7	86.0	0.9	45.0
15/04/2021 23:00	458.1	0.0	4.2	84.0	0.4	45.0
16/04/2021 00:00	458.1	0.0	3.8	86.0	0.0	45.0
16/04/2021 01:00	457.7	0.0	3.3	86.0	0.0	45.0
16/04/2021 02:00	457.4	0.0	2.8	89.0	0.0	45.0
16/04/2021 03:00	457.2	0.0	2.4	89.0	0.0	45.0
16/04/2021 04:00	456.9	0.0	1.9	91.0	0.4	247.5
16/04/2021 05:00	457.0	0.0	1.4	92.0	0.0	247.5
16/04/2021 06:00	457.5	0.0	0.7	92.0	0.0	247.5
16/04/2021 07:00	457.9	0.0	2.0	93.0	0.0	247.5
16/04/2021 08:00	458.2	0.0	4.0	87.0	0.9	180.0
16/04/2021 09:00	458.8	0.0	6.6	78.0	0.9	180.0
16/04/2021 10:00	458.7	0.0	8.6	69.0	0.9	157.5
16/04/2021 11:00	458.4	0.0	11.4	58.0	0.9	45.0
16/04/2021 12:00	458.1	0.0	12.3	56.0	1.3	22.5
16/04/2021 13:00	457.8	0.0	12.3	53.0	1.3	157.5
16/04/2021 14:00	457.2	0.0	13.3	47.0	1.3	157.5
16/04/2021 15:00	456.9	0.0	12.3	51.0	1.3	157.5
16/04/2021 16:00	456.8	0.0	12.0	55.0	1.8	45.0
16/04/2021 17:00	456.9	0.0	11.2	55.0	1.8	45.0
16/04/2021 18:00	457.2	0.0	8.4	78.0	1.3	45.0
16/04/2021 19:00	457.5	0.0	6.6	83.0	0.4	22.5
16/04/2021 20:00	457.8	0.0	5.3	89.0	0.4	0.0
16/04/2021 21:00	458.3	0.0	4.9	88.0	0.4	0.0
16/04/2021 22:00	458.5	0.0	4.7	87.0	0.4	0.0
16/04/2021 23:00	458.6	0.0	3.9	88.0	0.0	0.0
17/04/2021 00:00	458.4	0.0	3.3	88.0	0.0	0.0
17/04/2021 01:00	458.0	0.0	2.8	91.0	0.4	45.0
17/04/2021 02:00	457.8	0.0	1.8	92.0	0.0	45.0
17/04/2021 03:00	457.8	0.0	0.9	93.0	0.0	45.0
17/04/2021 04:00	457.6	0.0	1.1	94.0	0.0	45.0
17/04/2021 05:00	457.7	0.0	1.1	94.0	0.4	315.0
17/04/2021 06:00	457.9	0.0	1.1	94.0	0.0	315.0
17/04/2021 07:00	458.4	0.0	0.7	94.0	0.4	292.5
17/04/2021 08:00	458.7	0.0	1.7	94.0	0.4	180.0
17/04/2021 09:00	459.0	0.0	3.3	94.0	0.4	157.5
17/04/2021 10:00	459.3	0.0	5.7	87.0	0.9	157.5
17/04/2021 11:00	459.0	0.0	9.1	65.0	0.9	247.5
17/04/2021 12:00	458.7	0.0	11.8	54.0	1.3	157.5
17/04/2021 13:00	458.2	0.0	12.5	52.0	1.3	157.5
17/04/2021 14:00	457.5	0.0	13.5	45.0	1.8	157.5
17/04/2021 15:00	457.2	0.0	13.4	53.0	1.8	22.5
17/04/2021 16:00	457.2	0.0	9.8	63.0	1.8	45.0
17/04/2021 17:00	457.3	0.0	8.6	68.0	1.3	45.0
17/04/2021 18:00	457.5	0.0	7.6	73.0	1.3	45.0
17/04/2021 19:00	457.8	0.0	6.1	78.0	1.3	45.0
17/04/2021 20:00	458.3	0.0	5.2	81.0	0.9	22.5
17/04/2021 21:00	458.6	0.0	4.3	85.0	0.4	0.0
17/04/2021 22:00	458.7	0.0	3.8	85.0	0.0	0.0
17/04/2021 23:00	458.7	0.0	3.6	88.0	0.4	247.5
18/04/2021 00:00	458.4	0.0	2.8	89.0	0.0	247.5
18/04/2021 01:00	458.1	0.0	2.6	91.0	0.4	292.5
18/04/2021 02:00	457.8	0.0	2.3	92.0	0.4	247.5
18/04/2021 03:00	457.7	0.0	2.0	91.0	0.4	247.5
18/04/2021 04:00	457.6	0.0	2.0	90.0	0.4	247.5
18/04/2021 05:00	457.5	0.0	0.8	92.0	0.4	202.5
18/04/2021 06:00	457.8	0.0	0.9	92.0	0.0	202.5
18/04/2021 07:00	458.1	0.0	-0.1	93.0	0.4	202.5
18/04/2021 08:00	458.4	0.0	2.3	94.0	0.0	202.5
18/04/2021 09:00	458.8	0.0	8.1	65.0	0.4	202.5
18/04/2021 10:00	459.0	0.0	11.1	54.0	1.3	22.5

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18	18/04/2021 11:00	459.1	0.0	10.5	53.0	2.2	45.0
	18/04/2021 12:00	458.7	0.0	10.0	61.0	1.8	135.0
	18/04/2021 13:00	458.4	0.0	10.2	63.0	1.8	157.5
	18/04/2021 14:00	457.9	0.0	9.7	64.0	1.8	45.0
	18/04/2021 15:00	457.5	0.0	11.2	57.0	1.3	45.0
	18/04/2021 16:00	457.2	0.0	10.6	59.0	1.8	45.0
	18/04/2021 17:00	457.3	0.0	10.2	58.0	1.3	157.5
	18/04/2021 18:00	457.8	0.0	7.7	73.0	1.3	45.0
	18/04/2021 19:00	457.9	0.0	5.7	83.0	0.9	45.0
	18/04/2021 20:00	458.1	0.0	4.6	87.0	0.9	315.0
	18/04/2021 21:00	458.6	0.0	4.3	88.0	0.4	270.0
	18/04/2021 22:00	458.7	0.0	3.8	90.0	0.4	270.0
	18/04/2021 23:00	458.9	0.0	3.2	91.0	0.0	270.0
	19/04/2021 00:00	458.6	0.0	2.9	91.0	0.0	270.0
	19/04/2021 01:00	458.4	0.0	2.5	91.0	0.4	202.5
	19/04/2021 02:00	458.1	0.0	1.8	91.0	0.0	202.5
	19/04/2021 03:00	458.1	0.0	1.3	91.0	0.0	202.5
	19/04/2021 04:00	458.1	0.0	0.0	92.0	0.4	202.5
19/04/2021 05:00	458.0	0.0	0.3	93.0	0.0	202.5	
19/04/2021 06:00	458.4	0.0	0.7	92.0	0.0	202.5	
19/04/2021 07:00	458.7	0.0	0.8	93.0	0.0	202.5	
19/04/2021 08:00	459.3	0.0	1.9	94.0	0.4	202.5	
19/04/2021 09:00	459.3	0.0	3.9	89.0	0.9	202.5	
19/04/2021 10:00	459.5	0.0	5.6	83.0	0.9	202.5	
19/04/2021 11:00	459.2	0.0	7.3	77.0	1.3	180.0	
19	19/04/2021 12:00	459.0	0.0	10.6	58.0	0.9	292.5
	19/04/2021 13:00	458.6	0.0	11.3	56.0	1.3	22.5
	19/04/2021 14:00	458.1	0.0	12.4	51.0	1.3	45.0
	19/04/2021 15:00	457.8	0.0	11.5	61.0	1.3	45.0
	19/04/2021 16:00	457.7	0.0	7.1	77.0	2.7	0.0
	19/04/2021 17:00	457.7	0.0	7.7	72.0	1.8	0.0
	19/04/2021 18:00	457.7	0.0	6.4	76.0	1.3	22.5
	19/04/2021 19:00	458.1	0.0	5.8	80.0	0.9	337.5
	19/04/2021 20:00	458.5	0.0	4.8	79.0	0.4	315.0
	19/04/2021 21:00	458.7	0.0	4.3	85.0	0.0	315.0
	19/04/2021 22:00	458.7	0.0	3.7	84.0	0.0	315.0
	19/04/2021 23:00	458.7	0.0	2.7	86.0	0.0	315.0
	20/04/2021 00:00	458.5	0.0	2.3	88.0	0.4	225.0
	20/04/2021 01:00	458.2	0.0	1.5	88.0	0.0	225.0
	20/04/2021 02:00	458.1	0.0	1.4	90.0	0.0	225.0
	20/04/2021 03:00	457.8	0.0	0.8	90.0	0.0	225.0
	20/04/2021 04:00	457.9	0.0	0.0	91.0	0.0	225.0
	20/04/2021 05:00	458.0	0.0	0.0	92.0	0.0	225.0
20/04/2021 06:00	458.2	0.0	0.4	93.0	0.0	225.0	
20/04/2021 07:00	458.6	0.0	0.1	92.0	0.0	225.0	
20/04/2021 08:00	459.0	0.0	0.9	92.0	0.9	180.0	
20/04/2021 09:00	459.4	0.0	7.7	67.0	0.9	202.5	
20/04/2021 10:00	459.6	0.0	9.8	59.0	0.9	45.0	
20/04/2021 11:00	459.5	0.0	9.2	67.0	1.3	45.0	
20	20/04/2021 12:00	459.0	0.0	9.3	63.0	1.3	0.0
	20/04/2021 13:00	458.6	0.0	8.3	68.0	1.3	22.5
	20/04/2021 14:00	458.1	0.6	6.3	76.0	1.8	315.0
	20/04/2021 15:00	457.6	0.0	9.2	65.0	1.3	270.0
	20/04/2021 16:00	457.8	0.0	5.6	79.0	1.3	22.5
	20/04/2021 17:00	457.9	6.0	3.5	87.0	0.9	45.0
	20/04/2021 18:00	458.1	1.8	4.2	87.0	0.9	45.0
	20/04/2021 19:00	458.4	0.6	3.7	86.0	0.4	45.0
	20/04/2021 20:00	458.7	0.2	3.2	89.0	0.0	45.0
	20/04/2021 21:00	458.9	0.2	3.4	88.0	0.4	157.5
	20/04/2021 22:00	459.0	0.2	3.4	88.0	0.4	202.5
	20/04/2021 23:00	458.8	0.2	2.9	89.0	0.4	202.5
	21/04/2021 00:00	458.7	0.0	2.9	89.0	0.4	180.0
	21/04/2021 01:00	458.4	0.2	1.8	90.0	0.4	202.5
	21/04/2021 02:00	458.1	0.0	1.1	91.0	0.0	202.5
	21/04/2021 03:00	457.9	0.0	0.9	92.0	0.0	202.5
	21/04/2021 04:00	458.0	0.0	1.3	93.0	0.0	202.5
	21/04/2021 05:00	457.8	0.0	1.2	93.0	0.4	202.5
21/04/2021 06:00	458.2	0.0	1.4	94.0	0.0	202.5	
21/04/2021 07:00	458.3	0.0	1.9	94.0	0.0	202.5	
21/04/2021 08:00	458.7	0.4	3.1	93.0	0.4	202.5	
21/04/2021 09:00	459.3	0.8	4.6	92.0	1.3	180.0	
21/04/2021 10:00	459.3	0.2	9.0	61.0	1.3	202.5	
21	21/04/2021 11:00	458.9	0.0	11.8	50.0	0.9	22.5
	21/04/2021 12:00	458.7	0.0	11.7	49.0	1.3	157.5
	21/04/2021 13:00	458.1	0.0	9.6	62.0	0.9	315.0
	21/04/2021 14:00	457.5	0.2	9.4	65.0	1.3	315.0
	21/04/2021 15:00	457.5	0.2	7.3	73.0	1.8	315.0
	21/04/2021 16:00	457.0	1.0	7.7	75.0	1.3	22.5
	21/04/2021 17:00	457.1	0.0	10.2	63.0	0.9	45.0
	21/04/2021 18:00	457.5	0.0	6.7	74.0	0.9	337.5
	21/04/2021 19:00	457.8	0.0	5.9	79.0	0.9	337.5
	21/04/2021 20:00	458.2	0.0	4.9	82.0	0.9	225.0
	21/04/2021 21:00	458.5	0.0	4.1	84.0	0.4	247.5
	21/04/2021 22:00	458.6	0.0	3.4	84.0	0.4	247.5
	21/04/2021 23:00	458.4	0.0	2.8	87.0	0.0	247.5
	22/04/2021 00:00	458.4	0.0	1.9	89.0	0.0	247.5
	22/04/2021 01:00	457.9	0.0	1.4	90.0	0.0	247.5
	22/04/2021 02:00	457.5	0.0	1.2	91.0	0.4	225.0
	22/04/2021 03:00	457.4	0.0	0.1	91.0	0.4	225.0

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22/04/2021 04:00	457.4	0.0	0.4	93.0	0.4	337.5
22/04/2021 05:00	457.4	0.0	1.2	94.0	0.0	337.5
22/04/2021 06:00	457.6	0.0	1.4	94.0	0.4	315.0
22/04/2021 07:00	458.1	0.0	1.4	94.0	0.4	315.0
22/04/2021 08:00	458.5	0.0	1.4	94.0	0.4	225.0
22/04/2021 09:00	458.8	0.0	3.9	94.0	0.4	157.5
22/04/2021 10:00	459.0	0.0	6.3	81.0	0.9	180.0
22/04/2021 11:00	458.4	0.0	10.6	56.0	0.9	315.0
22/04/2021 12:00	458.0	0.0	11.1	51.0	1.3	0.0
22/04/2021 13:00	457.4	0.0	13.1	47.0	1.8	22.5
22/04/2021 14:00	456.9	0.0	12.0	53.0	2.2	315.0
22/04/2021 15:00	456.5	0.0	11.2	65.0	2.2	337.5
22/04/2021 16:00	456.6	0.0	11.7	60.0	2.2	0.0
22/04/2021 17:00	456.3	0.0	8.8	69.0	2.7	0.0
22/04/2021 18:00	456.8	0.0	6.2	81.0	2.2	0.0
22/04/2021 19:00	457.2	0.0	5.8	82.0	1.8	0.0
22/04/2021 20:00	457.9	0.0	4.3	86.0	1.3	337.5
22/04/2021 21:00	458.1	0.0	3.7	87.0	0.9	180.0
22/04/2021 22:00	458.4	0.0	3.8	88.0	0.9	202.5
22/04/2021 23:00	458.1	0.0	3.7	88.0	0.9	180.0
23/04/2021 00:00	457.9	0.0	3.3	89.0	0.9	202.5
23/04/2021 01:00	457.5	0.0	3.3	89.0	0.4	225.0
23/04/2021 02:00	457.0	0.0	2.7	89.0	0.0	225.0
23/04/2021 03:00	457.2	0.0	2.2	90.0	0.0	225.0
23/04/2021 04:00	457.4	0.0	2.2	90.0	0.0	225.0
23/04/2021 05:00	457.4	0.0	2.8	90.0	0.0	225.0
23/04/2021 06:00	457.6	0.0	1.6	90.0	0.4	225.0
23/04/2021 07:00	457.9	0.0	0.9	92.0	0.0	225.0
23/04/2021 08:00	458.3	0.0	4.3	91.0	0.0	225.0
23/04/2021 09:00	458.6	0.0	7.8	74.0	0.9	180.0
23/04/2021 10:00	458.4	0.0	8.9	67.0	0.9	270.0
23/04/2021 11:00	458.2	0.0	9.4	65.0	0.9	315.0
23/04/2021 12:00	457.6	0.0	13.1	55.0	0.9	22.5
23/04/2021 13:00	457.2	0.0	12.1	58.0	1.8	45.0
23/04/2021 14:00	456.6	0.0	13.1	58.0	1.8	22.5
23/04/2021 15:00	456.3	0.0	11.8	67.0	2.2	22.5
23/04/2021 16:00	456.3	0.4	5.9	78.0	1.8	135.0
23/04/2021 17:00	456.5	4.0	5.1	85.0	1.3	135.0
23/04/2021 18:00	456.9	2.0	4.0	88.0	0.9	0.0
23/04/2021 19:00	457.2	1.4	3.8	88.0	0.9	45.0
23/04/2021 20:00	457.8	0.0	3.2	91.0	0.9	22.5
23/04/2021 21:00	458.1	0.2	2.9	91.0	0.4	22.5
23/04/2021 22:00	458.4	0.0	3.3	90.0	0.0	22.5
23/04/2021 23:00	458.5	0.0	3.1	91.0	0.0	22.5
24/04/2021 00:00	458.4	0.0	3.1	90.0	0.4	315.0
24/04/2021 01:00	457.9	0.0	2.3	90.0	0.0	315.0
24/04/2021 02:00	457.7	0.0	1.8	91.0	0.0	315.0
24/04/2021 03:00	457.4	0.0	1.4	92.0	0.0	315.0
24/04/2021 04:00	457.4	0.0	0.8	93.0	0.4	292.5
24/04/2021 05:00	457.4	0.0	0.3	93.0	0.0	292.5
24/04/2021 06:00	457.8	0.0	-0.2	93.0	0.0	292.5
24/04/2021 07:00	458.1	0.0	0.1	94.0	0.0	292.5
24/04/2021 08:00	458.2	0.0	1.9	94.0	0.0	292.5
24/04/2021 09:00	458.7	0.0	6.1	88.0	0.4	135.0
24/04/2021 10:00	458.8	0.0	7.3	80.0	1.3	337.5
24/04/2021 11:00	458.7	0.0	9.2	71.0	1.3	0.0
24/04/2021 12:00	458.2	0.0	11.9	65.0	1.8	22.5
24/04/2021 13:00	457.8	0.0	10.9	63.0	2.7	315.0
24/04/2021 14:00	457.2	0.0	11.3	63.0	2.2	337.5
24/04/2021 15:00	456.6	0.0	12.7	64.0	2.2	0.0
24/04/2021 16:00	456.5	0.0	11.2	69.0	2.2	0.0
24/04/2021 17:00	456.4	0.0	9.1	74.0	2.2	0.0
24/04/2021 18:00	456.6	0.0	6.9	76.0	2.2	0.0
24/04/2021 19:00	457.2	0.0	5.7	84.0	1.8	0.0
24/04/2021 20:00	457.6	0.0	5.3	87.0	1.3	0.0
24/04/2021 21:00	457.8	0.0	5.4	88.0	0.9	45.0
24/04/2021 22:00	457.8	0.0	5.3	85.0	0.4	337.5
24/04/2021 23:00	457.7	0.0	4.7	86.0	0.4	315.0
25/04/2021 00:00	457.8	0.0	4.4	87.0	0.4	315.0
25/04/2021 01:00	457.5	0.0	2.7	90.0	0.0	315.0
25/04/2021 02:00	457.2	0.0	2.1	91.0	0.0	315.0
25/04/2021 03:00	457.1	0.0	2.5	93.0	0.0	315.0
25/04/2021 04:00	457.2	0.0	2.3	93.0	0.0	315.0
25/04/2021 05:00	457.5	0.0	2.5	88.0	0.9	337.5
25/04/2021 06:00	457.5	0.0	2.3	87.0	0.0	337.5
25/04/2021 07:00	457.7	0.0	2.6	88.0	0.0	337.5
25/04/2021 08:00	458.2	0.0	4.1	85.0	0.4	247.5
25/04/2021 09:00	458.7	0.0	7.5	72.0	0.4	180.0
25/04/2021 10:00	458.7	0.0	8.4	65.0	0.9	22.5
25/04/2021 11:00	458.7	0.0	10.9	50.0	0.9	22.5
25/04/2021 12:00	458.1	0.0	12.3	52.0	1.3	337.5
25/04/2021 13:00	457.8	0.0	11.7	56.0	2.2	315.0
25/04/2021 14:00	457.4	0.0	13.5	55.0	2.7	315.0
25/04/2021 15:00	456.8	0.0	11.8	64.0	2.7	337.5
25/04/2021 16:00	456.6	0.0	12.8	61.0	1.8	337.5
25/04/2021 17:00	456.7	0.0	9.2	71.0	2.2	0.0
25/04/2021 18:00	456.9	0.0	7.6	76.0	1.3	337.5
25/04/2021 19:00	457.4	0.0	6.6	81.0	1.3	337.5
25/04/2021 20:00	457.8	0.0	6.2	85.0	0.4	22.5

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25/04/2021 21:00	458.2	0.0	5.9	87.0	0.4	337.5
25/04/2021 22:00	458.2	0.0	5.9	86.0	0.4	315.0
25/04/2021 23:00	458.2	0.0	5.3	88.0	0.4	0.0
26/04/2021 00:00	458.3	0.0	4.9	88.0	0.4	0.0
26/04/2021 01:00	457.6	0.0	4.3	88.0	0.4	337.5
26/04/2021 02:00	457.5	0.0	3.7	90.0	0.4	337.5
26/04/2021 03:00	457.2	0.0	4.0	92.0	0.0	337.5
26/04/2021 04:00	457.0	0.0	3.9	90.0	0.4	180.0
26/04/2021 05:00	457.2	0.0	3.6	89.0	0.0	180.0
26/04/2021 06:00	457.2	0.0	2.8	91.0	0.0	180.0
26/04/2021 07:00	457.5	0.0	3.4	90.0	0.4	157.5
26/04/2021 08:00	457.8	0.0	5.5	80.0	0.4	157.5
26/04/2021 09:00	458.1	0.0	9.3	62.0	0.4	90.0
26/04/2021 10:00	458.3	0.0	7.7	67.0	0.9	315.0
26/04/2021 11:00	458.3	0.0	8.8	65.0	0.9	0.0
26/04/2021 12:00	457.6	0.0	9.1	63.0	0.9	315.0
26/04/2021 13:00	457.2	0.0	11.9	57.0	1.3	315.0
26/04/2021 14:00	456.3	0.0	13.4	57.0	1.8	337.5
26/04/2021 15:00	456.3	1.2	7.9	70.0	2.2	337.5
26/04/2021 16:00	456.5	2.6	4.9	83.0	0.9	45.0
26/04/2021 17:00	456.9	1.0	4.6	78.0	1.8	337.5
26/04/2021 18:00	457.1	0.6	4.3	82.0	0.9	45.0
26/04/2021 19:00	457.5	0.4	3.1	87.0	0.9	45.0
26/04/2021 20:00	458.0	0.4	2.9	87.0	0.9	45.0
26/04/2021 21:00	458.1	0.2	3.6	85.0	0.0	45.0
26/04/2021 22:00	458.4	0.0	3.7	84.0	0.0	45.0
26/04/2021 23:00	458.4	0.2	3.8	85.0	0.4	45.0
27/04/2021 00:00	458.3	0.2	3.4	88.0	0.4	157.5
27/04/2021 01:00	457.8	0.0	2.9	80.0	0.0	157.5
27/04/2021 02:00	457.5	0.0	2.7	85.0	0.0	157.5
27/04/2021 03:00	457.0	0.0	2.3	82.0	0.4	225.0
27/04/2021 04:00	457.0	0.0	2.4	76.0	0.4	270.0
27/04/2021 05:00	457.2	0.0	2.1	77.0	0.0	270.0
27/04/2021 06:00	457.3	0.0	1.4	83.0	0.0	270.0
27/04/2021 07:00	457.6	0.0	2.1	83.0	0.0	270.0
27/04/2021 08:00	457.9	0.0	3.3	83.0	0.4	270.0
27/04/2021 09:00	458.2	0.4	5.3	74.0	0.4	270.0
27/04/2021 10:00	458.3	0.0	7.1	65.0	0.9	157.5
27/04/2021 11:00	458.1	0.0	9.9	51.0	0.9	202.5
27/04/2021 12:00	457.5	0.0	11.6	34.0	0.9	315.0
27/04/2021 13:00	457.0	0.0	12.1	40.0	1.3	180.0
27/04/2021 14:00	456.6	0.0	11.8	59.0	1.3	315.0
27/04/2021 15:00	456.2	0.0	10.0	68.0	2.7	337.5
27/04/2021 16:00	456.3	0.0	9.6	74.0	2.2	337.5
27/04/2021 17:00	456.3	0.0	7.6	79.0	2.2	0.0
27/04/2021 18:00	456.6	0.0	6.1	82.0	1.8	0.0
27/04/2021 19:00	457.1	0.0	5.1	86.0	1.3	0.0
27/04/2021 20:00	457.4	0.0	4.7	87.0	0.9	0.0
27/04/2021 21:00	457.7	0.0	4.4	88.0	0.9	22.5
27/04/2021 22:00	457.9	0.0	4.1	87.0	0.4	315.0
27/04/2021 23:00	457.8	0.0	3.8	88.0	0.4	315.0
28/04/2021 00:00	457.8	0.0	3.1	91.0	0.4	315.0
28/04/2021 01:00	457.6	0.0	2.2	92.0	0.4	180.0
28/04/2021 02:00	457.2	0.0	2.3	93.0	0.0	180.0
28/04/2021 03:00	457.1	0.0	2.6	86.0	0.4	247.5
28/04/2021 04:00	456.9	0.0	2.4	88.0	0.0	247.5
28/04/2021 05:00	456.9	0.0	1.3	91.0	0.4	202.5
28/04/2021 06:00	457.4	0.0	1.2	93.0	0.4	45.0
28/04/2021 07:00	457.8	0.0	2.1	91.0	0.4	45.0
28/04/2021 08:00	457.9	0.0	3.6	84.0	0.9	0.0
28/04/2021 09:00	458.4	0.0	6.2	76.0	0.9	337.5
28/04/2021 10:00	458.5	0.0	8.1	66.0	0.9	45.0
28/04/2021 11:00	458.3	0.0	8.8	62.0	1.3	45.0
28/04/2021 12:00	458.0	0.0	10.3	56.0	1.8	315.0
28/04/2021 13:00	457.6	0.0	11.3	55.0	1.3	22.5
28/04/2021 14:00	457.0	0.0	12.4	48.0	1.3	337.5
28/04/2021 15:00	456.4	0.0	13.0	45.0	1.8	337.5
28/04/2021 16:00	456.3	0.0	11.7	53.0	1.8	22.5
28/04/2021 17:00	456.3	0.0	9.9	68.0	1.8	337.5
28/04/2021 18:00	456.6	0.0	7.1	70.0	2.2	0.0
28/04/2021 19:00	457.0	0.0	6.0	78.0	1.8	0.0
28/04/2021 20:00	457.4	0.0	5.0	86.0	0.9	0.0
28/04/2021 21:00	457.7	0.0	4.7	85.0	0.9	45.0
28/04/2021 22:00	457.9	0.0	4.7	88.0	0.4	22.5
28/04/2021 23:00	458.1	0.0	4.2	88.0	0.9	22.5
29/04/2021 00:00	458.2	0.0	3.9	88.0	0.4	45.0
29/04/2021 01:00	457.9	0.0	3.7	88.0	0.9	22.5
29/04/2021 02:00	457.6	0.0	3.4	88.0	0.4	0.0
29/04/2021 03:00	457.4	0.0	2.6	90.0	0.9	0.0
29/04/2021 04:00	457.4	0.0	2.8	89.0	0.4	337.5
29/04/2021 05:00	457.5	0.0	2.9	88.0	0.0	337.5
29/04/2021 06:00	457.7	0.0	2.6	89.0	0.4	315.0
29/04/2021 07:00	458.0	0.0	2.6	91.0	0.4	315.0
29/04/2021 08:00	458.4	0.0	4.7	79.0	0.4	22.5
29/04/2021 09:00	458.7	0.0	7.3	70.0	0.4	202.5
29/04/2021 10:00	458.8	0.0	9.4	58.0	1.3	22.5
29/04/2021 11:00	458.6	0.0	9.6	63.0	0.9	22.5
29/04/2021 12:00	458.3	0.0	9.7	65.0	1.3	22.5
29/04/2021 13:00	457.9	0.0	12.1	58.0	1.8	22.5

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29/04/2021 14:00	457.4	0.0	11.5	62.0	2.7	337.5
29/04/2021 15:00	456.9	0.0	10.8	67.0	2.2	337.5
29/04/2021 16:00	456.7	0.0	11.3	66.0	2.2	0.0
29/04/2021 17:00	456.8	0.0	7.9	76.0	2.2	0.0
29/04/2021 18:00	457.2	0.0	5.8	84.0	2.2	0.0
29/04/2021 19:00	457.5	0.0	5.5	87.0	1.8	0.0
29/04/2021 20:00	457.8	0.0	5.3	86.0	1.8	0.0
29/04/2021 21:00	458.2	0.0	5.0	88.0	1.8	0.0
29/04/2021 22:00	458.3	0.0	4.8	89.0	1.3	0.0
29/04/2021 23:00	458.3	0.0	4.4	89.0	1.3	0.0
30/04/2021 00:00	458.1	0.0	4.3	89.0	0.9	22.5
30/04/2021 01:00	457.9	0.0	3.8	89.0	0.9	337.5
30/04/2021 02:00	457.8	0.0	3.4	90.0	0.4	0.0
30/04/2021 03:00	457.4	0.0	3.3	90.0	0.4	45.0
30/04/2021 04:00	457.4	0.0	3.5	89.0	0.4	45.0
30/04/2021 05:00	457.5	0.0	3.4	88.0	0.4	22.5
30/04/2021 06:00	457.9	0.0	2.7	90.0	0.4	22.5
30/04/2021 07:00	458.2	0.0	3.1	87.0	0.9	337.5
30/04/2021 08:00	458.6	0.0	3.7	87.0	0.9	22.5
30/04/2021 09:00	458.7	0.0	4.9	81.0	0.9	180.0
30/04/2021 10:00	459.0	0.0	7.8	71.0	0.9	202.5
30/04/2021 11:00	458.7	0.0	10.7	55.0	0.9	22.5
30/04/2021 12:00	458.3	0.0	12.7	52.0	1.8	22.5
30/04/2021 13:00	457.8	0.0	9.3	65.0	2.2	315.0
30/04/2021 14:00	457.2	0.0	11.9	61.0	2.2	315.0
30/04/2021 15:00	457.0	0.0	7.4	73.0	2.2	45.0
30/04/2021 16:00	456.8	0.0	8.4	70.0	2.7	45.0
30/04/2021 17:00	456.8	0.0	7.7	72.0	2.2	22.5
30/04/2021 18:00	457.3	0.0	5.4	80.0	1.8	0.0
30/04/2021 19:00	457.8	0.0	5.4	80.0	0.9	22.5
30/04/2021 20:00	458.2	1.6	2.8	88.0	1.3	202.5
30/04/2021 21:00	458.5	0.6	2.9	90.0	0.9	180.0
30/04/2021 22:00	458.5	0.0	3.0	90.0	0.4	225.0
30/04/2021 23:00	458.5	0.0	3.2	89.0	0.0	225.0

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en abril de 2021

**ESTACIÓN DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0003-4-2021-412

**DATOS DEL EQUIPO**
**EQUIPO:**

Estación meteorológica

**MARCA:**

Davis Instruments

**MODELO:**

Vantage Pro 2

**SERIE:**

BE181010012

DIA 1 - ABRIL 2021				
Fecha	Presión atmosférica (mmHg) *	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
22/04/2021 17:00	456.3	8.8	69	2.7
22/04/2021 18:00	456.8	6.2	81	2.2
22/04/2021 19:00	457.2	5.8	82	1.8
22/04/2021 20:00	457.9	4.3	86	1.3
22/04/2021 21:00	458.1	3.7	87	0.9
22/04/2021 22:00	458.4	3.8	88	0.9
22/04/2021 23:00	458.1	3.7	88	0.9
23/04/2021 00:00	457.9	3.3	89	0.9
23/04/2021 01:00	457.5	3.3	89	0.4
23/04/2021 02:00	457.0	2.7	89	0.0
23/04/2021 03:00	457.2	2.2	90	0.0
23/04/2021 04:00	457.4	2.2	90	0.0
23/04/2021 05:00	457.4	2.8	90	0.0
23/04/2021 06:00	457.6	1.6	90	0.4
23/04/2021 07:00	457.9	0.9	92	0.0
23/04/2021 08:00	458.3	4.3	91	0.0
23/04/2021 09:00	458.6	7.8	74	0.9
23/04/2021 10:00	458.4	8.9	67	0.9
23/04/2021 11:00	458.2	9.4	65	0.9
23/04/2021 12:00	457.6	13.1	55	0.9
23/04/2021 13:00	457.2	12.1	58	1.8
23/04/2021 14:00	456.6	13.1	58	1.8
<b>Promedio DIA 1</b>	<b>457.6</b>	<b>5.6</b>	<b>80.4</b>	<b>0.9</b>

DIA 2 - ABRIL 2021				
Fecha	Presión atmosférica (mmHg) *	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
23/04/2021 15:00	456.3	11.8	67	2.2
23/04/2021 16:00	456.3	5.9	78	1.8
23/04/2021 17:00	456.5	5.1	85	1.3
23/04/2021 18:00	456.9	4.0	88	0.9
23/04/2021 19:00	457.2	3.8	88	0.9
23/04/2021 20:00	457.8	3.2	91	0.9
23/04/2021 21:00	458.1	2.9	91	0.4
23/04/2021 22:00	458.4	3.3	90	0.0
23/04/2021 23:00	458.5	3.1	91	0.0
24/04/2021 00:00	458.4	3.1	90	0.4
24/04/2021 01:00	457.9	2.3	90	0.0
24/04/2021 02:00	457.7	1.8	91	0.0
24/04/2021 03:00	457.4	1.4	92	0.0
24/04/2021 04:00	457.4	0.8	93	0.4
24/04/2021 05:00	457.4	0.3	93	0.0
24/04/2021 06:00	457.8	-0.2	93	0.0
24/04/2021 07:00	458.1	0.1	94	0.0
24/04/2021 08:00	458.2	1.9	94	0.0
24/04/2021 09:00	458.7	6.1	88	0.4
24/04/2021 10:00	458.8	7.3	80	1.3
24/04/2021 11:00	458.7	9.2	71	1.3
24/04/2021 12:00	458.2	11.9	65	1.8
<b>Promedio DIA 2</b>	<b>457.8</b>	<b>4.1</b>	<b>86.5</b>	<b>0.6</b>



DIA 3 - ABRIL 2021				
Fecha	Presión atmosférica (mmHg) *	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
24/04/2021 14:00	457.2	11.3	63	2.2
24/04/2021 15:00	456.6	12.7	64	2.2
24/04/2021 16:00	456.5	11.2	69	2.2
24/04/2021 17:00	456.4	9.1	74	2.2
24/04/2021 18:00	456.6	6.9	76	2.2
24/04/2021 19:00	457.2	5.7	84	1.8
24/04/2021 20:00	457.6	5.3	87	1.3
24/04/2021 21:00	457.8	5.4	88	0.9
24/04/2021 22:00	457.8	5.3	85	0.4
24/04/2021 23:00	457.7	4.7	86	0.4
25/04/2021 00:00	457.8	4.4	87	0.4
25/04/2021 01:00	457.5	2.7	90	0.0
25/04/2021 02:00	457.2	2.1	91	0.0
25/04/2021 03:00	457.1	2.5	93	0.0
25/04/2021 04:00	457.2	2.3	93	0.0
25/04/2021 05:00	457.5	2.5	88	0.9
25/04/2021 06:00	457.5	2.3	87	0.0
25/04/2021 07:00	457.7	2.6	88	0.0
25/04/2021 08:00	458.2	4.1	85	0.4
25/04/2021 09:00	458.7	7.5	72	0.4
25/04/2021 10:00	458.7	8.4	65	0.9
25/04/2021 11:00	458.7	10.9	50	0.9
<b>Promedio DIA 3</b>	<b>457.5</b>	<b>5.9</b>	<b>80.2</b>	<b>0.9</b>

DIA 4 - ABRIL 2021				
Fecha	Presión atmosférica (mmHg) *	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
25/04/2021 12:00	458.1	12.3	52	1.3
25/04/2021 13:00	457.8	11.7	56	2.2
25/04/2021 14:00	457.4	13.5	55	2.7
25/04/2021 15:00	456.8	11.8	64	2.7
25/04/2021 16:00	456.6	12.8	61	1.8
25/04/2021 17:00	456.7	9.2	71	2.2
25/04/2021 18:00	456.9	7.6	76	1.3
25/04/2021 19:00	457.4	6.6	81	1.3
25/04/2021 20:00	457.8	6.2	85	0.4
25/04/2021 21:00	458.2	5.9	87	0.4
25/04/2021 22:00	458.2	5.9	86	0.4
25/04/2021 23:00	458.2	5.3	88	0.4
26/04/2021 00:00	458.3	4.9	88	0.4
26/04/2021 01:00	457.6	4.3	88	0.4
26/04/2021 02:00	457.5	3.7	90	0.4
26/04/2021 03:00	457.2	4.0	92	0.0
26/04/2021 04:00	457.0	3.9	90	0.4
26/04/2021 05:00	457.2	3.6	89	0.0
26/04/2021 06:00	457.2	2.8	91	0.0
26/04/2021 07:00	457.5	3.4	90	0.4
26/04/2021 08:00	457.8	5.5	80	0.4
26/04/2021 09:00	458.1	9.3	62	0.4
<b>Promedio DIA 4</b>	<b>457.5</b>	<b>7.0</b>	<b>78.3</b>	<b>0.9</b>

## DIA 5 - ABRIL 2021

Fecha	Presión atmosférica (mmHg) *	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
26/04/2021 11:00	458.3	8.8	65	0.9
26/04/2021 12:00	457.6	9.1	63	0.9
26/04/2021 13:00	457.2	11.9	57	1.3
26/04/2021 14:00	456.3	13.4	57	1.8
26/04/2021 15:00	456.3	7.9	70	2.2
26/04/2021 16:00	456.5	4.9	83	0.9
26/04/2021 17:00	456.9	4.6	78	1.8
26/04/2021 18:00	457.1	4.3	82	0.9
26/04/2021 19:00	457.5	3.1	87	0.9
26/04/2021 20:00	458.0	2.9	87	0.9
26/04/2021 21:00	458.1	3.6	85	0.0
26/04/2021 22:00	458.4	3.7	84	0.0
26/04/2021 23:00	458.4	3.8	85	0.4
27/04/2021 00:00	458.3	3.4	88	0.4
27/04/2021 01:00	457.8	2.9	80	0.0
27/04/2021 02:00	457.5	2.7	85	0.0
27/04/2021 03:00	457.0	2.3	82	0.4
27/04/2021 04:00	457.0	2.4	76	0.4
27/04/2021 05:00	457.2	2.1	77	0.0
27/04/2021 06:00	457.3	1.4	83	0.0
27/04/2021 07:00	457.6	2.1	83	0.0
27/04/2021 08:00	457.9	3.3	83	0.4
<b>Promedio DIA 5</b>	<b>457.5</b>	<b>4.8</b>	<b>78.2</b>	<b>0.7</b>

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en abril de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0003-4-2021-412

**MEDICIONES PROMEDIO (DATOS DIARIOS)**

**DÍA 1** **INICIO:** 22/04/2021 17:20 **FINAL:** 23/04/2021 15:20 **PERIODO :** 22:00 horas **1320 min**

**Datos horarios registrados:** 22 horas

**Temperatura (°C):** 5.6 **Presión (mm Hg):** 457.6

**DÍA 2** **INICIO:** 23/04/2021 15:35 **FINAL:** 24/04/2021 13:35 **PERIODO :** 22:00 horas **1320 min**

**Datos horarios registrados:** 22 horas

**Temperatura (°C):** 4.1 **Presión (mm Hg):** 457.8

**DÍA 3** **INICIO:** 24/04/2021 13:48 **FINAL:** 25/04/2021 11:48 **PERIODO :** 22:00 horas **1320 min**

**Datos horarios registrados:** 22 horas

**Temperatura (°C):** 5.9 **Presión (mm Hg):** 457.5

**DÍA 4** **INICIO:** 25/04/2021 11:55 **FINAL:** 26/04/2021 09:55 **PERIODO :** 22:00 horas **1320 min**

**Datos horarios registrados:** 22 horas

**Temperatura (°C):** 7.0 **Presión (mm Hg):** 457.5

**DÍA 5** **INICIO:** 26/04/2021 11:35 **FINAL:** 27/04/2021 09:35 **PERIODO :** 22:00 horas **1320 min**

**Datos horarios registrados:** 22 horas

**Temperatura (°C):** 4.8 **Presión (mm Hg):** 457.5

**OBSERVACIONES:**

DATOS GENERALES

TÍTULO DEL ESTUDIO: Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en abril de 2021

ESTACIÓN DE MONITOREO: CA-SB-01

CÓDIGO DE ACCIÓN: 0003-4-2021-412

DATOS DE LOS EQUIPOS

Barómetro	MARCA:	-	MODELO:	-	SERIE:	-
Venturi PM-10	MARCA:	THERMO SCIENTIFIC				
	MODELO:	HI VOL				
	SERIE:	P9327X				

CÁLCULOS

PM-10															
DÍA 1				Fecha Inicio: 22/04/2021 17:20				Fecha Final: 23/04/2021 16:20							
Presión inicial:				8.2 pulg H2O				Presión final:				10.9 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior		T (°C) superior		Flujo de muestreo, en m <sup>3</sup> /min (Qa)						
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>		4.0		6.0								
9.6	17.8	457.6	0.961	5.6	1.146		1.150		1.149						
DÍA 2				Fecha Inicio: 23/04/2021 15:35				Fecha Final: 24/04/2021 13:35							
Presión inicial:				10.2 pulg H2O				Presión final:				11.2 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior		T (°C) superior		Flujo de muestreo, en m <sup>3</sup> /min (Qa)						
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>		4.0		6.0								
10.7	20.0	457.8	0.956	4.1	1.140		1.143		1.140						
DÍA 3				Fecha Inicio: 24/04/2021 13:48				Fecha Final: 25/04/2021 11:48							
Presión inicial:				12.4 pulg H2O				Presión final:				13.1 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior		T (°C) superior		Flujo de muestreo, en m <sup>3</sup> /min (Qa)						
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>		4.0		6.0								
12.8	23.8	457.5	0.948	5.9	1.130		1.133		1.133						
DÍA 4				Fecha Inicio: 25/04/2021 11:55				Fecha Final: 26/04/2021 09:55							
Presión inicial:				13.2 pulg H2O				Presión final:				13.2 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior		T (°C) superior		Flujo de muestreo, en m <sup>3</sup> /min (Qa)						
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>		6.0		8.0								
13.2	24.6	457.5	0.946	7.0	1.131		1.134		1.133						
DÍA 5				Fecha Inicio: 26/04/2021 11:35				Fecha Final: 27/04/2021 09:35							
Presión inicial:				13.7 pulg H2O				Presión final:				13.7 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior		T (°C) superior		Flujo de muestreo, en m <sup>3</sup> /min (Qa)						
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>		4.0		6.0								
13.7	25.6	457.5	0.944	4.8	1.125		1.128		1.126						

OBSERVACIONES:

“-” : No aplica.

Tabla 3.6. Concentración de PM<sub>10</sub> y el volumen muestreado de metales - alto volumen

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en abril de 2021

**PUNTO DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0003-4-2021-412

N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Tiempo o periodo de muestreo en minutos (t)	Flujo de muestreo, en m <sup>3</sup> /min (Qa)	Volumen de muestreo en m <sup>3</sup> (Va)*	ΔPeso (μg)**	Concentración de partículas (μg/m <sup>3</sup> )
1	PM <sub>10</sub>	1-210422	22/04/2021 17:20	23/04/2021 15:20	1320	1.149	1517.04	11000	7.3
2		1-210423	23/04/2021 15:35	24/04/2021 13:35	1320	1.140	1504.90	13000	8.6
3		1-210424	24/04/2021 13:48	25/04/2021 11:48	1320	1.133	1495.37	17000	11.4
4		1-210425	25/04/2021 11:55	26/04/2021 09:55	1320	1.133	1494.92	20000	13.4
5		1-210426	26/04/2021 11:35	27/04/2021 09:35	1320	1.126	1486.49	21000	14.1

**OBSERVACIONES:**

(\*) En el caso del material particulado y las sustancias que deben analizarse en la fase de partículas (metales, iones, carbonáceas, otros), el **volumen de muestreo** se debe expresar en las condiciones ambientales (volumen actual) en términos de temperatura ambiental y presión atmosférica promedio, medidas durante el periodo de muestreo. (Sección L.1.3 Cálculo de concentraciones señalada en el Protocolo de Monitoreo de la Calidad del aire del MINAM - D.S. N° 010-2019-MINAM).

(\*\*) Fuente: Informe de Ensayo MA2113670

"." : No aplica.

PM <sub>10</sub> en 24 h	ECA PM <sub>10</sub> 2017
0	100
1	100

Fecha inicio Fecha final  
22/04/2021 17:20 al 23/04/2021 15:20  
23/04/2021 15:35 al 24/04/2021 13:35  
24/04/2021 13:18 al 25/04/2021 11:48  
25/04/2021 11:55 al 26/04/2021 9:55  
26/04/2021 11:35 al 27/04/2021 9:35



23/04/2021 15:20  
24/04/2021 13:35  
25/04/2021 11:48  
26/04/2021 9:55  
27/04/2021 9:35

PM<sub>10</sub> en 24 h  
ECA PM<sub>10</sub> 2017

TÍTULO DEL ESTUDIO:

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en abril de 2021

PUNTO DE MONITOREO:

CA-SB-01

CÓDIGO DE ACCIÓN:

0003-4-2021-412

RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		22/04/2021	23/04/2021	24/04/2021	25/04/2021	26/04/2021	
Aluminio	Al	µg/mtra	25.427	18.872	62.089	53.993	46.449
Antimonio	Sb	µg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	µg/mtra	<1,237	<1,237	<1,237	<1,237	1.863
Bario	Ba	µg/mtra	<1,058	3.151	1.495	1.817	2.047
Berilio	Be	µg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	µg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	µg/mtra	<1,506	2.507	3.427	2.392	2.381
Cadmio	Cd	µg/mtra	<1,457	<1,457	<1,457	<1,457	<1,457
Calcio	Ca	µg/mtra	302.887	183.356	420.969	396.451	1.039,646
Cobalto	Co	µg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	µg/mtra	<3,337	<3,337	<3,337	<3,337	10.051
Cromo	Cr	µg/mtra	<1,586	<1,586	<1,586	<1,586	<1,586
Estaño	Sn	µg/mtra	<0,967	<0,967	<0,967	<0,967	<0,967
Estroncio	Sr	µg/mtra	0.989	<0,725	0.943	0.851	1.633
Fósforo	P	µg/mtra	10.17	10.19	13.82	14.84	15.32
Hierro	Fe	µg/mtra	118.4	65.09	179.75	274.11	357.58
Litio	Li	µg/mtra	<0,449	<0,449	<0,449	<0,449	<0,449
Magnesio	Mg	µg/mtra	45.63	23.25	61.8	72.01	93.96
Manganeso	Mn	µg/mtra	20.873	14.893	26.278	34.236	44.816
Mercurio	Hg	µg/mtra	<0,4960	<0,4960	<0,4960	<0,4960	<0,4960
Molibdeno	Mo	µg/mtra	<1,264	<1,264	<1,264	<1,264	<1,264
Níquel	Ni	µg/mtra	<1,411	<1,411	<1,411	<1,411	<1,411
Plata	Ag	µg/mtra	<0,576	<0,576	<0,576	<0,576	0.713
Plomo	Pb	µg/mtra	4.568	4.876	6.371	8.165	14.72
Potasio	K	µg/mtra	<24,11	<24,11	<24,11	<24,11	<24,11
Selenio	Se	µg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	µg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	µg/mtra	<4,6	<4,6	<4,6	<4,6	7.4
Talio	Tl	µg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	µg/mtra	1.15	<1,138	2.093	2.392	2.3
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	µg/mtra	16.58	5.41	20.19	19.23	25.35

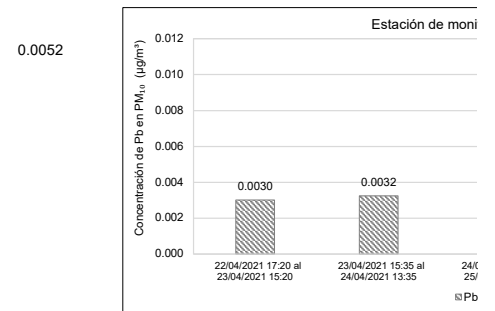
<: Debajo del límite de detección

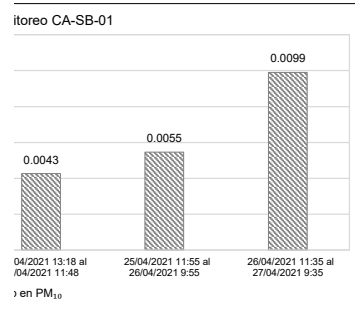
Fuente: Informe de Ensayo N° 4488/2020 y 4849/2020 del laboratorio ALS LS Perú

CONCENTRACIÓN DE METALES							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		22/04/2021	23/04/2021	24/04/2021	25/04/2021	26/04/2021	
Volumen de muestreo, en m <sup>3</sup> (Va)		1517.04	1504.90	1495.37	1494.92	1486.49	
Aluminio	Al	µg/m <sup>3</sup>	0.0168	0.0125	0.0415	0.0361	0.0312
Antimonio	Sb	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Arsénico	As	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	0.0013
Bario	Ba	µg/m <sup>3</sup>	<LC	0.0021	0.0010	0.0012	0.0014
Berilio	Be	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Bismuto	Bi	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Boro	B	µg/m <sup>3</sup>	<LC	0.0017	0.0023	0.0016	0.0016
Cadmio	Cd	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Calcio	Ca	µg/m <sup>3</sup>	0.1997	0.1218	0.2815	0.2652	0.0007
Cobalto	Co	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Cobre	Cu	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	0.0068
Cromo	Cr	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Estaño	Sn	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Estroncio	Sr	µg/m <sup>3</sup>	0.0007	<LC	0.0006	0.0006	0.0011
Fósforo	P	µg/m <sup>3</sup>	0.0067	0.0068	0.0092	0.0099	0.0103
Hierro	Fe	µg/m <sup>3</sup>	0.0780	0.0433	0.1202	0.1834	0.2406
Litio	Li	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Magnesio	Mg	µg/m <sup>3</sup>	0.0301	0.0154	0.0413	0.0482	0.0632
Manganeso	Mn	µg/m <sup>3</sup>	0.0138	0.0099	0.0176	0.0229	0.0301
Mercurio	Hg	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Molibdeno	Mo	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Níquel	Ni	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Plata	Ag	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	0.0005
Plomo	Pb	µg/m <sup>3</sup>	0.0030	0.0032	0.0043	0.0055	0.0099
Potasio	K	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Selenio	Se	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Silicio	Si	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Sodio	Na	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	0.0050
Talio	Tl	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Titanio	Ti	µg/m <sup>3</sup>	0.0008	<LC	0.0014	0.0016	0.0015
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Zinc	Zn	µg/m <sup>3</sup>	0.0109	0.0036	0.0135	0.0129	0.0171

< LD: Menor al límite de detección

CONCENTRACIÓN DE PLOMO MENSUAL (µg/m <sup>3</sup> )						
FECHA	22/04/2021	23/04/2021	24/04/2021	25/04/2021	26/04/2021	Promedio mensual (µg/m <sup>3</sup> )
Volumen de muestreo (m <sup>3</sup> )	1517.04	1504.90	1495.37	1494.92	1486.49	
Abril 2021	0.0030	0.0032	0.0043	0.0055	0.0099	0.0052







**Tabla 3.8. Volumen muestreado para metales en PM<sub>10</sub> a temperatura de 10°C**

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en abril de 2021

**PUNTO DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0003-4-2021-412

N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Periodo (minutos)	Temperatura ambiental (°C)	Presión ambiental (mm Hg)	Flujo de muestreo (m <sup>3</sup> /min)	Volumen de muestreo en m <sup>3</sup> (Va)	Volumen de muestreo a 10°C en m <sup>3</sup> (Va <sub>10°C</sub> )*
1	Metales en PM <sub>10</sub>	1-210422	22/04/2021 17:20	23/04/2021 15:20	1320	5.6	457.6	1.149	1517.04	927.75
2		1-210423	23/04/2021 15:35	24/04/2021 13:35	1320	4.1	457.8	1.140	1504.90	925.88
3		1-210424	24/04/2021 13:48	25/04/2021 11:48	1320	5.9	457.5	1.133	1495.37	913.40
4		1-210425	25/04/2021 11:55	26/04/2021 09:55	1320	7.0	457.5	1.133	1494.92	909.55
5		1-210426	26/04/2021 11:35	27/04/2021 09:35	1320	4.8	457.5	1.126	1486.49	911.65

**OBSERVACIONES:**

(\*) El cálculo de volumen muestreado para metales en PM<sub>10</sub>, se realizó en base a las condiciones de temperatura de 10°C (283,15 °K) y presión estándar (760 mmHg ó 1013,25 mBar), establecidas en la Norma referencial ONTARIO'S AMBIENT AIR QUALITY CRITERIA.  
 "-": No aplica.

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en abril de 2021

**PUNTO DE MONITOREO:** CA-SB-01      **CÓDIGO DE ACCIÓN:** 0003-4-2021-412

RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		22/04/2021	23/04/2021	24/04/2021	25/04/2021	26/04/2021	
Aluminio	Al	µg/mtra	25.427	18.872	62.089	53.993	46.449
Antimonio	Sb	µg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	µg/mtra	<1,237	<1,237	<1,237	<1,237	1.863
Bario	Ba	µg/mtra	<1,058	3.151	1.495	1.817	2.047
Berilio	Be	µg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	µg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	µg/mtra	<1,506	2.507	3.427	2.392	2.381
Cadmio	Cd	µg/mtra	<1,457	<1,457	<1,457	<1,457	<1,457
Calcio	Ca	µg/mtra	302.887	183.356	420.969	396.451	1,039,646
Cobalto	Co	µg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	µg/mtra	<3,337	<3,337	<3,337	<3,337	10.051
Cromo	Cr	µg/mtra	<1,586	<1,586	<1,586	<1,586	<1,586
Estaño	Sn	µg/mtra	<0,967	<0,967	<0,967	<0,967	<0,967
Estroncio	Sr	µg/mtra	0.989	<0,725	0.943	0.851	1.633
Fósforo	P	µg/mtra	10.17	10.19	13.82	14.84	15.32
Hierro	Fe	µg/mtra	118.4	65.09	179.75	274.11	357.58
Litio	Li	µg/mtra	<0,449	<0,449	<0,449	<0,449	<0,449
Magnesio	Mg	µg/mtra	45.63	23.25	61.8	72.01	93.96
Manganeso	Mn	µg/mtra	20.873	14.893	26.278	34.236	44.816
Mercurio	Hg	µg/mtra	<0,4960	<0,4960	<0,4960	<0,4960	<0,4960
Molibdeno	Mo	µg/mtra	<1,264	<1,264	<1,264	<1,264	<1,264
Níquel	Ni	µg/mtra	<1,411	<1,411	<1,411	<1,411	<1,411
Plata	Ag	µg/mtra	<0,576	<0,576	<0,576	<0,576	0.713
Plomo	Pb	µg/mtra	4.568	4.876	6.371	8.165	14.72
Potasio	K	µg/mtra	<24,11	<24,11	<24,11	<24,11	<24,11
Selenio	Se	µg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	µg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	µg/mtra	<4,6	<4,6	<4,6	<4,6	7.4
Talio	Tl	µg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	µg/mtra	1.15	<1,138	2.093	2.392	2.3
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	µg/mtra	16.58	5.41	20.19	19.23	25.35

<: Debajo del límite de cuantificación

-: Sin dato

Fuente: Informe de Ensayo MA2113670 del Laboratorio SGS del Peru S.A.C.

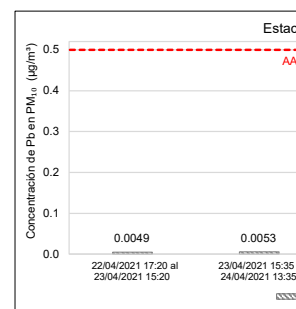
CONCENTRACIÓN DE METALES									
Metal medido en PM <sub>10</sub>	Unidad	Fecha					AAQC- Ontario		
		22/04/2021	23/04/2021	24/04/2021	25/04/2021	26/04/2021	Valor (µg/m³)	CASRN	
Volumen de muestreo a 10°C en m³ (Va <sub>10°C</sub> )		927.75	925.88	913.40	909.55	911.65			
Aluminio	Al	µg/m³	0.0274	0.0204	0.0680	0.0594	0.0510	-	-
Antimonio	Sb	µg/m³	<LC	<LC	<LC	<LC	<LC	25	7440-36-0
Arsénico	As	µg/m³	<LC	<LC	<LC	<LC	0.0020	0.3	7440-38-2
Bario	Ba	µg/m³	<LC	0.0034	0.0016	0.0020	0.0022	-	-
Berilio	Be	µg/m³	<LC	<LC	<LC	<LC	<LC	0.01	7440-41-7
Bismuto	Bi	µg/m³	<LC	<LC	<LC	<LC	<LC	-	-
Boro	B	µg/m³	<LC	0.0027	0.0038	0.0026	0.0026	120	7440-42-8
Cadmio	Cd	µg/m³	<LC	<LC	<LC	<LC	<LC	0.025	7440-43-9
Calcio	Ca	µg/m³	0.3265	0.1980	0.4609	0.4359	0.0011	-	-
Cobalto	Co	µg/m³	<LC	<LC	<LC	<LC	<LC	0.1	7440-48-4
Cobre	Cu	µg/m³	<LC	<LC	<LC	<LC	0.0110	50	7440-50-8
Cromo	Cr	µg/m³	<LC	<LC	<LC	<LC	<LC	0.5	7440-47-3
Estaño	Sn	µg/m³	<LC	<LC	<LC	<LC	<LC	10	7440-31-5
Estroncio	Sr	µg/m³	0.0011	<LC	0.0010	0.0009	0.0018	120	7440-24-6
Fósforo	P	µg/m³	0.0110	0.0110	0.0151	0.0163	0.0168	-	-
Hierro	Fe	µg/m³	0.1276	0.0703	0.1968	0.3014	0.3922	4	15438-31-0
Litio	Li	µg/m³	<LC	<LC	<LC	<LC	<LC	-	-
Magnesio	Mg	µg/m³	0.0492	0.0251	0.0677	0.0792	0.1031	-	-
Manganeso	Mn	µg/m³	0.0225	0.0161	0.0288	0.0376	0.0492	0.2	7439-96-5
Mercurio	Hg	µg/m³	<LC	<LC	<LC	<LC	<LC	2	7439-97-6
Molibdeno	Mo	µg/m³	<LC	<LC	<LC	<LC	<LC	120	7439-98-7
Níquel	Ni	µg/m³	<LC	<LC	<LC	<LC	<LC	0.1	7440-02-0
Plata	Ag	µg/m³	<LC	<LC	<LC	<LC	0.0008	1	7440-22-4
Plomo	Pb	µg/m³	0.0049	0.0053	0.0070	0.0090	0.0161	0.5	7439-92-1
Potasio	K	µg/m³	<LC	<LC	<LC	<LC	<LC	-	-
Selenio	Se	µg/m³	<LC	<LC	<LC	<LC	<LC	10	7782-49-2
Silicio	Si	µg/m³	<LC	<LC	<LC	<LC	<LC	-	-
Sodio	Na	µg/m³	<LC	<LC	<LC	<LC	<LC	0.0081	-
Talio	Tl	µg/m³	<LC	<LC	<LC	<LC	<LC	-	-
Titanio	Ti	µg/m³	0.0012	<LC	0.0023	0.0026	0.0025	120	7440-32-6
Uranio	U	µg/m³	-	-	-	-	-	0.15	7440-61-1
Vanadio	V	µg/m³	<LC	<LC	<LC	<LC	<LC	2	7440-62-2
Zinc	Zn	µg/m³	0.0179	0.0058	0.0221	0.0211	0.0278	120	7440-66-6

<LC: Menor al límite de cuantificación

-: Sin dato

Pb en PM <sub>10</sub>	AAQC Pb
0	0.5
1	0.5

Fecha inicio	Fecha fin
22/04/2021 17:20	al 23/04/2021 1
23/04/2021 15:35	al 24/04/2021 1
24/04/2021 13:18	al 25/04/2021 1
25/04/2021 11:55	al 26/04/2021 9
26/04/2021 11:35	al 27/04/2021 9



inal  
5:20  
3:35  
1:48  
0:55  
0:35

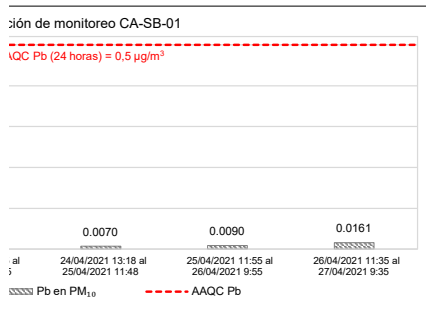


Tabla 3.1. Concentraciones horarias y 24 horas de PM<sub>10</sub>

TÍTULO DEL ESTUDIO:

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en mayo de 2021

ESTACIÓN DE MONITOREO:

CA-SB-01

CÓDIGO DE ACCIÓN:

0004-5-2021-412

EQUIPO:

Monitor automático de partículas

MARCA:

Thermo Scientific

MODELO:

TEOM 1405

SERIE:

1405A208321003

DATOS DEL EQUIPO

Horas/Día	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
00:00	12.6	16.3	19.9	13.6	17.6	6.9	11.5	4.2	20.4	5.4	1.7	11.4	10.7	14.2	9.7	7.3	10.7	9.5	3.1	7.1	13.7	17.1	13.6	4.6	3.9	LD	11.2	11.3	3.5	20.9	25.9	
01:00	15.6	12.6	17.8	14.3	8.2	6.8	10.9	5.2	LD	4.8	3.4	10.3	14.3	18.7	6.2	LD	12.5	4.2	1.7	12.9	5.9	14.3	19.8	2.9	0.5	LD	11.1	10.9	13.8	14.2	18.3	
02:00	10.1	13.5	17.6	8.2	8.6	13.7	9.7	8.8	7.7	3.1	3.9	7.1	6.9	0.5	11.0	12.5	11.8	5.8	3.6	5.8	7.9	11.9	27.0	1.1	LD	EE	3.7	7.6	12.2	10.4	16.0	
03:00	13.8	13.3	17.2	13.4	20.8	15.5	12.2	2.3	2.6	3.8	5.8	4.4	8.4	15.9	8.7	5.5	10.1	6.8	2.0	4.3	4.3	7.5	18.4	4.0	1.3	LD	3.3	13.8	9.9	15.0	11.5	
04:00	15.4	12.3	13.2	11.6	LD	10.4	9.6	1.2	5.9	6.2	3.0	3.7	9.5	9.3	3.5	1.9	23.3	7.0	2.8	6.6	7.2	6.5	10.5	1.2	LD	LD	0.8	7.4	5.0	18.6	11.0	11.9
05:00	12.7	6.4	13.0	12.0	11.5	21.2	10.5	14.8	4.3	3.4	8.0	6.7	3.7	9.8	14.6	5.0	7.3	19.0	5.4	7.3	7.7	5.7	12.9	3.3	3.2	6.9	6.7	6.5	28.2	8.4	9.0	
06:00	25.1	6.4	8.2	16.5	5.0	36.1	10.3	14.6	5.8	11.0	5.9	10.0	12.2	19.0	27.7	EE	28.0	29.0	14.7	10.8	7.9	43.7	9.7	3.3	2.4	3.8	20.2	6.1	45.5	19.9	34.6	
07:00	32.4	1.8	11.4	24.6	6.7	15.7	33.4	27.6	4.0	14.4	8.7	35.6	15.4	43.1	45.7	11.7	33.9	20.6	10.5	20.0	12.6	75.7	27.5	4.1	4.8	19.5	57.4	9.8	58.9	25.3	44.4	
08:00	27.7	10.7	28.4	25.3	23.6	27.3	29.7	30.4	3.0	46.5	19.5	19.4	26.0	45.6	38.0	13.3	35.5	25.0	8.9	18.8	28.5	54.1	33.4	19.4	6.7	17.1	61.3	26.4	82.0	15.4	29.3	
09:00	52.8	30.2	42.6	25.1	34.7	24.9	20.7	26.6	4.9	57.8	36.4	22.9	29.4	29.7	25.7	18.5	42.0	17.4	4.1	35.3	22.3	24.7	12.1	5.1	13.7	16.6	36.3	27.2	68.7	38.8	24.9	
10:00	36.0	56.6	47.6	24.9	64.3	41.1	36.2	30.5	27.5	35.6	75.5	28.2	20.3	23.1	25.8	14.4	50.2	29.9	13.5	46.1	58.9	12.1	47.1	23.1	9.4	14.9	14.8	43.2	29.8	20.3	13.6	
11:00	23.7	11.2	40.7	22.4	57.3	34.0	29.1	18.6	32.9	34.3	38.2	11.5	25.1	20.0	9.3	19.5	14.0	38.8	17.1	21.9	18.3	10.5	75.3	17.8	16.3	7.5	6.3	4.4	10.6	21.4	19.2	
12:00	20.8	22.5	31.8	31.9	32.3	30.9	30.7	26.0	19.1	23.1	16.6	15.3	14.5	24.6	17.2	7.1	17.8	25.9	7.0	17.9	23.4	14.4	32.3	11.1	14.9	11.3	16.4	14.8	24.2	20.5	12.4	
13:00	20.0	20.3	32.6	42.1	36.3	21.1	18.6	16.9	25.3	24.5	8.2	17.5	26.3	21.8	29.2	6.5	10.3	28.6	9.4	13.2	24.5	18.6	50.5	17.8	14.9	7.9	9.9	6.2	23.1	18.7	8.2	
14:00	14.2	14.1	24.8	23.6	24.9	19.3	24.6	33.4	14.7	21.5	14.8	18.6	18.9	20.2	7.4	9.1	19.8	31.2	7.1	14.3	24.0	12.5	23.7	12.0	3.6	17.2	12.0	12.2	17.1	57.5	14.7	
15:00	6.2	16.2	59.2	26.6	18.5	22.8	29.3	17.4	18.7	20.3	16.1	20.1	17.6	20.9	12.7	0.4	6.5	15.5	14.5	10.5	26.6	31.1	19.3	15.3	6.6	14.4	15.4	17.4	21.4	49.0	17.9	
16:00	25.5	14.8	36.7	22.9	24.9	15.1	24.8	10.6	13.0	28.7	16.7	21.9	18.4	29.1	12.4	16.3	23.5	16.3	16.9	25.5	31.1	37.2	12.2	17.6	5.0	17.6	13.6	15.6	29.5	47.2	36.9	
17:00	34.9	19.9	42.9	56.4	20.1	32.5	14.2	24.0	16.6	16.6	31.7	14.3	22.9	25.1	23.1	17.6	26.7	31.9	21.5	28.5	32.6	53.5	27.8	12.5	10.8	14.1	18.9	28.2	27.7	25.1	30.8	
18:00	46.7	27.5	50.4	48.4	57.6	66.1	26.8	18.5	23.2	21.7	26.6	24.6	22.9	26.6	17.2	19.0	50.7	30.4	26.9	41.5	47.6	38.9	23.4	20.6	5.9	15.6	34.7	60.3	33.2	35.4	31.6	
19:00	29.0	39.1	85.8	60.8	50.9	37.0	21.9	5.4	25.9	14.0	32.1	29.7	26.7	31.9	10.6	38.3	64.9	13.8	25.3	42.4	50.9	34.2	25.7	17.8	11.0	31.9	38.3	37.8	46.9	34.6	29.4	
20:00	33.1	39.5	39.9	29.4	24.6	26.9	22.5	5.0	20.4	14.9	22.9	36.6	39.2	27.0	7.4	39.3	42.0	12.6	34.6	30.4	32.7	19.7	19.7	16.2	9.9	26.6	30.6	30.2	82.3	35.7	13.4	
21:00	21.2	41.3	29.3	36.6	12.3	28.4	10.7	13.5	14.2	17.4	27.8	26.1	36.4	19.7	3.8	18.0	24.4	12.8	20.5	23.1	33.5	20.5	13.6	19.2	11.8	13.8	23.2	27.4	56.6	26.3	20.7	
22:00	17.8	34.5	20.0	16.0	11.8	25.0	13.9	20.3	9.8	16.7	16.1	16.2	22.6	19.7	5.6	17.4	20.9	8.5	20.2	15.6	31.4	21.7	2.5	9.4	LD	15.0	15.9	28.6	33.6	25.5	24.0	
23:00	20.1	30.1	14.7	21.3	16.8	19.7	6.4	23.0	6.8	4.3	10.8	15.0	18.9	16.8	4.7	12.8	5.2	1.8	7.2	13.8	16.3	38.0	7.6	2.7	0.4	12.2	10.6	13.1	28.9	24.1	6.9	
Promedio de PM <sub>10</sub> en 24 h	23.6	21.3	31.1	26.2	25.6	24.9	19.5	16.6	14.2	18.8	18.8	17.8	19.5	25.2	15.7	14.2	24.7	18.4	12.4	19.7	23.7	26.5	23.6	10.9	7.5	14.2	20.0	19.3	33.6	25.9	21.1	
ECA aire de PM <sub>10</sub>	100 µg/m <sup>3</sup> en periodo de 24 horas																															

LD: Dato que es menor al límite de detección del equipo

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en mayo de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0004-5-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:** Estación meteorológica **MARCA:** Davis Instruments

**MODELO:** Vantage Pro 2 **SERIE:** BE181010012

FECHA Y HORA	Presión atmosférica (mmHg)	Precipitación (mm)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)	Dirección de Viento (°)
1/05/2021 00:00	458.4	0.0	3.1	88.0	0.0	225.0
1/05/2021 01:00	458.1	0.0	3.2	88.0	0.0	225.0
1/05/2021 02:00	457.8	0.0	3.4	88.0	0.0	225.0
1/05/2021 03:00	457.5	0.0	3.2	89.0	0.4	247.5
1/05/2021 04:00	457.5	0.0	2.8	90.0	0.0	247.5
1/05/2021 05:00	457.6	0.0	2.8	89.0	0.0	247.5
1/05/2021 06:00	457.8	0.0	2.2	90.0	0.0	247.5
1/05/2021 07:00	458.3	0.0	1.4	92.0	0.4	247.5
1/05/2021 08:00	458.6	0.0	1.9	94.0	0.4	202.5
1/05/2021 09:00	459.0	0.0	4.5	88.0	0.4	202.5
1/05/2021 10:00	459.0	0.0	7.5	68.0	0.9	315.0
1/05/2021 11:00	458.8	0.0	9.1	61.0	1.8	337.5
1/05/2021 12:00	458.4	0.0	8.8	64.0	1.3	22.5
1/05/2021 13:00	458.2	0.0	10.7	58.0	2.2	337.5
1/05/2021 14:00	457.8	0.0	9.0	62.0	1.8	22.5
1/05/2021 15:00	457.4	0.0	9.2	61.0	2.2	337.5
1/05/2021 16:00	457.1	0.0	10.4	56.0	1.3	22.5
1/05/2021 17:00	457.3	0.0	8.6	67.0	1.3	45.0
1/05/2021 18:00	457.6	0.0	6.3	75.0	1.3	0.0
1/05/2021 19:00	457.9	0.0	5.1	83.0	1.3	0.0
1/05/2021 20:00	458.2	0.0	4.4	86.0	1.3	337.5
1/05/2021 21:00	458.7	0.0	3.7	86.0	0.9	0.0
1/05/2021 22:00	458.6	0.0	2.8	88.0	0.4	0.0
1/05/2021 23:00	458.4	0.0	2.8	89.0	0.4	270.0
2/05/2021 00:00	458.4	0.0	1.9	90.0	0.4	247.5
2/05/2021 01:00	458.1	0.0	1.3	92.0	0.0	247.5
2/05/2021 02:00	457.8	0.0	0.9	92.0	0.0	247.5
2/05/2021 03:00	457.7	0.0	0.9	92.0	0.0	247.5
2/05/2021 04:00	457.9	0.0	0.1	93.0	0.4	180.0
2/05/2021 05:00	458.1	0.0	-0.1	93.0	0.4	180.0
2/05/2021 06:00	458.3	0.0	-0.4	93.0	0.0	180.0
2/05/2021 07:00	458.7	0.0	-1.2	93.0	0.9	180.0
2/05/2021 08:00	459.0	0.0	-0.6	94.0	0.4	225.0
2/05/2021 09:00	459.1	0.2	2.2	94.0	0.4	202.5
2/05/2021 10:00	459.3	0.0	5.8	76.0	1.3	180.0
2/05/2021 11:00	459.2	0.0	10.2	42.0	1.3	202.5
2/05/2021 12:00	458.9	0.0	10.8	39.0	1.8	0.0
2/05/2021 13:00	458.5	0.0	11.1	39.0	2.2	315.0
2/05/2021 14:00	458.1	0.0	11.4	44.0	1.8	337.5
2/05/2021 15:00	457.8	0.0	12.0	46.0	1.8	337.5
2/05/2021 16:00	457.6	0.0	11.7	47.0	2.2	337.5
2/05/2021 17:00	457.4	0.2	10.1	50.0	1.3	337.5
2/05/2021 18:00	457.5	0.0	7.7	62.0	1.3	0.0
2/05/2021 19:00	457.7	0.0	6.1	71.0	1.3	0.0
2/05/2021 20:00	457.9	0.0	5.1	76.0	0.4	45.0
2/05/2021 21:00	458.4	0.0	4.1	80.0	0.4	45.0
2/05/2021 22:00	458.5	0.0	3.5	84.0	0.4	22.5
2/05/2021 23:00	458.6	0.0	3.3	86.0	0.4	22.5
3/05/2021 00:00	458.6	0.0	2.9	87.0	0.4	45.0
3/05/2021 01:00	458.3	0.0	2.4	88.0	0.0	45.0
3/05/2021 02:00	458.1	0.0	2.2	89.0	0.0	45.0
3/05/2021 03:00	458.0	0.0	2.1	89.0	0.0	45.0
3/05/2021 04:00	457.9	0.0	1.4	90.0	0.0	45.0
3/05/2021 05:00	458.2	0.0	1.1	92.0	0.0	45.0
3/05/2021 06:00	458.2	0.0	0.6	93.0	0.0	45.0
3/05/2021 07:00	458.4	0.0	0.6	93.0	0.0	45.0
3/05/2021 08:00	458.7	0.0	2.4	94.0	0.0	45.0
3/05/2021 09:00	459.2	0.0	6.4	72.0	0.4	270.0
3/05/2021 10:00	459.1	0.0	8.3	68.0	0.9	202.5
3/05/2021 11:00	458.7	0.0	9.9	61.0	1.3	292.5
3/05/2021 12:00	458.2	0.0	10.6	59.0	0.9	157.5
3/05/2021 13:00	457.7	0.0	10.8	56.0	0.9	315.0
3/05/2021 14:00	457.2	0.0	10.2	59.0	0.9	202.5

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3/05/2021 15:00	456.9	0.0	10.5	61.0	0.9	45.0
3/05/2021 16:00	456.8	0.0	11.9	59.0	0.9	0.0
3/05/2021 17:00	456.9	0.0	10.8	63.0	1.3	45.0
3/05/2021 18:00	456.9	0.0	8.1	71.0	0.9	45.0
3/05/2021 19:00	457.5	0.0	6.4	84.0	1.3	45.0
3/05/2021 20:00	458.0	0.0	5.6	86.0	1.8	0.0
3/05/2021 21:00	458.3	0.0	5.4	87.0	1.8	337.5
3/05/2021 22:00	458.6	0.0	5.3	87.0	1.3	0.0
3/05/2021 23:00	458.6	0.0	4.7	87.0	0.9	22.5
4/05/2021 00:00	458.5	0.0	4.7	87.0	0.9	22.5
4/05/2021 01:00	458.5	0.0	4.5	88.0	0.9	0.0
4/05/2021 02:00	458.2	0.0	4.3	87.0	0.9	0.0
4/05/2021 03:00	457.9	0.0	4.0	89.0	0.4	22.5
4/05/2021 04:00	457.9	0.0	4.0	88.0	0.4	45.0
4/05/2021 05:00	458.0	0.0	3.9	88.0	0.4	0.0
4/05/2021 06:00	458.6	0.0	3.7	89.0	0.9	22.5
4/05/2021 07:00	458.9	0.0	3.8	89.0	0.4	45.0
4/05/2021 08:00	459.3	0.0	4.4	87.0	0.9	0.0
4/05/2021 09:00	459.6	0.0	5.9	79.0	1.3	22.5
4/05/2021 10:00	459.6	0.0	8.1	71.0	1.3	0.0
4/05/2021 11:00	459.7	0.0	9.3	66.0	0.9	45.0
4/05/2021 12:00	459.1	0.0	11.2	51.0	1.3	22.5
4/05/2021 13:00	458.7	0.0	11.3	52.0	2.7	315.0
4/05/2021 14:00	458.1	0.0	12.1	49.0	2.7	337.5
4/05/2021 15:00	457.7	0.0	9.8	62.0	2.7	315.0
4/05/2021 16:00	457.7	0.0	10.9	58.0	2.2	337.5
4/05/2021 17:00	457.6	0.0	8.2	68.0	1.3	45.0
4/05/2021 18:00	458.0	0.0	7.1	72.0	0.9	45.0
4/05/2021 19:00	458.4	0.0	6.5	80.0	0.9	22.5
4/05/2021 20:00	458.6	0.0	5.5	83.0	1.3	0.0
4/05/2021 21:00	459.1	0.0	4.8	85.0	0.9	0.0
4/05/2021 22:00	459.3	0.0	4.3	88.0	0.4	0.0
4/05/2021 23:00	459.3	0.0	4.2	88.0	0.4	45.0
5/05/2021 00:00	459.1	0.0	4.0	89.0	0.0	45.0
5/05/2021 01:00	458.7	0.0	3.8	87.0	0.4	337.5
5/05/2021 02:00	458.7	0.0	2.9	87.0	0.0	337.5
5/05/2021 03:00	458.4	0.0	2.3	89.0	0.0	337.5
5/05/2021 04:00	458.2	0.0	1.1	92.0	0.4	180.0
5/05/2021 05:00	458.4	0.0	0.2	93.0	0.0	180.0
5/05/2021 06:00	458.6	0.0	0.1	93.0	0.4	180.0
5/05/2021 07:00	459.1	0.0	0.3	93.0	0.0	180.0
5/05/2021 08:00	459.6	0.0	1.1	94.0	0.4	157.5
5/05/2021 09:00	459.7	0.0	3.1	94.0	0.9	180.0
5/05/2021 10:00	459.8	0.0	4.9	85.0	0.9	225.0
5/05/2021 11:00	459.7	0.0	8.6	65.0	0.9	180.0
5/05/2021 12:00	459.3	0.0	9.4	64.0	1.3	0.0
5/05/2021 13:00	458.7	0.0	9.4	60.0	0.4	315.0
5/05/2021 14:00	458.3	0.0	12.7	55.0	1.3	0.0
5/05/2021 15:00	457.8	0.0	12.7	55.0	2.2	337.5
5/05/2021 16:00	457.4	0.0	11.8	56.0	2.7	337.5
5/05/2021 17:00	457.5	0.0	9.8	67.0	1.3	0.0
5/05/2021 18:00	457.9	0.0	8.2	74.0	0.9	22.5
5/05/2021 19:00	458.4	0.0	6.3	84.0	1.3	22.5
5/05/2021 20:00	458.8	0.0	6.0	82.0	0.9	45.0
5/05/2021 21:00	459.0	0.0	4.7	85.0	0.9	247.5
5/05/2021 22:00	459.0	0.0	5.0	84.0	0.4	202.5
5/05/2021 23:00	459.1	0.0	4.7	85.0	0.4	315.0
6/05/2021 00:00	459.0	0.0	4.2	84.0	0.4	180.0
6/05/2021 01:00	458.7	0.0	3.6	86.0	0.4	315.0
6/05/2021 02:00	458.6	0.0	3.2	89.0	0.4	45.0
6/05/2021 03:00	458.5	0.0	3.5	89.0	0.4	45.0
6/05/2021 04:00	458.1	0.0	3.1	86.0	0.4	112.5
6/05/2021 05:00	457.9	0.0	2.7	86.0	0.0	112.5
6/05/2021 06:00	458.4	0.0	2.6	89.0	0.4	90.0
6/05/2021 07:00	458.6	0.0	2.3	91.0	0.4	225.0
6/05/2021 08:00	459.0	0.0	4.3	84.0	0.9	202.5
6/05/2021 09:00	459.3	0.0	5.9	80.0	0.9	202.5
6/05/2021 10:00	459.4	0.0	8.3	72.0	1.3	202.5
6/05/2021 11:00	459.1	0.0	8.3	72.0	1.3	180.0
6/05/2021 12:00	458.8	0.0	10.1	66.0	1.3	45.0
6/05/2021 13:00	458.3	0.0	9.9	65.0	1.8	337.5
6/05/2021 14:00	457.6	0.0	10.3	63.0	1.3	337.5
6/05/2021 15:00	457.5	0.0	12.4	57.0	1.3	45.0
6/05/2021 16:00	457.2	0.0	9.8	66.0	2.2	337.5
6/05/2021 17:00	457.4	0.0	9.6	69.0	2.2	337.5
6/05/2021 18:00	457.6	0.0	7.1	75.0	1.8	22.5
6/05/2021 19:00	458.1	0.0	5.9	78.0	1.3	45.0
6/05/2021 20:00	458.7	0.0	5.3	80.0	1.3	22.5
6/05/2021 21:00	459.1	0.0	5.0	80.0	1.3	45.0
6/05/2021 22:00	459.1	0.0	4.7	82.0	0.9	45.0
6/05/2021 23:00	459.3	0.0	4.2	84.0	0.4	45.0
7/05/2021 00:00	458.8	0.0	3.9	85.0	0.4	22.5
7/05/2021 01:00	458.5	0.0	3.4	86.0	0.0	22.5
7/05/2021 02:00	458.1	0.0	2.7	87.0	0.0	22.5
7/05/2021 03:00	458.1	0.0	2.3	91.0	0.4	45.0
7/05/2021 04:00	457.9	0.0	2.3	92.0	0.4	337.5
7/05/2021 05:00	458.0	0.0	2.7	87.0	0.0	337.5
7/05/2021 06:00	458.1	0.0	2.2	84.0	0.4	180.0
7/05/2021 07:00	458.7	0.0	2.0	88.0	0.4	45.0

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	7/05/2021 08:00	459.0	0.0	4.9	73.0	0.4	0.0
	7/05/2021 09:00	459.3	0.0	6.9	65.0	0.9	157.5
	7/05/2021 10:00	459.2	0.0	6.3	73.0	1.3	22.5
	7/05/2021 11:00	459.0	0.0	8.3	65.0	0.9	22.5
	7/05/2021 12:00	458.5	0.0	8.7	65.0	0.9	22.5
	7/05/2021 13:00	458.3	0.0	10.3	61.0	1.3	45.0
	7/05/2021 14:00	457.8	0.0	10.0	67.0	1.3	135.0
	7/05/2021 15:00	457.4	0.0	7.6	74.0	1.8	337.5
	7/05/2021 16:00	457.3	0.0	6.3	79.0	0.9	157.5
	7/05/2021 17:00	457.4	0.0	6.3	79.0	0.9	0.0
	7/05/2021 18:00	457.7	0.0	5.2	81.0	1.3	0.0
	7/05/2021 19:00	458.1	0.0	4.4	86.0	0.9	0.0
	7/05/2021 20:00	458.4	0.0	4.4	88.0	1.3	0.0
	7/05/2021 21:00	459.0	0.0	3.8	88.0	0.9	337.5
	7/05/2021 22:00	459.0	0.0	2.9	90.0	0.4	337.5
	7/05/2021 23:00	459.2	0.0	3.6	88.0	0.4	0.0
	8/05/2021 00:00	459.0	0.0	3.7	85.0	0.4	337.5
	8/05/2021 01:00	458.8	0.0	3.3	88.0	0.4	45.0
	8/05/2021 02:00	458.4	0.0	3.3	87.0	0.4	45.0
	8/05/2021 03:00	458.1	0.0	3.1	86.0	0.0	45.0
	8/05/2021 04:00	458.0	0.0	2.0	86.0	0.0	45.0
	8/05/2021 05:00	458.2	0.0	1.8	91.0	0.4	315.0
	8/05/2021 06:00	458.4	0.0	2.1	89.0	0.4	202.5
	8/05/2021 07:00	458.8	0.0	2.7	88.0	0.0	202.5
	8/05/2021 08:00	459.2	0.0	4.5	81.0	0.4	22.5
	8/05/2021 09:00	459.4	0.0	5.8	74.0	0.9	157.5
	8/05/2021 10:00	459.6	0.0	7.9	69.0	0.9	0.0
	8/05/2021 11:00	459.4	0.0	9.7	62.0	1.3	315.0
	8/05/2021 12:00	459.0	0.0	9.6	64.0	2.2	337.5
	8/05/2021 13:00	458.4	0.0	10.8	59.0	1.8	22.5
	8/05/2021 14:00	458.1	0.0	8.8	72.0	1.8	0.0
	8/05/2021 15:00	457.7	0.6	5.4	82.0	1.8	45.0
	8/05/2021 16:00	457.6	0.0	8.4	72.0	0.9	22.5
	8/05/2021 17:00	457.8	0.0	5.1	83.0	1.3	22.5
	8/05/2021 18:00	458.0	0.0	4.3	82.0	1.3	22.5
	8/05/2021 19:00	458.4	0.2	3.8	82.0	1.3	45.0
	8/05/2021 20:00	458.8	0.0	3.4	82.0	0.4	45.0
	8/05/2021 21:00	459.1	0.0	2.8	86.0	0.4	45.0
	8/05/2021 22:00	459.2	0.0	2.5	85.0	0.4	22.5
	8/05/2021 23:00	459.2	0.0	1.8	87.0	0.0	22.5
	9/05/2021 00:00	458.9	0.0	2.2	88.0	0.4	0.0
	9/05/2021 01:00	458.5	0.0	1.9	89.0	0.0	0.0
	9/05/2021 02:00	458.1	0.0	1.8	89.0	0.4	0.0
	9/05/2021 03:00	458.1	0.0	1.5	88.0	0.4	315.0
	9/05/2021 04:00	458.0	0.0	1.2	89.0	0.4	157.5
	9/05/2021 05:00	458.1	0.0	1.1	89.0	0.4	157.5
	9/05/2021 06:00	458.4	0.0	1.2	85.0	0.4	157.5
	9/05/2021 07:00	458.9	0.0	1.6	80.0	0.4	45.0
	9/05/2021 08:00	459.3	0.0	2.3	74.0	0.4	45.0
	9/05/2021 09:00	459.6	0.0	5.3	68.0	0.4	45.0
	9/05/2021 10:00	459.6	0.0	6.0	65.0	0.9	45.0
	9/05/2021 11:00	459.3	0.0	6.8	62.0	0.9	45.0
	9/05/2021 12:00	459.1	0.0	8.1	59.0	1.8	315.0
	9/05/2021 13:00	458.5	0.0	9.8	54.0	1.8	22.5
	9/05/2021 14:00	458.1	0.0	10.7	53.0	2.7	315.0
	9/05/2021 15:00	457.7	0.0	11.3	57.0	2.7	315.0
	9/05/2021 16:00	457.6	0.0	9.7	57.0	3.1	337.5
	9/05/2021 17:00	457.6	0.0	6.9	72.0	2.2	337.5
	9/05/2021 18:00	458.0	0.0	5.0	79.0	1.8	337.5
	9/05/2021 19:00	458.4	0.0	4.1	83.0	1.8	45.0
	9/05/2021 20:00	458.7	0.0	4.3	84.0	1.3	45.0
	9/05/2021 21:00	459.0	0.0	4.1	86.0	0.9	45.0
	9/05/2021 22:00	458.8	0.0	3.8	87.0	0.9	45.0
	9/05/2021 23:00	458.8	0.0	3.7	86.0	0.9	45.0
	10/05/2021 00:00	458.9	0.0	3.2	88.0	0.9	22.5
	10/05/2021 01:00	458.6	0.0	2.9	89.0	0.9	22.5
	10/05/2021 02:00	458.4	0.0	2.4	88.0	0.4	45.0
	10/05/2021 03:00	458.1	0.0	2.4	86.0	0.4	22.5
	10/05/2021 04:00	458.0	0.0	1.6	87.0	0.4	45.0
	10/05/2021 05:00	458.2	0.0	0.7	89.0	0.0	45.0
	10/05/2021 06:00	458.4	0.0	-0.2	92.0	0.4	315.0
	10/05/2021 07:00	458.6	0.0	-0.5	92.0	0.4	315.0
	10/05/2021 08:00	459.1	0.0	1.6	91.0	0.4	225.0
	10/05/2021 09:00	459.4	0.0	5.1	78.0	0.9	202.5
	10/05/2021 10:00	459.4	0.0	8.4	58.0	0.9	180.0
	10/05/2021 11:00	459.2	0.0	8.1	63.0	1.3	22.5
	10/05/2021 12:00	458.7	0.0	8.8	61.0	2.2	337.5
	10/05/2021 13:00	458.3	0.0	10.3	59.0	2.7	337.5
	10/05/2021 14:00	457.8	0.0	9.7	59.0	2.7	0.0
	10/05/2021 15:00	457.6	0.0	8.8	62.0	2.7	337.5
	10/05/2021 16:00	457.5	0.2	6.6	75.0	1.8	22.5
	10/05/2021 17:00	457.7	0.2	5.7	78.0	2.2	0.0
	10/05/2021 18:00	457.8	0.0	3.3	86.0	2.7	0.0
	10/05/2021 19:00	458.4	0.0	2.8	88.0	1.8	0.0
	10/05/2021 20:00	458.6	0.0	2.6	87.0	1.8	0.0
	10/05/2021 21:00	459.0	0.0	2.3	88.0	0.9	337.5
	10/05/2021 22:00	459.0	0.0	1.8	87.0	0.4	22.5
	10/05/2021 23:00	459.0	0.0	1.4	88.0	0.4	45.0
	11/05/2021 00:00	458.8	0.0	1.2	90.0	0.9	0.0

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11/05/2021 01:00	458.7	0.0	0.7	91.0	0.0	0.0
11/05/2021 02:00	458.2	0.0	0.7	92.0	0.4	337.5
11/05/2021 03:00	458.2	0.0	0.4	92.0	0.4	45.0
11/05/2021 04:00	458.0	0.0	0.2	91.0	0.4	45.0
11/05/2021 05:00	458.1	0.0	0.3	92.0	0.4	202.5
11/05/2021 06:00	458.3	0.0	-0.2	92.0	0.4	225.0
11/05/2021 07:00	458.7	0.0	-0.7	93.0	0.4	202.5
11/05/2021 08:00	459.0	0.0	-0.5	93.0	0.4	180.0
11/05/2021 09:00	459.3	0.0	1.9	93.0	0.9	202.5
11/05/2021 10:00	459.3	0.0	5.6	77.0	1.3	180.0
11/05/2021 11:00	459.0	0.0	9.6	53.0	1.3	180.0
11/05/2021 12:00	458.5	0.0	9.4	55.0	2.2	315.0
11/05/2021 13:00	458.1	0.0	11.4	51.0	2.2	0.0
11/05/2021 14:00	457.8	0.0	11.2	50.0	3.1	315.0
11/05/2021 15:00	457.4	0.0	9.8	56.0	3.1	337.5
11/05/2021 16:00	457.1	0.0	9.2	58.0	2.2	337.5
11/05/2021 17:00	457.5	0.0	7.3	72.0	1.8	0.0
11/05/2021 18:00	457.4	0.0	5.4	77.0	1.8	0.0
11/05/2021 19:00	457.4	0.0	4.4	81.0	0.9	22.5
11/05/2021 20:00	457.9	0.0	3.8	84.0	0.9	0.0
11/05/2021 21:00	458.1	0.0	3.3	85.0	0.4	45.0
11/05/2021 22:00	458.5	0.0	2.7	87.0	0.0	45.0
11/05/2021 23:00	458.4	0.0	2.3	90.0	0.9	22.5
12/05/2021 00:00	458.5	0.0	2.7	90.0	0.9	22.5
12/05/2021 01:00	458.4	0.0	2.9	87.0	1.3	22.5
12/05/2021 02:00	458.3	0.0	2.9	87.0	1.3	22.5
12/05/2021 03:00	458.1	0.0	2.4	86.0	0.9	22.5
12/05/2021 04:00	458.0	0.0	1.7	86.0	0.4	22.5
12/05/2021 05:00	458.0	0.0	1.2	86.0	0.4	337.5
12/05/2021 06:00	458.0	0.0	0.6	88.0	0.4	337.5
12/05/2021 07:00	458.3	0.0	0.4	89.0	0.0	337.5
12/05/2021 08:00	458.7	0.0	3.3	79.0	0.4	0.0
12/05/2021 09:00	459.0	0.0	7.3	62.0	0.9	45.0
12/05/2021 10:00	459.3	0.0	7.3	66.0	1.3	0.0
12/05/2021 11:00	459.0	0.0	9.4	59.0	1.8	337.5
12/05/2021 12:00	458.7	0.0	8.8	63.0	1.8	0.0
12/05/2021 13:00	458.3	0.0	9.4	62.0	2.2	315.0
12/05/2021 14:00	457.9	0.0	10.3	61.0	2.2	337.5
12/05/2021 15:00	457.6	0.0	9.4	67.0	2.7	337.5
12/05/2021 16:00	457.6	0.0	9.9	63.0	1.8	22.5
12/05/2021 17:00	457.5	0.0	8.1	66.0	1.8	0.0
12/05/2021 18:00	457.8	0.0	6.3	74.0	1.8	0.0
12/05/2021 19:00	457.8	0.0	5.0	80.0	1.3	22.5
12/05/2021 20:00	458.4	0.0	4.2	84.0	1.3	22.5
12/05/2021 21:00	458.7	0.0	3.8	85.0	0.9	0.0
12/05/2021 22:00	459.0	0.0	3.5	86.0	0.9	0.0
12/05/2021 23:00	459.1	0.0	3.3	88.0	0.9	0.0
13/05/2021 00:00	458.8	0.0	3.2	88.0	0.9	0.0
13/05/2021 01:00	458.6	0.0	3.3	88.0	0.9	22.5
13/05/2021 02:00	458.3	0.0	3.3	87.0	0.9	22.5
13/05/2021 03:00	457.9	0.0	2.9	87.0	0.4	22.5
13/05/2021 04:00	458.0	0.0	2.3	88.0	0.9	22.5
13/05/2021 05:00	457.9	0.0	2.2	87.0	0.9	22.5
13/05/2021 06:00	458.1	0.0	2.4	87.0	0.4	22.5
13/05/2021 07:00	458.4	0.0	2.7	88.0	0.4	22.5
13/05/2021 08:00	458.7	0.0	4.0	82.0	0.4	337.5
13/05/2021 09:00	459.0	0.0	5.2	79.0	1.3	337.5
13/05/2021 10:00	459.1	0.0	6.9	73.0	1.3	337.5
13/05/2021 11:00	459.0	0.0	7.8	69.0	1.8	337.5
13/05/2021 12:00	458.7	0.0	8.8	64.0	2.2	0.0
13/05/2021 13:00	458.4	0.0	9.4	65.0	2.2	22.5
13/05/2021 14:00	458.1	0.0	9.1	71.0	2.7	337.5
13/05/2021 15:00	457.6	0.0	9.3	68.0	1.8	22.5
13/05/2021 16:00	457.5	0.0	9.2	68.0	1.3	22.5
13/05/2021 17:00	457.6	0.0	8.3	71.0	1.8	22.5
13/05/2021 18:00	457.7	0.0	6.9	76.0	1.8	0.0
13/05/2021 19:00	458.0	0.0	5.8	80.0	1.3	0.0
13/05/2021 20:00	458.3	0.0	4.7	85.0	0.9	45.0
13/05/2021 21:00	458.7	0.0	4.1	89.0	0.9	45.0
13/05/2021 22:00	458.6	0.0	4.6	87.0	0.4	45.0
13/05/2021 23:00	458.7	0.0	3.8	89.0	0.0	45.0
14/05/2021 00:00	458.6	0.0	4.1	86.0	0.4	337.5
14/05/2021 01:00	458.3	0.0	3.9	89.0	0.0	337.5
14/05/2021 02:00	458.1	0.0	3.6	87.0	0.4	337.5
14/05/2021 03:00	457.8	0.0	3.1	91.0	0.4	337.5
14/05/2021 04:00	457.7	0.0	3.1	87.0	0.4	315.0
14/05/2021 05:00	457.8	0.0	3.1	88.0	0.4	315.0
14/05/2021 06:00	458.0	0.0	3.1	88.0	0.0	315.0
14/05/2021 07:00	458.4	0.0	3.4	89.0	0.4	45.0
14/05/2021 08:00	458.6	0.0	4.7	84.0	0.4	45.0
14/05/2021 09:00	459.0	0.0	6.1	76.0	0.9	22.5
14/05/2021 10:00	459.2	0.0	7.4	67.0	0.9	22.5
14/05/2021 11:00	458.9	0.0	8.4	62.0	1.3	0.0
14/05/2021 12:00	458.7	0.0	9.4	62.0	1.8	337.5
14/05/2021 13:00	458.4	0.0	10.1	62.0	1.8	315.0
14/05/2021 14:00	457.8	0.0	11.7	61.0	2.2	337.5
14/05/2021 15:00	457.3	0.0	11.4	63.0	2.7	337.5
14/05/2021 16:00	457.1	0.0	10.0	68.0	2.7	337.5
14/05/2021 17:00	457.3	0.0	8.1	74.0	2.2	0.0

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14/05/2021 18:00	457.6	0.0	6.7	80.0	1.3	0.0
14/05/2021 19:00	457.9	0.0	5.8	84.0	1.3	0.0
14/05/2021 20:00	458.3	0.0	5.2	87.0	1.3	0.0
14/05/2021 21:00	458.5	0.0	4.8	87.0	1.3	0.0
14/05/2021 22:00	458.4	0.0	4.4	88.0	1.3	0.0
14/05/2021 23:00	458.8	0.0	4.3	88.0	0.4	315.0
15/05/2021 00:00	458.6	0.0	4.5	88.0	0.4	0.0
15/05/2021 01:00	458.5	0.0	3.9	89.0	0.4	315.0
15/05/2021 02:00	458.3	0.0	2.8	91.0	0.4	292.5
15/05/2021 03:00	458.1	0.0	2.9	92.0	0.4	292.5
15/05/2021 04:00	457.8	0.0	2.6	90.0	0.4	315.0
15/05/2021 05:00	457.9	0.0	2.4	91.0	0.4	315.0
15/05/2021 06:00	458.3	0.0	2.8	89.0	0.0	315.0
15/05/2021 07:00	458.5	0.0	2.6	90.0	0.0	315.0
15/05/2021 08:00	459.0	0.0	3.4	89.0	0.4	22.5
15/05/2021 09:00	459.2	0.0	6.8	75.0	0.9	45.0
15/05/2021 10:00	459.1	0.0	7.7	68.0	0.9	112.5
15/05/2021 11:00	459.1	0.0	10.3	60.0	0.9	157.5
15/05/2021 12:00	458.7	0.0	9.4	62.0	1.3	315.0
15/05/2021 13:00	458.1	1.0	5.9	77.0	1.3	337.5
15/05/2021 14:00	457.7	1.8	6.6	69.0	0.9	135.0
15/05/2021 15:00	457.5	0.8	4.7	79.0	1.8	45.0
15/05/2021 16:00	457.5	0.0	4.9	79.0	1.8	45.0
15/05/2021 17:00	458.1	0.0	5.0	78.0	0.9	45.0
15/05/2021 18:00	458.3	0.2	4.1	82.0	0.4	0.0
15/05/2021 19:00	458.7	0.2	3.4	85.0	0.9	337.5
15/05/2021 20:00	459.1	0.0	2.8	87.0	0.9	337.5
15/05/2021 21:00	459.0	0.0	2.6	88.0	0.9	22.5
15/05/2021 22:00	459.2	0.0	2.8	85.0	0.4	0.0
15/05/2021 23:00	459.3	0.0	2.8	88.0	0.4	0.0
16/05/2021 00:00	459.2	0.0	2.3	90.0	0.4	202.5
16/05/2021 01:00	458.9	0.0	1.8	91.0	0.4	180.0
16/05/2021 02:00	458.7	0.0	0.8	91.0	0.4	247.5
16/05/2021 03:00	458.3	0.0	0.3	93.0	0.4	202.5
16/05/2021 04:00	458.2	0.0	-0.1	93.0	0.4	202.5
16/05/2021 05:00	458.4	0.0	0.2	93.0	0.4	225.0
16/05/2021 06:00	458.4	0.0	0.3	94.0	0.4	180.0
16/05/2021 07:00	458.9	0.0	0.4	93.0	0.9	180.0
16/05/2021 08:00	459.5	0.0	1.5	90.0	0.9	202.5
16/05/2021 09:00	459.6	0.0	3.0	84.0	0.9	202.5
16/05/2021 10:00	459.8	0.0	5.8	76.0	0.9	202.5
16/05/2021 11:00	459.6	0.0	8.3	68.0	0.9	315.0
16/05/2021 12:00	459.2	0.2	8.1	63.0	0.9	315.0
16/05/2021 13:00	458.6	0.0	9.2	61.0	1.3	315.0
16/05/2021 14:00	458.2	0.0	11.7	53.0	1.3	315.0
16/05/2021 15:00	457.7	0.0	11.4	51.0	0.9	45.0
16/05/2021 16:00	457.4	0.4	8.0	67.0	1.3	337.5
16/05/2021 17:00	457.4	0.0	7.8	67.0	1.3	0.0
16/05/2021 18:00	457.8	0.0	6.1	78.0	1.3	337.5
16/05/2021 19:00	458.1	0.0	5.1	80.0	0.4	22.5
16/05/2021 20:00	458.8	0.0	4.6	87.0	0.9	22.5
16/05/2021 21:00	459.0	0.0	4.7	88.0	0.9	22.5
16/05/2021 22:00	459.0	0.0	4.8	87.0	0.9	337.5
16/05/2021 23:00	459.2	0.0	3.9	87.0	0.0	337.5
17/05/2021 00:00	459.0	0.0	3.3	90.0	0.0	337.5
17/05/2021 01:00	458.7	0.0	3.1	90.0	0.0	337.5
17/05/2021 02:00	458.4	0.0	2.7	90.0	0.0	337.5
17/05/2021 03:00	458.2	0.0	1.8	90.0	0.0	337.5
17/05/2021 04:00	458.1	0.0	1.7	91.0	0.4	270.0
17/05/2021 05:00	458.2	0.0	1.1	91.0	0.0	270.0
17/05/2021 06:00	458.4	0.0	0.5	91.0	0.4	157.5
17/05/2021 07:00	458.8	0.0	1.0	93.0	0.4	202.5
17/05/2021 08:00	459.3	0.0	1.6	93.0	0.4	202.5
17/05/2021 09:00	459.5	0.0	4.0	87.0	0.4	180.0
17/05/2021 10:00	459.6	0.0	7.0	76.0	0.9	315.0
17/05/2021 11:00	459.4	0.0	10.7	62.0	1.3	315.0
17/05/2021 12:00	459.0	0.0	11.1	61.0	1.8	22.5
17/05/2021 13:00	458.6	0.0	12.3	51.0	2.2	0.0
17/05/2021 14:00	458.0	0.0	11.9	54.0	2.2	337.5
17/05/2021 15:00	457.8	0.0	11.6	47.0	2.2	337.5
17/05/2021 16:00	457.7	0.0	6.8	71.0	2.2	315.0
17/05/2021 17:00	457.9	0.0	8.0	66.0	1.3	292.5
17/05/2021 18:00	458.2	0.0	5.8	73.0	1.3	157.5
17/05/2021 19:00	458.3	0.0	5.7	82.0	0.4	45.0
17/05/2021 20:00	459.0	0.0	4.8	84.0	0.9	45.0
17/05/2021 21:00	459.3	0.0	4.4	84.0	0.4	45.0
17/05/2021 22:00	459.3	0.0	3.8	88.0	0.4	45.0
17/05/2021 23:00	459.3	0.0	3.8	89.0	0.9	45.0
18/05/2021 00:00	459.2	0.0	3.7	89.0	0.4	22.5
18/05/2021 01:00	458.7	0.0	3.9	86.0	0.4	22.5
18/05/2021 02:00	458.4	0.0	3.8	86.0	0.4	22.5
18/05/2021 03:00	458.1	0.0	3.9	85.0	0.4	22.5
18/05/2021 04:00	458.2	0.0	2.9	87.0	0.4	22.5
18/05/2021 05:00	458.5	0.0	2.9	86.0	0.9	45.0
18/05/2021 06:00	458.6	0.0	2.8	85.0	0.4	45.0
18/05/2021 07:00	459.0	0.0	2.8	83.0	0.4	45.0
18/05/2021 08:00	459.3	0.0	5.2	74.0	0.4	157.5
18/05/2021 09:00	459.4	0.0	6.2	66.0	0.4	135.0
18/05/2021 10:00	459.6	0.0	7.4	65.0	0.9	112.5

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18	18/05/2021 11:00	459.3	0.0	9.2	63.0	0.9	22.5
	18/05/2021 12:00	458.9	0.0	8.8	63.0	0.9	22.5
	18/05/2021 13:00	458.4	0.0	7.9	71.0	1.3	45.0
	18/05/2021 14:00	458.1	0.0	6.5	81.0	1.3	45.0
	18/05/2021 15:00	458.0	0.2	5.2	81.0	1.3	157.5
	18/05/2021 16:00	457.6	0.2	8.3	72.0	0.4	135.0
	18/05/2021 17:00	457.8	0.0	7.5	76.0	1.3	22.5
	18/05/2021 18:00	458.1	0.0	5.4	83.0	1.3	0.0
	18/05/2021 19:00	458.5	0.0	4.4	86.0	1.8	337.5
	18/05/2021 20:00	458.7	0.0	4.5	88.0	1.3	337.5
	18/05/2021 21:00	458.9	0.0	4.4	87.0	0.9	22.5
	18/05/2021 22:00	459.0	0.0	4.3	88.0	0.9	337.5
	18/05/2021 23:00	459.0	0.0	3.4	89.0	1.3	315.0
	19/05/2021 00:00	459.1	0.4	3.7	90.0	0.9	315.0
19	19/05/2021 01:00	458.7	0.0	3.6	90.0	0.4	337.5
	19/05/2021 02:00	458.4	0.0	3.6	90.0	0.4	337.5
	19/05/2021 03:00	458.1	0.0	3.6	90.0	0.4	45.0
	19/05/2021 04:00	457.9	0.0	3.7	89.0	0.4	337.5
	19/05/2021 05:00	458.1	0.0	3.8	88.0	0.9	337.5
	19/05/2021 06:00	458.1	0.0	3.6	90.0	0.4	45.0
	19/05/2021 07:00	458.4	0.2	3.2	90.0	0.9	45.0
	19/05/2021 08:00	458.7	0.0	4.0	89.0	1.3	315.0
	19/05/2021 09:00	459.0	0.0	5.3	82.0	1.3	337.5
	19/05/2021 10:00	459.3	0.0	7.5	73.0	1.8	315.0
	19/05/2021 11:00	459.0	0.0	8.6	71.0	1.3	315.0
	19/05/2021 12:00	458.8	0.0	8.1	70.0	1.8	315.0
	19/05/2021 13:00	458.2	0.0	9.1	68.0	1.8	315.0
	19/05/2021 14:00	457.8	0.0	11.6	61.0	1.8	315.0
20	19/05/2021 15:00	457.4	0.0	10.7	64.0	2.2	0.0
	19/05/2021 16:00	457.1	0.0	10.5	65.0	2.2	337.5
	19/05/2021 17:00	457.0	0.0	9.2	69.0	1.3	0.0
	19/05/2021 18:00	457.2	0.0	6.4	81.0	1.8	0.0
	19/05/2021 19:00	457.8	0.0	5.5	83.0	0.9	0.0
	19/05/2021 20:00	458.1	0.0	5.3	87.0	0.9	45.0
	19/05/2021 21:00	458.3	0.0	4.9	87.0	1.3	0.0
	19/05/2021 22:00	458.4	0.0	4.6	88.0	0.9	315.0
	19/05/2021 23:00	458.3	0.0	3.6	89.0	0.4	22.5
	20/05/2021 00:00	458.1	0.0	3.1	89.0	0.4	315.0
	20/05/2021 01:00	457.8	0.0	3.2	90.0	0.4	45.0
	20/05/2021 02:00	457.7	0.0	3.1	89.0	0.4	0.0
	20/05/2021 03:00	457.6	0.0	2.5	90.0	0.4	22.5
	20/05/2021 04:00	457.6	0.0	2.3	91.0	0.4	22.5
20/05/2021 05:00	457.8	0.0	2.2	91.0	0.4	45.0	
20/05/2021 06:00	458.0	0.0	2.1	91.0	0.0	45.0	
20/05/2021 07:00	458.2	0.0	1.8	92.0	0.4	180.0	
20/05/2021 08:00	458.6	0.0	2.3	90.0	0.4	22.5	
20/05/2021 09:00	459.0	0.0	3.6	88.0	0.9	225.0	
20/05/2021 10:00	459.0	0.0	7.8	72.0	0.9	180.0	
20/05/2021 11:00	458.9	0.0	10.6	62.0	0.9	0.0	
21	20/05/2021 12:00	458.5	0.0	11.7	56.0	1.3	337.5
	20/05/2021 13:00	458.1	0.0	11.8	58.0	2.2	315.0
	20/05/2021 14:00	457.6	0.0	11.8	59.0	2.2	337.5
	20/05/2021 15:00	457.2	0.0	11.9	57.0	2.7	337.5
	20/05/2021 16:00	457.1	0.0	11.9	59.0	2.2	337.5
	20/05/2021 17:00	456.9	0.0	9.4	71.0	1.8	337.5
	20/05/2021 18:00	457.1	0.0	7.2	81.0	1.8	0.0
	20/05/2021 19:00	457.8	0.0	6.3	86.0	1.8	0.0
	20/05/2021 20:00	458.1	0.0	5.8	86.0	1.3	0.0
	20/05/2021 21:00	458.2	0.0	5.7	87.0	1.3	337.5
	20/05/2021 22:00	458.4	0.0	5.7	86.0	0.9	337.5
	20/05/2021 23:00	458.1	0.0	4.5	88.0	0.4	0.0
	21/05/2021 00:00	458.1	0.0	3.8	91.0	0.9	22.5
	21/05/2021 01:00	457.7	0.0	3.4	92.0	0.4	292.5
21/05/2021 02:00	457.7	0.0	3.5	90.0	0.4	67.5	
21/05/2021 03:00	457.5	0.0	3.1	89.0	0.4	337.5	
21/05/2021 04:00	457.7	0.0	2.3	91.0	0.4	292.5	
21/05/2021 05:00	457.7	0.0	1.1	92.0	0.9	292.5	
21/05/2021 06:00	457.9	0.0	1.3	93.0	0.4	292.5	
21/05/2021 07:00	458.3	0.0	0.9	93.0	0.4	180.0	
21/05/2021 08:00	458.7	0.0	1.3	93.0	0.4	180.0	
21/05/2021 09:00	458.9	0.0	2.8	93.0	0.9	157.5	
21/05/2021 10:00	458.7	0.0	7.3	74.0	0.9	157.5	
21/05/2021 11:00	458.4	0.0	11.4	56.0	1.3	315.0	
21/05/2021 12:00	458.1	0.0	12.8	52.0	1.3	45.0	
21/05/2021 13:00	457.8	0.0	11.9	56.0	2.2	337.5	
21/05/2021 14:00	457.4	0.0	11.8	57.0	3.1	315.0	
21/05/2021 15:00	456.9	0.0	11.9	57.0	2.2	0.0	
21/05/2021 16:00	456.6	0.0	10.5	59.0	1.8	0.0	
21/05/2021 17:00	456.8	0.0	9.2	67.0	1.8	337.5	
21/05/2021 18:00	457.2	0.0	7.7	76.0	1.8	0.0	
21/05/2021 19:00	457.5	0.0	6.4	83.0	1.3	0.0	
21/05/2021 20:00	457.8	0.0	5.7	85.0	1.3	0.0	
21/05/2021 21:00	458.1	0.0	5.2	88.0	0.4	22.5	
21/05/2021 22:00	458.3	0.0	5.2	87.0	0.9	22.5	
21/05/2021 23:00	458.3	0.0	5.2	86.0	0.9	0.0	
22/05/2021 00:00	458.2	0.0	4.8	88.0	0.9	22.5	
22/05/2021 01:00	457.9	0.0	4.7	86.0	0.4	22.5	
22/05/2021 02:00	457.8	0.0	4.1	88.0	0.4	0.0	
22/05/2021 03:00	457.7	0.0	3.5	88.0	0.9	337.5	

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22/05/2021 04:00	457.6	0.0	2.5	90.0	0.4	337.5
22/05/2021 05:00	457.7	0.0	1.8	90.0	0.0	337.5
22/05/2021 06:00	457.6	0.0	1.4	91.0	0.0	337.5
22/05/2021 07:00	457.9	0.0	1.4	92.0	0.0	337.5
22/05/2021 08:00	458.4	0.0	4.8	82.0	0.0	337.5
22/05/2021 09:00	459.0	0.0	5.9	77.0	1.3	337.5
22/05/2021 10:00	459.3	0.0	9.1	64.0	1.8	337.5
22/05/2021 11:00	459.1	0.0	10.7	58.0	1.3	45.0
22/05/2021 12:00	458.7	0.0	10.7	58.0	2.2	315.0
22/05/2021 13:00	458.1	0.0	11.8	57.0	2.7	315.0
22/05/2021 14:00	457.4	0.0	12.2	53.0	2.7	337.5
22/05/2021 15:00	457.0	0.0	10.0	64.0	2.7	0.0
22/05/2021 16:00	457.2	0.0	8.9	66.0	2.2	0.0
22/05/2021 17:00	457.3	0.0	7.8	72.0	1.3	45.0
22/05/2021 18:00	457.5	0.0	7.1	74.0	0.9	135.0
22/05/2021 19:00	457.9	0.0	6.3	77.0	0.9	22.5
22/05/2021 20:00	458.1	0.0	5.9	79.0	0.9	337.5
22/05/2021 21:00	458.5	0.0	5.2	76.0	0.4	270.0
22/05/2021 22:00	458.7	0.0	4.6	78.0	0.0	270.0
22/05/2021 23:00	458.8	0.0	3.9	88.0	0.4	270.0
23/05/2021 00:00	458.7	0.0	3.9	88.0	1.3	337.5
23/05/2021 01:00	458.4	0.0	2.8	90.0	0.4	112.5
23/05/2021 02:00	458.4	0.0	2.5	92.0	0.4	180.0
23/05/2021 03:00	458.2	0.0	2.8	93.0	0.4	315.0
23/05/2021 04:00	457.9	0.0	3.2	90.0	0.4	315.0
23/05/2021 05:00	457.9	0.0	2.8	90.0	0.4	315.0
23/05/2021 06:00	457.9	0.0	2.3	89.0	0.4	315.0
23/05/2021 07:00	458.5	0.0	2.3	90.0	0.0	315.0
23/05/2021 08:00	458.8	0.0	4.6	82.0	0.4	202.5
23/05/2021 09:00	459.0	0.0	6.9	71.0	0.9	202.5
23/05/2021 10:00	459.1	0.0	8.2	66.0	0.9	180.0
23/05/2021 11:00	459.0	0.0	11.2	51.0	1.3	22.5
23/05/2021 12:00	458.5	0.0	10.6	56.0	1.8	337.5
23/05/2021 13:00	458.2	0.0	8.3	73.0	2.2	0.0
23/05/2021 14:00	457.9	0.0	5.9	80.0	2.2	22.5
23/05/2021 15:00	457.6	0.2	5.8	81.0	1.8	0.0
23/05/2021 16:00	457.3	0.0	7.5	75.0	1.8	337.5
23/05/2021 17:00	457.5	0.0	6.3	79.0	1.8	22.5
23/05/2021 18:00	457.7	0.0	4.9	84.0	1.3	0.0
23/05/2021 19:00	458.0	0.0	4.4	85.0	0.9	22.5
23/05/2021 20:00	458.4	0.0	4.4	86.0	0.9	0.0
23/05/2021 21:00	458.6	0.0	4.2	88.0	1.3	0.0
23/05/2021 22:00	459.0	0.4	3.5	87.0	0.4	22.5
23/05/2021 23:00	458.7	0.0	3.7	89.0	0.4	45.0
24/05/2021 00:00	458.6	0.2	3.6	90.0	0.4	22.5
24/05/2021 01:00	458.3	0.0	3.6	90.0	0.9	22.5
24/05/2021 02:00	458.1	0.2	3.4	88.0	0.4	337.5
24/05/2021 03:00	458.1	0.4	3.1	88.0	0.4	337.5
24/05/2021 04:00	458.0	0.4	2.8	90.0	0.4	0.0
24/05/2021 05:00	458.1	0.0	2.8	89.0	0.4	315.0
24/05/2021 06:00	458.4	0.0	2.9	88.0	0.4	45.0
24/05/2021 07:00	458.6	0.0	2.9	88.0	0.4	22.5
24/05/2021 08:00	458.8	0.0	4.9	83.0	0.4	22.5
24/05/2021 09:00	459.3	0.0	7.6	74.0	0.9	22.5
24/05/2021 10:00	459.3	0.0	6.8	75.0	1.3	22.5
24/05/2021 11:00	459.1	0.0	8.9	70.0	1.8	337.5
24/05/2021 12:00	458.7	0.0	8.7	71.0	1.8	337.5
24/05/2021 13:00	458.5	0.0	9.2	67.0	2.2	337.5
24/05/2021 14:00	457.9	0.0	8.8	71.0	2.2	337.5
24/05/2021 15:00	457.6	0.0	8.3	75.0	2.2	337.5
24/05/2021 16:00	457.2	0.0	8.9	71.0	1.8	0.0
24/05/2021 17:00	457.2	0.0	6.9	78.0	1.8	0.0
24/05/2021 18:00	457.5	0.0	5.5	82.0	1.3	0.0
24/05/2021 19:00	457.8	0.0	4.7	86.0	1.3	0.0
24/05/2021 20:00	458.3	0.0	4.7	87.0	1.3	0.0
24/05/2021 21:00	458.7	0.0	4.3	88.0	0.9	22.5
24/05/2021 22:00	459.0	1.2	3.6	88.0	0.9	22.5
24/05/2021 23:00	458.9	0.2	3.5	90.0	0.9	22.5
25/05/2021 00:00	459.0	0.2	3.6	90.0	0.9	22.5
25/05/2021 01:00	458.5	0.0	3.6	90.0	1.3	0.0
25/05/2021 02:00	458.3	0.4	3.2	91.0	0.9	22.5
25/05/2021 03:00	458.0	0.6	3.1	92.0	0.4	22.5
25/05/2021 04:00	458.0	0.2	2.9	90.0	0.9	0.0
25/05/2021 05:00	458.1	0.0	2.9	90.0	0.9	0.0
25/05/2021 06:00	458.3	0.0	2.9	91.0	0.9	0.0
25/05/2021 07:00	458.5	0.0	3.2	91.0	0.4	0.0
25/05/2021 08:00	459.0	0.8	3.2	90.0	0.9	45.0
25/05/2021 09:00	459.2	0.2	4.4	89.0	0.4	45.0
25/05/2021 10:00	459.3	0.8	4.2	89.0	1.3	45.0
25/05/2021 11:00	459.3	0.4	3.7	88.0	1.8	0.0
25/05/2021 12:00	459.0	0.2	5.1	89.0	1.8	337.5
25/05/2021 13:00	458.5	0.6	5.4	88.0	2.2	0.0
25/05/2021 14:00	458.1	0.2	6.6	82.0	2.7	0.0
25/05/2021 15:00	457.8	0.0	5.4	85.0	2.2	0.0
25/05/2021 16:00	457.9	0.4	4.3	89.0	2.2	0.0
25/05/2021 17:00	458.2	0.4	4.1	89.0	2.2	0.0
25/05/2021 18:00	458.4	0.0	3.7	89.0	2.2	0.0
25/05/2021 19:00	459.0	1.2	3.3	91.0	1.8	337.5
25/05/2021 20:00	459.3	0.0	3.3	90.0	2.2	0.0

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25/05/2021 21:00	459.4	0.0	3.1	90.0	1.8	0.0
25/05/2021 22:00	459.6	0.0	2.9	89.0	1.3	0.0
25/05/2021 23:00	459.5	0.0	2.7	90.0	0.9	22.5
26/05/2021 00:00	459.5	0.0	2.3	90.0	0.9	0.0
26/05/2021 01:00	459.2	0.0	2.0	90.0	0.9	337.5
26/05/2021 02:00	459.0	0.0	1.8	90.0	0.9	337.5
26/05/2021 03:00	458.8	0.0	1.7	86.0	0.9	0.0
26/05/2021 04:00	458.6	0.0	1.6	84.0	0.9	337.5
26/05/2021 05:00	459.0	0.0	1.2	87.0	0.4	0.0
26/05/2021 06:00	459.1	0.0	1.1	84.0	0.4	0.0
26/05/2021 07:00	459.4	0.0	1.0	87.0	0.0	0.0
26/05/2021 08:00	459.9	0.0	3.7	78.0	0.4	0.0
26/05/2021 09:00	460.3	0.0	5.3	73.0	0.9	22.5
26/05/2021 10:00	460.3	0.0	6.2	68.0	1.8	22.5
26/05/2021 11:00	460.5	0.0	8.1	59.0	1.8	337.5
26/05/2021 12:00	459.9	0.0	8.5	57.0	2.2	315.0
26/05/2021 13:00	459.7	0.0	9.3	55.0	2.2	337.5
26/05/2021 14:00	459.2	0.0	9.1	61.0	2.2	337.5
26/05/2021 15:00	458.7	0.0	9.3	62.0	2.2	0.0
26/05/2021 16:00	458.6	0.0	9.0	62.0	1.8	22.5
26/05/2021 17:00	458.4	0.0	7.0	69.0	2.2	0.0
26/05/2021 18:00	458.7	0.0	5.4	76.0	1.8	0.0
26/05/2021 19:00	459.0	0.0	4.6	80.0	1.3	0.0
26/05/2021 20:00	459.3	0.0	3.9	81.0	1.3	0.0
26/05/2021 21:00	459.6	0.0	3.7	81.0	1.3	337.5
26/05/2021 22:00	459.9	0.0	3.5	82.0	0.9	0.0
26/05/2021 23:00	459.9	0.0	3.1	85.0	0.9	0.0
27/05/2021 00:00	459.8	0.0	2.2	87.0	1.3	337.5
27/05/2021 01:00	459.5	0.0	2.2	88.0	0.9	337.5
27/05/2021 02:00	459.0	0.0	1.7	87.0	0.4	337.5
27/05/2021 03:00	458.8	0.0	0.6	90.0	0.4	337.5
27/05/2021 04:00	458.6	0.0	0.2	91.0	0.0	337.5
27/05/2021 05:00	458.9	0.0	0.1	91.0	0.0	337.5
27/05/2021 06:00	459.0	0.0	-0.8	90.0	0.0	337.5
27/05/2021 07:00	459.3	0.0	-0.8	92.0	0.0	337.5
27/05/2021 08:00	459.6	0.0	3.2	83.0	0.0	337.5
27/05/2021 09:00	460.0	0.0	6.7	68.0	0.9	112.5
27/05/2021 10:00	460.2	0.0	9.1	59.0	1.3	22.5
27/05/2021 11:00	459.9	0.0	9.8	55.0	1.8	0.0
27/05/2021 12:00	459.6	0.0	10.7	55.0	1.8	22.5
27/05/2021 13:00	459.1	0.0	11.2	51.0	1.8	45.0
27/05/2021 14:00	458.7	0.0	10.3	53.0	2.2	337.5
27/05/2021 15:00	458.2	0.0	11.5	53.0	2.2	0.0
27/05/2021 16:00	458.1	0.0	11.2	52.0	2.2	337.5
27/05/2021 17:00	457.8	0.0	9.2	58.0	1.8	0.0
27/05/2021 18:00	458.1	0.0	7.1	69.0	1.8	0.0
27/05/2021 19:00	458.4	0.0	5.7	80.0	1.8	0.0
27/05/2021 20:00	458.6	0.0	4.8	85.0	0.9	0.0
27/05/2021 21:00	458.7	0.0	4.6	87.0	1.3	0.0
27/05/2021 22:00	458.8	0.0	4.2	87.0	0.9	0.0
27/05/2021 23:00	458.7	0.0	4.0	85.0	0.9	337.5
28/05/2021 00:00	458.7	0.0	3.7	85.0	0.4	315.0
28/05/2021 01:00	458.6	0.0	3.4	86.0	0.4	0.0
28/05/2021 02:00	458.0	0.0	2.6	87.0	0.0	0.0
28/05/2021 03:00	457.8	0.0	1.3	89.0	0.0	0.0
28/05/2021 04:00	457.7	0.0	0.1	92.0	0.9	180.0
28/05/2021 05:00	457.6	0.0	0.3	93.0	0.0	180.0
28/05/2021 06:00	457.8	0.0	0.5	93.0	0.0	180.0
28/05/2021 07:00	458.2	0.0	0.9	94.0	0.4	202.5
28/05/2021 08:00	458.8	0.0	1.1	94.0	0.4	202.5
28/05/2021 09:00	459.0	0.0	2.4	94.0	0.4	225.0
28/05/2021 10:00	459.0	0.0	7.1	73.0	0.9	202.5
28/05/2021 11:00	458.8	0.0	10.8	50.0	1.3	45.0
28/05/2021 12:00	458.4	0.0	10.9	47.0	1.8	315.0
28/05/2021 13:00	458.0	0.0	12.2	41.0	1.8	22.5
28/05/2021 14:00	457.5	0.0	12.6	42.0	2.2	337.5
28/05/2021 15:00	457.1	0.0	12.5	39.0	1.8	22.5
28/05/2021 16:00	456.9	0.0	12.3	39.0	1.8	22.5
28/05/2021 17:00	456.8	0.0	9.8	46.0	1.8	0.0
28/05/2021 18:00	456.9	0.0	6.6	77.0	2.2	0.0
28/05/2021 19:00	457.2	0.0	5.2	82.0	2.2	0.0
28/05/2021 20:00	457.5	0.0	4.6	85.0	1.3	0.0
28/05/2021 21:00	458.0	0.0	3.7	88.0	0.9	22.5
28/05/2021 22:00	458.1	0.0	3.3	90.0	0.4	45.0
28/05/2021 23:00	458.0	0.0	3.7	85.0	0.4	0.0
29/05/2021 00:00	457.8	0.0	3.6	75.0	0.4	337.5
29/05/2021 01:00	457.5	0.0	2.0	82.0	0.0	337.5
29/05/2021 02:00	457.2	0.0	1.0	81.0	0.0	337.5
29/05/2021 03:00	457.0	0.0	0.9	83.0	0.0	337.5
29/05/2021 04:00	457.0	0.0	1.3	81.0	0.0	337.5
29/05/2021 05:00	457.3	0.0	1.4	83.0	0.0	337.5
29/05/2021 06:00	457.5	0.0	0.8	85.0	0.0	337.5
29/05/2021 07:00	457.7	0.0	0.6	79.0	0.0	337.5
29/05/2021 08:00	458.1	0.0	4.1	72.0	0.0	337.5
29/05/2021 09:00	458.6	0.0	6.2	66.0	0.9	202.5
29/05/2021 10:00	458.4	0.0	9.2	52.0	1.3	315.0
29/05/2021 11:00	458.4	0.0	10.3	42.0	1.8	22.5
29/05/2021 12:00	458.0	0.0	11.3	43.0	1.8	45.0
29/05/2021 13:00	457.6	0.0	12.0	45.0	1.8	45.0

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	29/05/2021 14:00	457.1	0.0	12.9	38.0	1.8	337.5
	29/05/2021 15:00	456.7	0.0	12.2	43.0	2.2	315.0
	29/05/2021 16:00	456.6	0.0	11.5	47.0	2.2	0.0
	29/05/2021 17:00	456.6	0.0	9.4	52.0	1.8	0.0
	29/05/2021 18:00	456.6	0.0	7.4	60.0	1.8	0.0
	29/05/2021 19:00	456.9	0.0	6.1	73.0	1.3	22.5
	29/05/2021 20:00	457.2	0.0	4.8	80.0	0.9	22.5
	29/05/2021 21:00	457.6	0.0	4.3	86.0	0.4	22.5
	29/05/2021 22:00	457.8	0.0	4.3	86.0	0.9	22.5
	29/05/2021 23:00	457.9	0.0	3.9	88.0	0.9	45.0
	30/05/2021 00:00	458.0	0.0	3.8	88.0	0.9	0.0
	30/05/2021 01:00	458.0	0.0	3.0	87.0	0.4	315.0
	30/05/2021 02:00	457.8	0.0	3.0	86.0	0.4	315.0
	30/05/2021 03:00	457.8	0.0	2.5	86.0	0.4	315.0
	30/05/2021 04:00	457.9	0.0	1.7	89.0	0.4	0.0
	30/05/2021 05:00	457.9	0.0	1.9	83.0	0.4	0.0
	30/05/2021 06:00	458.0	0.0	1.0	85.0	0.0	0.0
	30/05/2021 07:00	458.4	0.0	1.4	87.0	0.4	0.0
	30/05/2021 08:00	458.7	0.0	3.9	79.0	0.9	315.0
	30/05/2021 09:00	459.1	0.0	7.1	70.0	0.9	45.0
	30/05/2021 10:00	459.0	0.0	8.2	59.0	1.8	22.5
	30/05/2021 11:00	458.7	0.0	9.2	60.0	1.8	22.5
30	30/05/2021 12:00	458.5	0.0	10.5	54.0	2.2	22.5
	30/05/2021 13:00	458.3	0.0	9.7	56.0	2.2	22.5
	30/05/2021 14:00	457.9	0.0	11.6	48.0	2.2	0.0
	30/05/2021 15:00	457.4	0.0	11.1	51.0	2.2	0.0
	30/05/2021 16:00	457.5	0.0	10.8	53.0	2.2	22.5
	30/05/2021 17:00	457.3	0.0	8.2	61.0	1.8	0.0
	30/05/2021 18:00	457.7	0.0	6.9	72.0	1.3	22.5
	30/05/2021 19:00	458.2	0.0	5.9	76.0	1.8	0.0
	30/05/2021 20:00	458.4	0.0	5.6	80.0	1.3	0.0
	30/05/2021 21:00	458.6	0.0	5.3	83.0	1.3	0.0
	30/05/2021 22:00	458.7	0.0	4.9	85.0	0.4	22.5
	30/05/2021 23:00	458.7	0.0	4.4	87.0	0.4	337.5
	31/05/2021 00:00	458.7	0.0	4.2	88.0	0.4	22.5
	31/05/2021 01:00	458.4	0.0	4.3	87.0	0.4	22.5
	31/05/2021 02:00	458.5	0.0	3.9	88.0	0.9	22.5
	31/05/2021 03:00	458.4	0.0	3.1	88.0	0.9	337.5
	31/05/2021 04:00	458.2	0.0	2.3	89.0	0.9	0.0
	31/05/2021 05:00	458.3	0.0	1.8	90.0	0.0	0.0
	31/05/2021 06:00	458.4	0.0	1.4	90.0	0.0	0.0
	31/05/2021 07:00	459.0	0.0	0.8	91.0	0.4	0.0
	31/05/2021 08:00	459.3	0.0	3.1	88.0	0.4	0.0
	31/05/2021 09:00	459.4	0.0	3.9	82.0	1.3	337.5
	31/05/2021 10:00	459.6	0.0	6.6	71.0	0.9	22.5
31	31/05/2021 11:00	459.4	0.0	8.8	64.0	1.3	45.0
	31/05/2021 12:00	459.2	0.0	8.7	63.0	1.8	337.5
	31/05/2021 13:00	458.9	0.0	10.8	56.0	1.8	337.5
	31/05/2021 14:00	458.2	0.0	11.9	54.0	1.8	315.0
	31/05/2021 15:00	457.8	0.0	11.2	60.0	2.2	337.5
	31/05/2021 16:00	457.8	0.0	10.6	68.0	2.7	337.5
	31/05/2021 17:00	457.8	0.0	6.2	80.0	2.2	337.5
	31/05/2021 18:00	458.3	0.0	5.1	84.0	2.2	0.0
	31/05/2021 19:00	458.6	0.0	5.1	85.0	1.3	0.0
	31/05/2021 20:00	458.9	0.0	4.1	87.0	1.8	0.0
	31/05/2021 21:00	459.1	0.0	3.9	86.0	0.4	45.0
	31/05/2021 22:00	459.4	0.0	3.6	90.0	0.9	45.0
	31/05/2021 23:00	459.5	0.0	3.7	89.0	0.9	22.5

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en mayo de 2021

**ESTACIÓN DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0004-5-2021-412

**DATOS DEL EQUIPO**
**EQUIPO:**

Estación meteorológica

**MARCA:**

Davis Instruments

**MODELO:**

Vantage Pro 2

**SERIE:**

BE181010012

DIA 1 - MAYO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
25/05/2021 18:00	458.4	3.7	89	2.2
25/05/2021 19:00	459.0	3.3	91	1.8
25/05/2021 20:00	459.3	3.3	90	2.2
25/05/2021 21:00	459.4	3.1	90	1.8
25/05/2021 22:00	459.6	2.9	89	1.3
25/05/2021 23:00	459.5	2.7	90	0.9
26/05/2021 00:00	459.5	2.3	90	0.9
26/05/2021 01:00	459.2	2.0	90	0.9
26/05/2021 02:00	459.0	1.8	90	0.9
26/05/2021 03:00	458.8	1.7	86	0.9
26/05/2021 04:00	458.6	1.6	84	0.9
26/05/2021 05:00	459.0	1.2	87	0.4
26/05/2021 06:00	459.1	1.1	84	0.4
26/05/2021 07:00	459.4	1.0	87	0.0
26/05/2021 08:00	459.9	3.7	78	0.4
26/05/2021 09:00	460.3	5.3	73	0.9
26/05/2021 10:00	460.3	6.2	68	1.8
26/05/2021 11:00	460.5	8.1	59	1.8
26/05/2021 12:00	459.9	8.5	57	2.2
26/05/2021 13:00	459.7	9.3	55	2.2
26/05/2021 14:00	459.2	9.1	61	2.2
26/05/2021 15:00	458.7	9.3	62	2.2
26/05/2021 16:00	458.6	9.0	62	1.8
<b>Promedio DIA 1</b>	<b>459.3</b>	<b>4.4</b>	<b>78.8</b>	<b>1.3</b>

DIA 2 - MAYO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
26/05/2021 17:00	458.4	7.0	69	2.2
26/05/2021 18:00	458.7	5.4	76	1.8
26/05/2021 19:00	459.0	4.6	80	1.3
26/05/2021 20:00	459.3	3.9	81	1.3
26/05/2021 21:00	459.6	3.7	81	1.3
26/05/2021 22:00	459.9	3.5	82	0.9
26/05/2021 23:00	459.9	3.1	85	0.9
27/05/2021 00:00	459.8	2.2	87	1.3
27/05/2021 01:00	459.5	2.2	88	0.9
27/05/2021 02:00	459.0	1.7	87	0.4
27/05/2021 03:00	458.8	0.6	90	0.4
27/05/2021 04:00	458.6	0.2	91	0.0
27/05/2021 05:00	458.9	0.1	91	0.0
27/05/2021 06:00	459.0	-0.8	90	0.0
27/05/2021 07:00	459.3	-0.8	92	0.0
27/05/2021 08:00	459.6	3.2	83	0.0
27/05/2021 09:00	460.0	6.7	68	0.9
27/05/2021 10:00	460.2	9.1	59	1.3
27/05/2021 11:00	459.9	9.8	55	1.8
27/05/2021 12:00	459.6	10.7	55	1.8
27/05/2021 13:00	459.1	11.2	51	1.8
27/05/2021 14:00	458.7	10.3	53	2.2
27/05/2021 15:00	458.2	11.5	53	2.2
27/05/2021 16:00	458.1	11.2	52	2.2
<b>Promedio DIA 2</b>	<b>459.2</b>	<b>5.0</b>	<b>75.0</b>	<b>1.1</b>

DIA 3 - MAYO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
27/05/2021 17:00	457.8	9.2	58	1.8
27/05/2021 18:00	458.1	7.1	69	1.8
27/05/2021 19:00	458.4	5.7	80	1.8
27/05/2021 20:00	458.6	4.8	85	0.9
27/05/2021 21:00	458.7	4.6	87	1.3
27/05/2021 22:00	458.8	4.2	87	0.9
27/05/2021 23:00	458.7	4.0	85	0.9
28/05/2021 00:00	458.7	3.7	85	0.4
28/05/2021 01:00	458.6	3.4	86	0.4
28/05/2021 02:00	458.0	2.6	87	0.0
28/05/2021 03:00	457.8	1.3	89	0.0
28/05/2021 04:00	457.7	0.1	92	0.9
28/05/2021 05:00	457.6	0.3	93	0.0
28/05/2021 06:00	457.8	0.5	93	0.0
28/05/2021 07:00	458.2	0.9	94	0.4
28/05/2021 08:00	458.8	1.1	94	0.4
28/05/2021 09:00	459.0	2.4	94	0.4
28/05/2021 10:00	459.0	7.1	73	0.9
28/05/2021 11:00	458.8	10.8	50	1.3
28/05/2021 12:00	458.4	10.9	47	1.8
28/05/2021 13:00	458.0	12.2	41	1.8
28/05/2021 14:00	457.5	12.6	42	2.2
28/05/2021 15:00	457.1	12.5	39	1.8
28/05/2021 16:00	456.9	12.3	39	1.8
<b>Promedio DIA 3</b>	<b>458.2</b>	<b>5.6</b>	<b>74.5</b>	<b>1.0</b>

DIA 4 - MAYO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
28/05/2021 17:00	456.8	9.8	46	1.8
28/05/2021 18:00	456.9	6.6	77	2.2
28/05/2021 19:00	457.2	5.2	82	2.2
28/05/2021 20:00	457.5	4.6	85	1.3
28/05/2021 21:00	458.0	3.7	88	0.9
28/05/2021 22:00	458.1	3.3	90	0.4
28/05/2021 23:00	458.0	3.7	85	0.4
29/05/2021 00:00	457.8	3.6	75	0.4
29/05/2021 01:00	457.5	2.0	82	0.0
29/05/2021 02:00	457.2	1.0	81	0.0
29/05/2021 03:00	457.0	0.9	83	0.0
29/05/2021 04:00	457.0	1.3	81	0.0
29/05/2021 05:00	457.3	1.4	83	0.0
29/05/2021 06:00	457.5	0.8	85	0.0
29/05/2021 07:00	457.7	0.6	79	0.0
29/05/2021 08:00	458.1	4.1	72	0.0
29/05/2021 09:00	458.6	6.2	66	0.9
29/05/2021 10:00	458.4	9.2	52	1.3
29/05/2021 11:00	458.4	10.3	42	1.8
29/05/2021 12:00	458.0	11.3	43	1.8
29/05/2021 13:00	457.6	12.0	45	1.8
29/05/2021 14:00	457.1	12.9	38	1.8
29/05/2021 15:00	456.7	12.2	43	2.2
29/05/2021 16:00	456.6	11.5	47	2.2
<b>Promedio DIA 4</b>	<b>457.5</b>	<b>5.8</b>	<b>68.8</b>	<b>1.0</b>

## DIA 5 - MAYO 2021

Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
29/05/2021 17:00	456.6	9.4	52	1.8
29/05/2021 18:00	456.6	7.4	60	1.8
29/05/2021 19:00	456.9	6.1	73	1.3
29/05/2021 20:00	457.2	4.8	80	0.9
29/05/2021 21:00	457.6	4.3	86	0.4
29/05/2021 22:00	457.8	4.3	86	0.9
29/05/2021 23:00	457.9	3.9	88	0.9
30/05/2021 00:00	458.0	3.8	88	0.9
30/05/2021 01:00	458.0	3.0	87	0.4
30/05/2021 02:00	457.8	3.0	86	0.4
30/05/2021 03:00	457.8	2.5	86	0.4
30/05/2021 04:00	457.9	1.7	89	0.4
30/05/2021 05:00	457.9	1.9	83	0.4
30/05/2021 06:00	458.0	1.0	85	0.0
30/05/2021 07:00	458.4	1.4	87	0.4
30/05/2021 08:00	458.7	3.9	79	0.9
30/05/2021 09:00	459.1	7.1	70	0.9
30/05/2021 10:00	459.0	8.2	59	1.8
30/05/2021 11:00	458.7	9.2	60	1.8
30/05/2021 12:00	458.5	10.5	54	2.2
30/05/2021 13:00	458.3	9.7	56	2.2
30/05/2021 14:00	457.9	11.6	48	2.2
30/05/2021 15:00	457.4	11.1	51	2.2
30/05/2021 16:00	457.5	10.8	53	2.2
<b>Promedio DIA 5</b>	<b>457.9</b>	<b>5.9</b>	<b>72.8</b>	<b>1.2</b>



**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en mayo de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0004-5-2021-412

**MEDICIONES PROMEDIO (DATOS DIARIOS)**

**DÍA 1** **INICIO:** 25/05/2021 17:43 **FINAL:** 26/05/2021 16:54 **PERIODO :** 23:11 horas **1391 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 4.4 **Presión (mm Hg):** 459.3

**DÍA 2** **INICIO:** 26/05/2021 17:23 **FINAL:** 27/05/2021 16:55 **PERIODO :** 23:32 horas **1412 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 5.0 **Presión (mm Hg):** 459.2

**DÍA 3** **INICIO:** 27/05/2021 17:03 **FINAL:** 28/05/2021 16:53 **PERIODO :** 23:50 horas **1430 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 5.6 **Presión (mm Hg):** 458.2

**DÍA 4** **INICIO:** 28/05/2021 17:04 **FINAL:** 29/05/2021 16:19 **PERIODO :** 23:15 horas **1395 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 5.8 **Presión (mm Hg):** 457.5

**DÍA 5** **INICIO:** 29/05/2021 16:31 **FINAL:** 30/05/2021 16:31 **PERIODO :** 24:00 horas **1440 min**

**Datos horarios registrados:** 24 horas

**Temperatura (°C):** 5.9 **Presión (mm Hg):** 457.9

**OBSERVACIONES:**

DATOS GENERALES

TÍTULO DEL ESTUDIO: Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en mayo de 2021

ESTACIÓN DE MONITOREO: CA-SB-01

CÓDIGO DE ACCIÓN: 0004-5-2021-412

DATOS DE LOS EQUIPOS

Barómetro	MARCA:	-	MODELO:	-	SERIE:	-
Venturi PM-10	MARCA:	THERMO SCIENTIFIC				
	MODELO:	HI VOL				
	SERIE:	P9327X				

CÁLCULOS

PM-10															
DÍA 1				Fecha Inicio: 26/05/2021 17:43				Fecha Final: 26/05/2021 16:54							
Presión inicial:				13.6 pulg H2O				Presión final:				13.9 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior		T (°C) superior		Flujo de muestreo, en m <sup>3</sup> /min (Qa)						
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>		4.0		6.0								
13.8	25.7	459.3	0.944	4.4	1.125		1.128		1.126						
DÍA 2				Fecha Inicio: 26/05/2021 17:23				Fecha Final: 27/05/2021 16:55							
Presión inicial:				13.5 pulg H2O				Presión final:				14.2 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior		T (°C) superior		Flujo de muestreo, en m <sup>3</sup> /min (Qa)						
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>		4.0		6.0								
13.9	25.8	459.2	0.944	5.0	1.125		1.128		1.127						
DÍA 3				Fecha Inicio: 27/05/2021 17:03				Fecha Final: 28/05/2021 16:53							
Presión inicial:				13.8 pulg H2O				Presión final:				14.1 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior		T (°C) superior		Flujo de muestreo, en m <sup>3</sup> /min (Qa)						
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>		4.0		6.0								
14.0	26.0	458.2	0.943	5.6	1.123		1.127		1.126						
DÍA 4				Fecha Inicio: 28/05/2021 17:04				Fecha Final: 29/05/2021 16:19							
Presión inicial:				13.8 pulg H2O				Presión final:				14.4 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior		T (°C) superior		Flujo de muestreo, en m <sup>3</sup> /min (Qa)						
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>		4.0		6.0								
14.1	26.3	457.5	0.942	5.8	1.122		1.126		1.126						
DÍA 5				Fecha Inicio: 29/05/2021 16:31				Fecha Final: 30/05/2021 16:31							
Presión inicial:				14.1 pulg H2O				Presión final:				14.1 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior		T (°C) superior		Flujo de muestreo, en m <sup>3</sup> /min (Qa)						
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>		4.0		6.0								
14.1	26.3	457.9	0.943	5.9	1.123		1.127		1.127						

OBSERVACIONES:

“-” : No aplica.

Tabla 3.6. Concentración de PM<sub>10</sub> y el volumen muestreado de metales - alto volumen

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en mayo de 2021

**PUNTO DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0004-5-2021-412

N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Tiempo o periodo de muestreo en minutos (t)	Flujo de muestreo, en m <sup>3</sup> /min (Qa)	Volumen de muestreo en m <sup>3</sup> (Va)*	ΔPeso (µg)**	Concentración de partículas (µg/m <sup>3</sup> )
1	PM <sub>10</sub>	1-210422	25/05/2021 17:43	26/05/2021 16:54	1391	1.126	1565.62	10000	6.4
2		1-210423	26/05/2021 17:23	27/05/2021 16:55	1412	1.127	1590.64	16000	10.1
3		1-210424	27/05/2021 17:03	28/05/2021 16:53	1430	1.126	1610.45	14000	8.7
4		1-210425	28/05/2021 17:04	29/05/2021 16:19	1395	1.126	1570.10	25000	15.9
5		1-210426	29/05/2021 16:31	30/05/2021 16:31	1440	1.127	1622.47	28000	17.3

**OBSERVACIONES:**

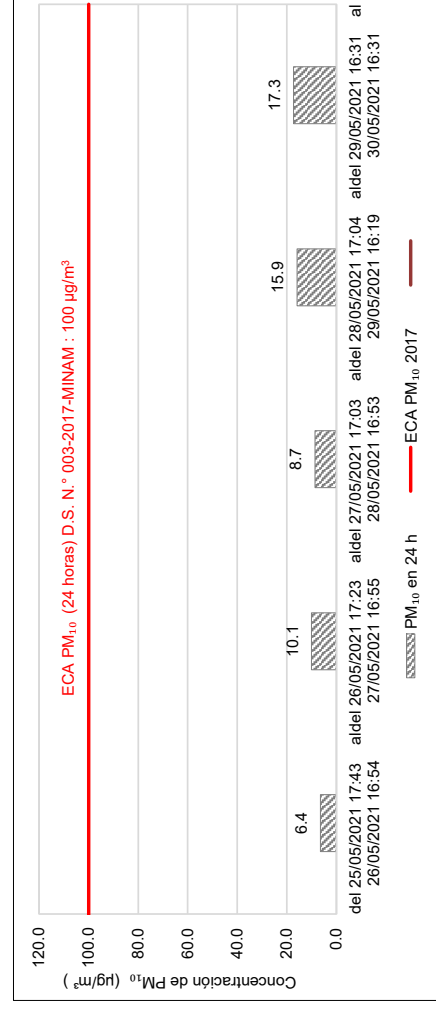
(\*) En el caso del material particulado y las sustancias que deben analizarse en la fase de partículas (metales, iones, carbonáceas, otros), el **volumen de muestreo** se debe expresar en las condiciones ambientales (volumen actual) en términos de temperatura ambiental y presión atmosférica promedio, medidas durante el periodo de muestreo. (Sección L.1.3 Cálculo de concentraciones señalada en el Protocolo de Monitoreo de la Calidad del aire del MINAM - D.S. N° 010-2019-MINAM).

(\*\*) Fuente: Informe de Ensayo MA2116167

"." : No aplica.

PM <sub>10</sub> en 24 h	ECA PM <sub>10</sub> 2017
0	100
1	100

Fecha inicio Fecha final  
 del 25/05/2021 17:43 al 26/05/2021 16:54  
 del 26/05/2021 17:23 al 27/05/2021 16:55  
 del 27/05/2021 17:03 al 28/05/2021 16:53  
 del 28/05/2021 17:04 al 29/05/2021 16:19  
 del 29/05/2021 16:31 al 30/05/2021 16:31





**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en mayo de 2021

**PUNTO DE MONITOREO:**

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RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		25/05/2021	26/05/2021	27/05/2021	28/05/2021	29/05/2021	
Aluminio	Al	µg/mtra	35.593	53.694	61.238	103.65	86.699
Antimonio	Sb	µg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	µg/mtra	<1,237	1.748	1.357	2.438	1.265
Bario	Ba	µg/mtra	2.243	4.083	5.141	7.027	5.21
Berilio	Be	µg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	µg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	µg/mtra	4.577	10.097	9.108	9.223	9.039
Cadmio	Cd	µg/mtra	<1,457	<1,457	<1,457	<1,457	<1,457
Calcio	Ca	µg/mtra	377.43	740.991	607.085	1,131,186	642.091
Cobalto	Co	µg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	µg/mtra	17.48	16.422	13.317	23.805	35.374
Cromo	Cr	µg/mtra	<1,586	<1,586	1.587	1.61	3.381
Estaño	Sn	µg/mtra	<0,967	<0,967	<0,967	<0,967	<0,967
Estroncio	Sr	µg/mtra	2.128	2.841	2.887	3.37	2.68
Fósforo	P	µg/mtra	81.1	176.87	135.52	137.43	130.29
Hierro	Fe	µg/mtra	75	370.48	249.04	511.73	330.19
Litio	Li	µg/mtra	0.61	0.725	0.817	0.702	0.702
Magnesio	Mg	µg/mtra	53.14	113.45	109.54	168.26	116.02
Manganeso	Mn	µg/mtra	13.754	52.762	29.072	61.295	31.556
Mercurio	Hg	µg/mtra	<0,4960	<0,4960	<0,4960	<0,4960	<0,4960
Molibdeno	Mo	µg/mtra	<1,264	<1,264	<1,264	<1,264	<1,264
Níquel	Ni	µg/mtra	<1,411	<1,411	<1,411	<1,411	1.633
Plata	Ag	µg/mtra	<0,576	<0,576	<0,576	<0,576	<0,576
Plomo	Pb	µg/mtra	4.209	19.228	12.673	23.207	12.535
Potasio	K	µg/mtra	50.66	106.36	105.7	144.75	151.65
Selenio	Se	µg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	µg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	µg/mtra	205.5	83.9	151.9	167.1	70.9
Talio	Tl	µg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	µg/mtra	1.829	2.841	3.554	4.313	4.014
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	µg/mtra	14.73	41.27	23.36	57.93	25.63

<: Debajo del límite de detección

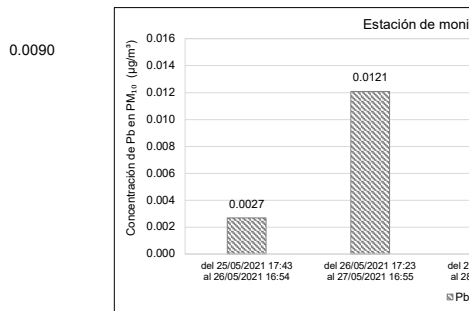
-: Sin dato

Fuente: Informe de Ensayo N° MA2116167 del laboratorio SGS del Perú S.A.C

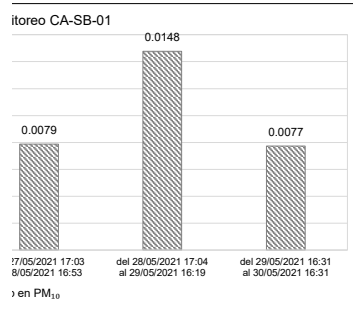
CONCENTRACIÓN DE METALES							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		25/05/2021	26/05/2021	27/05/2021	28/05/2021	29/05/2021	
<b>Volumen de muestreo, en m<sup>3</sup> (Va)</b>		<b>1565.62</b>	<b>1590.64</b>	<b>1610.45</b>	<b>1570.10</b>	<b>1622.47</b>	
Aluminio	Al	µg/m <sup>3</sup>	0.0227	0.0338	0.0380	0.0660	0.0534
Antimonio	Sb	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Arsénico	As	µg/m <sup>3</sup>	<LC	0.0011	0.0008	0.0016	0.0008
Bario	Ba	µg/m <sup>3</sup>	0.0014	0.0026	0.0032	0.0045	0.0032
Berilio	Be	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Bismuto	Bi	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Boro	B	µg/m <sup>3</sup>	0.0029	0.0063	0.0057	0.0059	0.0056
Cadmio	Cd	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Calcio	Ca	µg/m <sup>3</sup>	0.2411	0.4658	0.3770	0.0006	0.3957
Cobalto	Co	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Cobre	Cu	µg/m <sup>3</sup>	0.0112	0.0103	0.0083	0.0152	0.0218
Cromo	Cr	µg/m <sup>3</sup>	<LC	<LC	0.0010	0.0010	0.0021
Estaño	Sn	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Estroncio	Sr	µg/m <sup>3</sup>	0.0014	0.0018	0.0018	0.0021	0.0017
Fósforo	P	µg/m <sup>3</sup>	0.0518	0.1112	0.0842	0.0875	0.0803
Hierro	Fe	µg/m <sup>3</sup>	0.0479	0.2329	0.1546	0.3259	0.2035
Litio	Li	µg/m <sup>3</sup>	0.0004	0.0005	0.0005	0.0004	0.0004
Magnesio	Mg	µg/m <sup>3</sup>	0.0339	0.0713	0.0680	0.1072	0.0715
Manganeso	Mn	µg/m <sup>3</sup>	0.0088	0.0332	0.0181	0.0390	0.0194
Mercurio	Hg	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Molibdeno	Mo	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Níquel	Ni	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	0.0010
Plata	Ag	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Plomo	Pb	µg/m <sup>3</sup>	0.0027	0.0121	0.0079	0.0148	0.0077
Potasio	K	µg/m <sup>3</sup>	0.0324	0.0669	0.0656	0.0922	0.0935
Selenio	Se	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Silicio	Si	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Sodio	Na	µg/m <sup>3</sup>	0.1313	0.0527	0.0943	0.1064	0.0437
Talio	Tl	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Titanio	Ti	µg/m <sup>3</sup>	0.0012	0.0018	0.0022	0.0027	0.0025
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Zinc	Zn	µg/m <sup>3</sup>	0.0094	0.0259	0.0145	0.0369	0.0158

< LD: Menor al límite de detección

CONCENTRACIÓN DE PLOMO MENSUAL (µg/m <sup>3</sup> )						
FECHA	25/05/2021	26/05/2021	27/05/2021	28/05/2021	29/05/2021	Promedio mensual (µg/m <sup>3</sup> )
<b>Volumen de muestreo (m<sup>3</sup>)</b>	<b>1565.62</b>	<b>1590.64</b>	<b>1610.45</b>	<b>1570.10</b>	<b>1622.47</b>	
Mayo 2021	0.0027	0.0121	0.0079	0.0148	0.0077	0.0090



µPb



**Tabla 3.8. Volumen muestreado para metales en PM<sub>10</sub> a temperatura de 10°C**

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en mayo de 2021

**PUNTO DE MONITOREO:**

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N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Periodo (minutos)	Temperatura ambiental (°C)	Presión ambiental (mm Hg)	Flujo de muestreo (m <sup>3</sup> /min)	Volumen de muestreo en m <sup>3</sup> (Va)	Volumen de muestreo a 10°C en m <sup>3</sup> (Va <sub>10°C</sub> )*
1	Metales en PM <sub>10</sub>	1-210422	25/05/2021 17:43	26/05/2021 16:54	1391	4.4	459.3	1.126	1565.62	965.49
2		1-210423	26/05/2021 17:23	27/05/2021 16:55	1412	5.0	459.2	1.127	1590.64	978.34
3		1-210424	27/05/2021 17:03	28/05/2021 16:53	1430	5.6	458.2	1.126	1610.45	986.30
4		1-210425	28/05/2021 17:04	29/05/2021 16:19	1395	5.8	457.5	1.126	1570.10	959.62
5		1-210426	29/05/2021 16:31	30/05/2021 16:31	1440	5.9	457.9	1.127	1622.47	992.05

**OBSERVACIONES:**

(\*) El cálculo de volumen muestreado para metales en PM<sub>10</sub>, se realizó en base a las condiciones de temperatura de 10°C (283,15 °K) y presión estándar (760 mmHg ó 1013,25 mBar), establecidas en la Norma referencial ONTARIO'S AMBIENT AIR QUALITY CRITERIA.  
 "-": No aplica.

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en mayo de 2021

**PUNTO DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0004-5-2021-412

RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		25/05/2021	26/05/2021	27/05/2021	28/05/2021	29/05/2021	
Aluminio	Al	µg/mtra	35.593	53.694	61.238	103.65	86.699
Antimonio	Sb	µg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	µg/mtra	<1,237	1.748	1.357	2.438	1.265
Bario	Ba	µg/mtra	2.243	4.083	5.141	7.027	5.21
Berilio	Be	µg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	µg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	µg/mtra	4.577	10.097	9.108	9.223	9.039
Cadmio	Cd	µg/mtra	<1,457	<1,457	<1,457	<1,457	<1,457
Calcio	Ca	µg/mtra	377.43	740.991	607.085	1.131,186	642.091
Cobalto	Co	µg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	µg/mtra	17.48	16.422	13.317	23.805	35.374
Cromo	Cr	µg/mtra	<1,586	<1,586	1.587	1.61	3.381
Estaño	Sn	µg/mtra	<0,967	<0,967	<0,967	<0,967	<0,967
Estroncio	Sr	µg/mtra	2.128	2.841	2.887	3.37	2.68
Fósforo	P	µg/mtra	81.1	176.87	135.52	137.43	130.3
Hierro	Fe	µg/mtra	75	370.48	249.04	511.73	330.19
Litio	Li	µg/mtra	0.61	0.725	0.817	0.702	0.702
Magnesio	Mg	µg/mtra	53.14	113.45	109.54	168.26	116.02
Manganeso	Mn	µg/mtra	13.754	52.762	29.072	61.295	31.556
Mercurio	Hg	µg/mtra	<0,4960	<0,4960	<0,4960	<0,4960	<0,4960
Molibdeno	Mo	µg/mtra	<1,264	<1,264	<1,264	<1,264	<1,264
Níquel	Ni	µg/mtra	<1,411	<1,411	<1,411	<1,411	1.633
Plata	Ag	µg/mtra	<0,576	<0,576	<0,576	<0,576	<0,576
Plomo	Pb	µg/mtra	4.209	19.228	12.673	23.207	12.535
Potasio	K	µg/mtra	50.66	106.36	105.7	144.75	151.65
Selenio	Se	µg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	µg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	µg/mtra	205.5	83.9	151.9	167.1	70.9
Talio	Tl	µg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	µg/mtra	1.829	2.841	3.554	4.313	4.014
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	µg/mtra	14.73	41.27	23.36	57.93	25.63

<: Debajo del límite de cuantificación

-: Sin dato

Fuente: Informe de Ensayo N° MA2116167 del laboratorio SGS del Perú S.A.C

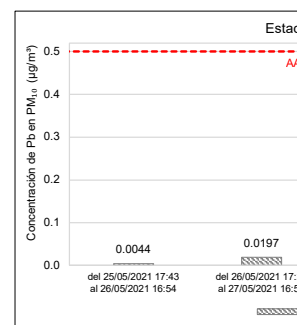
CONCENTRACIÓN DE METALES								
Metal medido en PM <sub>10</sub>	Unidad	Fecha					AAQC- Ontario	
		25/05/2021	26/05/2021	27/05/2021	28/05/2021	29/05/2021	Valor (µg/m³)	CASRN
Volumen de muestreo a 10°C en m³ (Va <sub>10°C</sub> )		965.49	978.34	986.30	959.62	992.05		
Aluminio	Al	µg/m³	0.0369	0.0549	0.0621	0.1080	0.0874	-
Antimonio	Sb	µg/m³	<LC	<LC	<LC	<LC	<LC	25
Arsénico	As	µg/m³	<LC	0.0018	0.0014	0.0025	0.0013	0.3
Bario	Ba	µg/m³	0.0023	0.0042	0.0052	0.0073	0.0053	-
Berilio	Be	µg/m³	<LC	<LC	<LC	<LC	<LC	0.01
Bismuto	Bi	µg/m³	<LC	<LC	<LC	<LC	<LC	-
Boro	B	µg/m³	0.0047	0.0103	0.0092	0.0096	0.0091	120
Cadmio	Cd	µg/m³	<LC	<LC	<LC	<LC	<LC	0.025
Calcio	Ca	µg/m³	0.3909	0.7574	0.6155	0.0010	0.6472	-
Cobalto	Co	µg/m³	<LC	<LC	<LC	<LC	<LC	0.1
Cobre	Cu	µg/m³	0.0181	0.0168	0.0135	0.0248	0.0357	50
Cromo	Cr	µg/m³	<LC	<LC	0.0016	0.0017	0.0034	0.5
Estaño	Sn	µg/m³	<LC	<LC	<LC	<LC	<LC	10
Estroncio	Sr	µg/m³	0.0022	0.0029	0.0029	0.0035	0.0027	120
Fósforo	P	µg/m³	0.0840	0.1808	0.1374	0.1432	0.1313	-
Hierro	Fe	µg/m³	0.0777	0.3787	0.2525	0.5333	0.3328	4
Litio	Li	µg/m³	0.0006	0.0007	0.0008	0.0007	0.0007	-
Magnesio	Mg	µg/m³	0.0550	0.1160	0.1111	0.1753	0.1170	-
Manganeso	Mn	µg/m³	0.0142	0.0539	0.0295	0.0639	0.0318	0.2
Mercurio	Hg	µg/m³	<LC	<LC	<LC	<LC	<LC	2
Molibdeno	Mo	µg/m³	<LC	<LC	<LC	<LC	<LC	120
Níquel	Ni	µg/m³	<LC	<LC	<LC	<LC	0.0016	0.1
Plata	Ag	µg/m³	<LC	<LC	<LC	<LC	<LC	1
Plomo	Pb	µg/m³	0.0044	0.0197	0.0128	0.0242	0.0126	0.5
Potasio	K	µg/m³	0.0525	0.1087	0.1072	0.1508	0.1529	-
Selenio	Se	µg/m³	<LC	<LC	<LC	<LC	<LC	10
Silicio	Si	µg/m³	<LC	<LC	<LC	<LC	<LC	-
Sodio	Na	µg/m³	0.2128	0.0858	0.1540	0.1741	0.0715	-
Talio	Tl	µg/m³	<LC	<LC	<LC	<LC	<LC	-
Titanio	Ti	µg/m³	0.0019	0.0029	0.0036	0.0045	0.0040	120
Uranio	U	µg/m³	-	-	-	-	-	0.15
Vanadio	V	µg/m³	<LC	<LC	<LC	<LC	<LC	2
Zinc	Zn	µg/m³	0.0153	0.0422	0.0237	0.0604	0.0258	120

< LC: Menor al límite de cuantificación

-: Sin dato

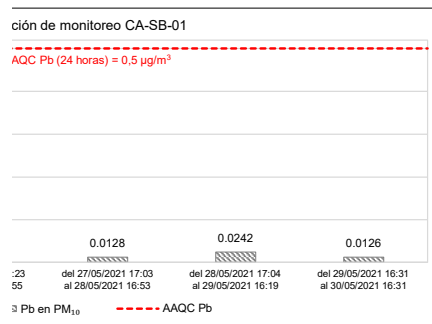
Pb en PM <sub>10</sub>	AAQC Pb
0	0.5
1	0.5

Fecha inicio Fecha fi  
del 25/05/2021 17:43 al 26/0/0  
del 26/05/2021 17:23 al 27/0/0  
del 27/05/2021 17:03 al 28/0/0  
del 28/05/2021 17:04 al 29/0/0  
del 29/05/2021 16:31 al 30/0/0





inal  
5/2021 16:54  
5/2021 16:55  
5/2021 16:53  
5/2021 16:19  
5/2021 16:31





**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en junio de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0003-6-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:** Estación meteorológica **MARCA:** Davis Instruments y Campbell

**MODELO:** Vantage Pro 2 y CR1000 **SERIE:** BE181010012

FECHA Y HORA	Presión atmosférica (mmHg)	Precipitación (mm)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)	Dirección de Viento (°)
1/06/2021 00:00	459.3	0.0	3.6	87.0	0.4	22.5
1/06/2021 01:00	459.1	0.0	3.1	88.0	0.9	0.0
1/06/2021 02:00	458.8	0.0	3.4	86.0	0.4	45.0
1/06/2021 03:00	458.4	0.0	2.9	86.0	0.0	45.0
1/06/2021 04:00	458.1	0.0	2.6	86.0	0.4	315.0
1/06/2021 05:00	458.3	0.0	2.3	88.0	0.4	315.0
1/06/2021 06:00	458.6	0.0	1.8	89.0	0.0	315.0
1/06/2021 07:00	458.8	0.0	1.9	89.0	0.0	315.0
1/06/2021 08:00	459.0	0.0	4.1	83.0	0.4	315.0
1/06/2021 09:00	459.3	0.0	6.3	76.0	0.9	180.0
1/06/2021 10:00	459.3	0.0	7.8	68.0	1.3	202.5
1/06/2021 11:00	459.0	0.0	9.8	62.0	0.9	202.5
1/06/2021 12:00	458.4	0.0	12.3	54.0	0.9	202.5
1/06/2021 13:00	457.9	0.0	13.1	53.0	1.3	180.0
1/06/2021 14:00	457.4	0.0	12.3	53.0	0.9	157.5
1/06/2021 15:00	457.2	0.0	9.7	65.0	1.3	337.5
1/06/2021 16:00	457.0	0.0	8.0	71.0	1.3	22.5
1/06/2021 17:00	457.0	0.0	8.2	74.0	0.9	45.0
1/06/2021 18:00	457.2	0.0	7.8	77.0	0.4	45.0
1/06/2021 19:00	457.5	0.0	6.9	80.0	0.4	0.0
1/06/2021 20:00	457.8	0.0	5.7	85.0	0.4	45.0
1/06/2021 21:00	458.1	0.0	5.1	89.0	0.4	45.0
1/06/2021 22:00	458.4	0.0	5.9	88.0	0.4	22.5
1/06/2021 23:00	458.2	0.0	5.7	88.0	0.4	45.0
2/06/2021 00:00	458.1	0.0	5.6	88.0	0.4	0.0
2/06/2021 01:00	457.9	0.0	5.5	86.0	0.9	337.5
2/06/2021 02:00	457.5	0.0	5.3	85.0	0.9	337.5
2/06/2021 03:00	457.5	0.0	5.4	79.0	0.4	0.0
2/06/2021 04:00	457.3	0.0	5.4	83.0	0.0	0.0
2/06/2021 05:00	457.5	0.0	4.7	86.0	0.4	292.5
2/06/2021 06:00	457.6	0.0	4.1	88.0	0.0	292.5
2/06/2021 07:00	457.8	0.0	4.2	88.0	0.0	292.5
2/06/2021 08:00	458.3	0.0	5.2	84.0	0.4	45.0
2/06/2021 09:00	458.6	0.0	7.5	74.0	0.4	90.0
2/06/2021 10:00	458.5	0.0	9.7	58.0	0.9	202.5
2/06/2021 11:00	458.3	0.0	11.3	52.0	1.3	22.5
2/06/2021 12:00	458.0	0.0	13.2	50.0	1.3	45.0
2/06/2021 13:00	457.5	0.0	13.7	47.0	1.8	22.5
2/06/2021 14:00	456.9	0.0	13.9	49.0	1.8	0.0
2/06/2021 15:00	456.6	0.0	13.1	57.0	2.7	315.0
2/06/2021 16:00	456.9	0.0	9.8	75.0	1.8	22.5
2/06/2021 17:00	456.9	0.6	8.4	77.0	1.3	45.0
2/06/2021 18:00	457.2	0.0	6.9	81.0	1.8	0.0
2/06/2021 19:00	458.0	0.0	6.9	84.0	0.4	22.5
2/06/2021 20:00	458.4	0.0	5.9	77.0	0.9	157.5
2/06/2021 21:00	458.4	0.0	4.2	80.0	1.3	225.0
2/06/2021 22:00	458.5	0.0	3.8	82.0	1.3	315.0
2/06/2021 23:00	458.7	0.0	3.7	84.0	0.4	315.0
3/06/2021 00:00	458.5	0.0	3.4	86.0	0.9	0.0
3/06/2021 01:00	458.1	0.0	3.2	86.0	0.4	45.0
3/06/2021 02:00	458.0	0.0	3.1	87.0	0.4	45.0
3/06/2021 03:00	457.7	0.0	2.6	88.0	0.4	270.0
3/06/2021 04:00	457.8	0.0	2.2	89.0	0.0	270.0
3/06/2021 05:00	457.9	0.0	2.1	88.0	0.4	270.0
3/06/2021 06:00	458.1	0.0	1.2	89.0	0.0	270.0
3/06/2021 07:00	458.6	0.0	1.2	92.0	0.0	270.0
3/06/2021 08:00	459.0	0.0	3.5	86.0	0.0	270.0
3/06/2021 09:00	459.1	0.0	7.5	66.0	0.9	22.5
3/06/2021 10:00	459.2	0.0	8.8	62.0	1.3	45.0
3/06/2021 11:00	458.8	0.0	9.7	56.0	1.3	22.5
3/06/2021 12:00	458.3	0.0	11.6	50.0	1.3	0.0
3/06/2021 13:00	457.9	0.0	10.7	55.0	1.8	315.0
3/06/2021 14:00	457.5	0.0	11.3	59.0	2.2	337.5

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3/06/2021 15:00	457.1	0.0	10.8	63.0	2.7	337.5
3/06/2021 16:00	456.9	0.0	11.3	59.0	2.2	337.5
3/06/2021 17:00	456.9	0.0	8.7	68.0	1.8	0.0
3/06/2021 18:00	457.3	0.0	6.6	78.0	1.8	0.0
3/06/2021 19:00	457.9	0.0	6.1	83.0	1.3	22.5
3/06/2021 20:00	458.1	0.0	5.5	83.0	1.3	0.0
3/06/2021 21:00	458.4	0.0	4.6	86.0	0.9	0.0
3/06/2021 22:00	458.7	0.0	4.5	86.0	0.9	0.0
3/06/2021 23:00	458.7	0.0	4.4	84.0	0.9	337.5
4/06/2021 00:00	458.7	0.0	4.2	83.0	0.4	315.0
4/06/2021 01:00	458.4	0.0	4.0	85.0	0.4	337.5
4/06/2021 02:00	458.1	0.0	4.0	82.0	0.9	315.0
4/06/2021 03:00	457.8	0.0	3.8	81.0	0.0	315.0
4/06/2021 04:00	457.8	0.0	3.6	85.0	0.9	315.0
4/06/2021 05:00	457.8	0.0	3.9	79.0	0.4	292.5
4/06/2021 06:00	457.9	0.0	4.1	78.0	0.4	22.5
4/06/2021 07:00	458.1	0.0	3.9	79.0	0.4	337.5
4/06/2021 08:00	458.8	0.0	4.6	78.0	0.4	22.5
4/06/2021 09:00	459.3	0.0	5.4	77.0	0.4	292.5
4/06/2021 10:00	459.0	0.0	5.8	77.0	0.9	315.0
4/06/2021 11:00	459.1	0.0	8.3	70.0	1.3	315.0
4/06/2021 12:00	458.7	0.0	9.0	67.0	2.2	315.0
4/06/2021 13:00	458.4	0.0	8.9	65.0	2.2	337.5
4/06/2021 14:00	457.9	0.0	11.1	58.0	1.8	315.0
4/06/2021 15:00	457.3	0.0	10.2	65.0	2.2	315.0
4/06/2021 16:00	457.4	0.0	9.7	72.0	2.7	337.5
4/06/2021 17:00	457.4	0.0	7.2	75.0	2.7	0.0
4/06/2021 18:00	457.7	0.0	5.2	81.0	2.2	0.0
4/06/2021 19:00	458.4	0.0	4.6	86.0	1.8	337.5
4/06/2021 20:00	458.4	0.2	4.4	88.0	1.8	0.0
4/06/2021 21:00	458.8	0.0	4.1	89.0	0.9	0.0
4/06/2021 22:00	458.8	0.0	3.8	89.0	1.3	0.0
4/06/2021 23:00	458.8	0.0	3.6	89.0	0.9	337.5
5/06/2021 00:00	458.6	0.0	3.7	86.0	0.4	292.5
5/06/2021 01:00	458.2	0.0	3.1	87.0	0.0	292.5
5/06/2021 02:00	457.9	0.0	2.3	88.0	0.0	292.5
5/06/2021 03:00	457.6	0.0	2.9	90.0	0.4	22.5
5/06/2021 04:00	457.8	0.0	2.8	89.0	0.9	337.5
5/06/2021 05:00	457.8	0.0	3.1	87.0	0.4	0.0
5/06/2021 06:00	458.1	0.0	2.7	87.0	0.4	315.0
5/06/2021 07:00	458.4	0.0	2.1	88.0	0.4	270.0
5/06/2021 08:00	458.7	0.0	3.8	85.0	0.4	292.5
5/06/2021 09:00	459.0	0.0	7.6	69.0	0.4	135.0
5/06/2021 10:00	459.0	0.0	9.8	60.0	1.3	0.0
5/06/2021 11:00	458.9	0.0	11.4	56.0	1.3	45.0
5/06/2021 12:00	458.4	0.0	11.2	59.0	2.2	315.0
5/06/2021 13:00	457.8	0.0	12.0	53.0	1.8	337.5
5/06/2021 14:00	457.4	0.0	12.3	54.0	2.2	337.5
5/06/2021 15:00	456.8	0.0	12.2	57.0	1.8	0.0
5/06/2021 16:00	456.9	0.0	11.0	61.0	2.2	337.5
5/06/2021 17:00	456.9	0.0	8.8	71.0	1.8	0.0
5/06/2021 18:00	457.0	0.0	6.6	80.0	2.2	0.0
5/06/2021 19:00	457.5	0.0	5.9	82.0	1.8	0.0
5/06/2021 20:00	457.8	0.0	5.3	85.0	1.3	0.0
5/06/2021 21:00	458.2	0.0	5.2	85.0	1.3	0.0
5/06/2021 22:00	458.1	0.0	5.2	85.0	1.3	337.5
5/06/2021 23:00	457.9	0.0	4.5	88.0	1.3	0.0
6/06/2021 00:00	457.9	0.0	4.3	89.0	1.8	0.0
6/06/2021 01:00	457.8	0.0	3.9	89.0	1.3	0.0
6/06/2021 02:00	457.6	0.0	3.3	88.0	0.9	0.0
6/06/2021 03:00	457.5	0.0	2.7	88.0	0.9	315.0
6/06/2021 04:00	457.4	0.0	2.2	88.0	0.4	315.0
6/06/2021 05:00	457.7	0.0	2.1	89.0	0.0	315.0
6/06/2021 06:00	457.8	0.0	2.8	88.0	0.9	0.0
6/06/2021 07:00	458.1	0.0	2.3	90.0	0.4	0.0
6/06/2021 08:00	458.5	0.0	3.4	88.0	0.4	22.5
6/06/2021 09:00	458.7	0.0	6.8	74.0	0.9	45.0
6/06/2021 10:00	458.6	0.0	9.3	60.0	1.3	315.0
6/06/2021 11:00	458.7	0.0	8.7	57.0	1.3	315.0
6/06/2021 12:00	458.1	0.0	7.9	65.0	1.8	337.5
6/06/2021 13:00	458.1	0.0	8.4	62.0	1.8	337.5
6/06/2021 14:00	457.5	0.0	10.1	57.0	1.8	315.0
6/06/2021 15:00	457.1	0.4	7.5	74.0	1.8	337.5
6/06/2021 16:00	456.8	0.2	10.0	55.0	1.8	337.5
6/06/2021 17:00	456.9	0.0	8.4	63.0	1.3	0.0
6/06/2021 18:00	457.2	0.0	6.0	78.0	1.3	337.5
6/06/2021 19:00	457.4	0.0	5.1	81.0	0.9	337.5
6/06/2021 20:00	457.9	0.0	4.2	85.0	0.9	22.5
6/06/2021 21:00	458.3	0.0	3.8	87.0	0.9	22.5
6/06/2021 22:00	458.5	0.0	3.6	88.0	1.3	0.0
6/06/2021 23:00	458.2	0.0	3.9	88.0	0.9	0.0
7/06/2021 00:00	458.1	0.0	3.9	89.0	0.4	0.0
7/06/2021 01:00	457.8	0.0	3.0	86.0	0.9	315.0
7/06/2021 02:00	457.8	0.6	2.1	89.0	1.8	315.0
7/06/2021 03:00	457.7	1.0	1.3	90.0	1.3	315.0
7/06/2021 04:00	457.7	1.4	1.7	91.0	0.4	45.0
7/06/2021 05:00	457.7	0.2	1.7	90.0	0.0	45.0
7/06/2021 06:00	457.6	0.0	1.9	89.0	0.0	45.0
7/06/2021 07:00	457.8	0.0	1.8	89.0	0.0	45.0

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	7/06/2021 08:00	458.1	0.0	4.9	81.0	0.4	45.0
	7/06/2021 09:00	458.8	0.0	7.3	71.0	0.9	45.0
	7/06/2021 10:00	458.8	0.0	8.2	68.0	0.9	0.0
	7/06/2021 11:00	458.7	0.0	10.4	58.0	1.3	45.0
	7/06/2021 12:00	458.5	0.0	9.2	64.0	1.3	22.5
	7/06/2021 13:00	457.9	0.0	9.3	59.0	1.3	45.0
	7/06/2021 14:00	457.2	0.0	9.7	58.0	1.3	315.0
	7/06/2021 15:00	456.9	0.0	11.0	64.0	1.8	315.0
	7/06/2021 16:00	456.6	0.0	9.4	70.0	2.7	337.5
	7/06/2021 17:00	456.8	0.0	7.3	77.0	1.8	0.0
	7/06/2021 18:00	457.2	0.0	5.5	81.0	1.8	0.0
	7/06/2021 19:00	457.4	0.0	4.8	83.0	0.9	0.0
	7/06/2021 20:00	457.8	0.0	4.7	85.0	0.4	45.0
	7/06/2021 21:00	458.2	0.0	4.6	84.0	0.9	337.5
	7/06/2021 22:00	458.6	1.2	3.1	86.0	0.9	225.0
	7/06/2021 23:00	458.4	0.2	2.7	88.0	0.4	247.5
	8/06/2021 00:00	458.4	0.0	1.9	87.0	1.3	315.0
	8/06/2021 01:00	458.2	0.0	1.8	85.0	0.4	292.5
	8/06/2021 02:00	457.8	0.0	2.2	80.0	0.4	292.5
	8/06/2021 03:00	457.6	0.0	2.4	79.0	0.4	225.0
	8/06/2021 04:00	457.8	0.0	2.7	79.0	0.0	225.0
	8/06/2021 05:00	457.5	0.0	2.9	71.0	0.4	202.5
	8/06/2021 06:00	457.6	0.0	2.4	75.0	0.4	202.5
	8/06/2021 07:00	458.2	0.0	2.7	76.0	0.0	202.5
	8/06/2021 08:00	458.5	0.0	3.6	69.0	0.4	45.0
	8/06/2021 09:00	459.0	0.0	5.8	63.0	0.4	22.5
	8/06/2021 10:00	459.1	0.0	6.3	65.0	1.3	22.5
	8/06/2021 11:00	459.1	0.0	7.8	63.0	1.3	22.5
	8/06/2021 12:00	458.8	0.0	8.3	64.0	1.8	337.5
	8/06/2021 13:00	458.7	0.0	8.4	64.0	1.3	45.0
	8/06/2021 14:00	458.3	0.0	7.2	76.0	3.1	337.5
	8/06/2021 15:00	457.8	0.0	8.3	70.0	2.2	0.0
	8/06/2021 16:00	457.7	0.0	8.4	71.0	1.8	22.5
	8/06/2021 17:00	457.5	0.0	5.8	77.0	1.8	0.0
	8/06/2021 18:00	457.8	0.0	5.0	80.0	1.8	337.5
	8/06/2021 19:00	458.0	0.0	4.3	82.0	0.9	22.5
	8/06/2021 20:00	458.1	0.0	4.3	82.0	0.4	45.0
	8/06/2021 21:00	458.8	0.0	4.1	83.0	0.4	0.0
	8/06/2021 22:00	458.8	0.0	4.1	83.0	0.0	0.0
	8/06/2021 23:00	458.7	0.0	3.5	85.0	0.0	0.0
	9/06/2021 00:00	458.6	0.0	2.9	88.0	0.4	67.5
	9/06/2021 01:00	458.7	0.0	2.3	88.0	0.0	67.5
	9/06/2021 02:00	458.2	0.0	1.8	90.0	0.0	67.5
	9/06/2021 03:00	458.2	0.0	1.1	91.0	0.0	67.5
	9/06/2021 04:00	458.1	0.0	0.7	91.0	0.0	67.5
	9/06/2021 05:00	457.9	0.0	-0.1	91.0	0.0	67.5
	9/06/2021 06:00	458.4	0.0	-0.5	92.0	0.0	67.5
	9/06/2021 07:00	458.4	0.0	-1.1	92.0	0.0	67.5
	9/06/2021 08:00	458.6	0.0	0.7	93.0	0.0	67.5
	9/06/2021 09:00	459.2	0.0	6.1	77.0	0.4	0.0
	9/06/2021 10:00	459.3	0.0	7.2	71.0	0.9	45.0
	9/06/2021 11:00	459.2	0.0	9.9	63.0	1.3	0.0
	9/06/2021 12:00	458.7	0.0	9.4	62.0	1.8	315.0
	9/06/2021 13:00	458.4	0.0	9.7	64.0	2.7	315.0
	9/06/2021 14:00	457.8	0.0	9.7	61.0	2.2	337.5
	9/06/2021 15:00	457.2	0.0	12.1	53.0	2.2	337.5
	9/06/2021 16:00	457.2	0.0	10.7	62.0	1.8	337.5
	9/06/2021 17:00	456.9	0.0	8.6	74.0	1.8	337.5
	9/06/2021 18:00	457.3	0.0	6.6	78.0	1.3	0.0
	9/06/2021 19:00	457.9	0.0	5.5	83.0	1.3	0.0
	9/06/2021 20:00	458.2	0.0	5.0	86.0	1.3	337.5
	9/06/2021 21:00	458.8	0.0	4.3	87.0	0.4	337.5
	9/06/2021 22:00	458.9	0.0	4.2	86.0	0.4	45.0
	9/06/2021 23:00	458.9	0.0	3.8	88.0	0.0	45.0
	10/06/2021 00:00	458.8	0.0	3.2	88.0	0.4	180.0
	10/06/2021 01:00	458.7	0.0	1.5	85.0	0.4	202.5
	10/06/2021 02:00	458.4	0.0	0.7	92.0	0.9	202.5
	10/06/2021 03:00	458.1	0.0	0.9	93.0	0.4	225.0
	10/06/2021 04:00	458.0	0.0	0.8	93.0	0.4	180.0
	10/06/2021 05:00	458.2	0.0	0.5	93.0	0.4	135.0
	10/06/2021 06:00	458.5	0.0	-0.1	93.0	0.4	157.5
	10/06/2021 07:00	458.8	0.0	-0.2	92.0	0.4	180.0
	10/06/2021 08:00	459.1	0.0	2.0	86.0	0.9	202.5
	10/06/2021 09:00	459.5	0.0	5.2	75.0	0.9	270.0
	10/06/2021 10:00	459.5	0.0	8.3	60.0	0.9	180.0
	10/06/2021 11:00	459.3	0.0	9.8	58.0	0.9	157.5
	10/06/2021 12:00	458.8	0.0	12.7	49.0	0.9	22.5
	10/06/2021 13:00	458.3	0.0	13.1	47.0	1.3	45.0
	10/06/2021 14:00	457.8	0.0	12.9	47.0	1.8	337.5
	10/06/2021 15:00	457.3	0.0	11.9	50.0	2.2	337.5
	10/06/2021 16:00	457.2	0.0	12.1	55.0	2.2	337.5
	10/06/2021 17:00	457.1	0.0	10.1	64.0	2.2	0.0
	10/06/2021 18:00	457.4	0.0	7.3	78.0	2.7	0.0
	10/06/2021 19:00	457.8	0.0	6.1	83.0	1.8	22.5
	10/06/2021 20:00	458.2	0.0	5.7	83.0	1.8	0.0
	10/06/2021 21:00	458.4	0.0	5.6	85.0	0.9	45.0
	10/06/2021 22:00	458.5	0.0	5.2	85.0	0.9	337.5
	10/06/2021 23:00	458.4	0.0	4.9	84.0	0.9	0.0
	11/06/2021 00:00	458.5	0.0	3.9	88.0	0.9	22.5

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11/06/2021 01:00	458.4	0.0	4.6	83.0	0.9	337.5
11/06/2021 02:00	458.0	0.0	3.9	86.0	1.3	337.5
11/06/2021 03:00	457.4	0.0	3.9	83.0	0.4	0.0
11/06/2021 04:00	457.7	0.0	2.4	90.0	0.9	0.0
11/06/2021 05:00	457.8	0.0	3.1	89.0	0.9	22.5
11/06/2021 06:00	457.7	0.0	2.4	87.0	0.4	315.0
11/06/2021 07:00	458.1	0.0	2.0	85.0	0.0	315.0
11/06/2021 08:00	458.5	0.0	4.2	79.0	0.4	45.0
11/06/2021 09:00	459.0	0.0	5.5	75.0	0.4	45.0
11/06/2021 10:00	459.0	0.0	7.1	71.0	0.4	45.0
11/06/2021 11:00	459.0	0.0	6.9	71.0	1.8	337.5
11/06/2021 12:00	458.7	0.0	9.1	68.0	2.2	315.0
11/06/2021 13:00	458.4	0.0	9.7	67.0	1.8	0.0
11/06/2021 14:00	457.8	0.0	10.8	65.0	1.8	22.5
11/06/2021 15:00	457.5	0.0	10.6	65.0	2.2	0.0
11/06/2021 16:00	457.2	0.0	9.7	68.0	2.2	337.5
11/06/2021 17:00	457.1	0.0	7.8	74.0	2.2	337.5
11/06/2021 18:00	457.7	0.0	5.7	83.0	1.8	0.0
11/06/2021 19:00	458.0	0.0	5.3	85.0	1.8	0.0
11/06/2021 20:00	458.3	0.0	5.3	87.0	1.8	337.5
11/06/2021 21:00	458.7	0.0	5.2	87.0	0.9	0.0
11/06/2021 22:00	458.7	0.0	4.6	87.0	1.8	0.0
11/06/2021 23:00	458.7	0.0	4.2	87.0	1.8	0.0

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12/06/2021 00:00	458.4	0.2	3.6	87.0	1.3	337.5
12/06/2021 01:00	458.3	0.0	3.9	89.0	0.9	337.5
12/06/2021 02:00	458.2	0.2	3.4	89.0	0.9	0.0
12/06/2021 03:00	458.0	0.4	3.1	86.0	1.3	337.5
12/06/2021 04:00	457.8	0.0	2.6	89.0	0.4	22.5
12/06/2021 05:00	457.9	0.0	2.0	89.0	0.9	337.5
12/06/2021 06:00	458.1	0.0	2.2	89.0	0.4	22.5
12/06/2021 07:00	458.4	0.0	2.2	89.0	0.4	22.5
12/06/2021 08:00	458.7	0.0	3.3	85.0	0.4	45.0
12/06/2021 09:00	459.0	0.0	5.4	80.0	0.4	45.0
12/06/2021 10:00	459.0	0.0	7.3	68.0	0.9	45.0
12/06/2021 11:00	459.0	0.0	9.2	58.0	1.3	45.0
12/06/2021 12:00	458.5	0.0	10.1	57.0	1.3	45.0
12/06/2021 13:00	458.1	0.0	11.7	52.0	1.8	315.0
12/06/2021 14:00	457.5	0.0	10.1	61.0	1.3	337.5
12/06/2021 15:00	457.1	0.0	11.4	61.0	2.2	337.5
12/06/2021 16:00	456.7	0.0	10.3	67.0	1.8	337.5
12/06/2021 17:00	456.9	0.0	8.9	74.0	2.2	337.5
12/06/2021 18:00	457.2	0.0	6.7	76.0	1.8	337.5
12/06/2021 19:00	457.5	0.2	5.0	87.0	2.2	337.5
12/06/2021 20:00	457.8	0.2	4.4	88.0	1.8	0.0
12/06/2021 21:00	458.2	0.0	4.4	88.0	0.9	0.0
12/06/2021 22:00	458.5	0.0	4.1	88.0	0.9	0.0
12/06/2021 23:00	458.6	0.0	3.8	88.0	0.4	45.0

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13/06/2021 00:00	458.7	0.0	3.2	89.0	0.9	315.0
13/06/2021 01:00	458.5	0.0	2.9	88.0	0.9	315.0
13/06/2021 02:00	458.2	0.0	2.0	88.0	0.0	315.0
13/06/2021 03:00	457.9	0.0	0.4	90.0	0.4	225.0
13/06/2021 04:00	457.9	0.0	-0.2	92.0	0.4	202.5
13/06/2021 05:00	458.1	0.0	-0.3	93.0	0.4	202.5
13/06/2021 06:00	458.2	0.0	-0.2	93.0	0.4	0.0
13/06/2021 07:00	458.4	0.0	-0.5	93.0	0.4	337.5
13/06/2021 08:00	458.7	0.0	-0.7	93.0	0.4	180.0
13/06/2021 09:00	459.0	0.0	1.8	94.0	0.4	180.0
13/06/2021 10:00	459.2	0.0	5.3	73.0	0.9	225.0
13/06/2021 11:00	459.0	0.0	8.0	65.0	0.9	247.5
13/06/2021 12:00	458.5	0.0	10.0	57.0	1.3	315.0
13/06/2021 13:00	458.1	0.0	9.6	53.0	0.9	315.0
13/06/2021 14:00	457.5	0.0	10.4	51.0	1.3	315.0
13/06/2021 15:00	457.2	0.0	11.2	49.0	0.9	315.0
13/06/2021 16:00	457.1	0.0	10.7	58.0	1.8	337.5
13/06/2021 17:00	457.1	0.0	9.4	66.0	1.8	22.5
13/06/2021 18:00	457.4	0.0	6.1	75.0	1.8	0.0
13/06/2021 19:00	457.8	0.0	4.9	79.0	1.3	45.0
13/06/2021 20:00	458.1	0.0	4.3	83.0	0.9	22.5
13/06/2021 21:00	458.5	0.0	4.5	84.0	1.3	337.5
13/06/2021 22:00	458.7	0.0	3.6	86.0	0.9	0.0
13/06/2021 23:00	458.7	0.0	4.0	86.0	0.4	22.5

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14/06/2021 00:00	458.4	0.0	4.4	80.0	0.4	0.0
14/06/2021 01:00	458.3	0.0	4.2	80.0	0.4	315.0
14/06/2021 02:00	457.9	0.0	3.6	80.0	0.4	337.5
14/06/2021 03:00	457.8	0.0	3.2	81.0	0.9	337.5
14/06/2021 04:00	457.9	0.0	2.6	82.0	0.4	270.0
14/06/2021 05:00	458.1	0.0	2.2	82.0	0.4	247.5
14/06/2021 06:00	458.2	0.0	1.6	83.0	0.4	315.0
14/06/2021 07:00	458.4	0.0	1.7	84.0	0.4	225.0
14/06/2021 08:00	458.7	0.0	2.6	83.0	0.9	202.5
14/06/2021 09:00	458.9	0.0	4.1	79.0	1.3	180.0
14/06/2021 10:00	459.0	0.0	6.7	73.0	0.9	202.5
14/06/2021 11:00	458.8	0.0	10.9	56.0	0.9	22.5
14/06/2021 12:00	458.4	0.0	11.7	53.0	0.9	45.0
14/06/2021 13:00	458.1	0.0	12.4	49.0	1.8	0.0
14/06/2021 14:00	457.5	0.0	12.9	46.0	2.2	315.0
14/06/2021 15:00	457.2	0.0	11.4	55.0	2.2	315.0
14/06/2021 16:00	457.2	0.0	11.6	54.0	2.2	337.5
14/06/2021 17:00	457.3	0.0	10.4	61.0	1.8	22.5

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14/06/2021 18:00	457.6	0.0	7.3	76.0	1.3	45.0
14/06/2021 19:00	458.0	0.0	6.2	81.0	1.3	45.0
14/06/2021 20:00	458.1	0.0	5.6	84.0	1.3	22.5
14/06/2021 21:00	458.4	0.0	5.2	85.0	0.9	22.5
14/06/2021 22:00	458.5	0.0	4.9	82.0	1.3	337.5
14/06/2021 23:00	458.4	0.0	4.8	85.0	0.9	22.5
15/06/2021 00:00	458.4	0.0	4.7	83.0	0.9	45.0
15/06/2021 01:00	458.3	0.0	4.7	85.0	0.9	337.5
15/06/2021 02:00	458.1	0.0	4.1	86.0	1.3	0.0
15/06/2021 03:00	457.8	0.0	3.8	86.0	0.9	0.0
15/06/2021 04:00	457.8	0.0	3.8	87.0	0.4	0.0
15/06/2021 05:00	458.0	0.0	3.4	87.0	0.9	0.0
15/06/2021 06:00	458.4	0.0	3.1	87.0	1.3	337.5
15/06/2021 07:00	458.7	0.0	2.7	83.0	0.9	315.0
15/06/2021 08:00	459.0	0.0	5.2	74.0	0.4	22.5
15/06/2021 09:00	459.3	0.0	6.6	68.0	1.3	22.5
15/06/2021 10:00	459.3	0.0	8.0	63.0	1.3	22.5
15/06/2021 11:00	459.2	0.0	9.0	57.0	1.3	22.5
15/06/2021 12:00	458.8	0.0	8.7	56.0	0.9	45.0
15/06/2021 13:00	458.5	0.0	10.3	50.0	1.3	45.0
15/06/2021 14:00	458.1	0.0	11.1	50.0	2.2	337.5
15/06/2021 15:00	457.5	0.0	11.6	49.0	2.7	337.5
15/06/2021 16:00	457.4	0.0	10.1	54.0	2.7	337.5
15/06/2021 17:00	457.2	0.0	8.7	63.0	1.8	337.5
15/06/2021 18:00	457.6	0.0	6.3	73.0	1.8	0.0
15/06/2021 19:00	457.8	0.0	4.8	80.0	1.8	0.0
15/06/2021 20:00	458.1	0.0	4.2	84.0	1.3	0.0
15/06/2021 21:00	458.3	0.0	4.0	82.0	0.9	45.0
15/06/2021 22:00	458.5	0.0	4.1	84.0	0.9	22.5
15/06/2021 23:00	458.6	0.0	3.4	84.0	0.9	0.0
16/06/2021 00:00	458.6	0.0	2.9	84.0	0.9	22.5
16/06/2021 01:00	458.4	0.0	1.9	87.0	0.9	0.0
16/06/2021 02:00	458.1	0.0	1.1	89.0	0.4	22.5
16/06/2021 03:00	458.0	0.0	1.3	86.0	0.9	337.5
16/06/2021 04:00	457.9	0.0	0.8	86.0	0.4	0.0
16/06/2021 05:00	458.1	0.0	0.4	88.0	0.4	45.0
16/06/2021 06:00	458.1	0.0	0.0	89.0	0.4	0.0
16/06/2021 07:00	458.3	0.0	-0.2	90.0	0.0	0.0
16/06/2021 08:00	458.7	0.0	1.4	85.0	0.0	0.0
16/06/2021 09:00	459.0	0.0	2.6	83.0	0.9	247.5
16/06/2021 10:00	458.8	0.0	6.1	62.0	0.9	202.5
16/06/2021 11:00	458.7	0.0	8.9	55.0	1.3	157.5
16/06/2021 12:00	SE	SE	SE	SE	SE	SE
16/06/2021 13:00	SE	SE	SE	SE	SE	SE
16/06/2021 14:00	SE	SE	SE	SE	SE	SE
16/06/2021 15:00	SE	SE	SE	SE	SE	SE
16/06/2021 16:00	SE	SE	SE	SE	SE	SE
16/06/2021 17:00	SE	SE	SE	SE	SE	SE
16/06/2021 18:00	SE	SE	SE	SE	SE	SE
16/06/2021 19:00	SE	SE	SE	SE	SE	SE
16/06/2021 20:00	SE	SE	SE	SE	SE	SE
16/06/2021 21:00	SE	SE	SE	SE	SE	SE
16/06/2021 22:00	SE	SE	SE	SE	SE	SE
16/06/2021 23:00	SE	SE	SE	SE	SE	SE
17/06/2021 00:00	SE	SE	SE	SE	SE	SE
17/06/2021 01:00	SE	SE	SE	SE	SE	SE
17/06/2021 02:00	SE	SE	SE	SE	SE	SE
17/06/2021 03:00	SE	SE	SE	SE	SE	SE
17/06/2021 04:00	SE	SE	SE	SE	SE	SE
17/06/2021 05:00	SE	SE	SE	SE	SE	SE
17/06/2021 06:00	SE	SE	SE	SE	SE	SE
17/06/2021 07:00	SE	SE	SE	SE	SE	SE
17/06/2021 08:00	SE	SE	SE	SE	SE	SE
17/06/2021 09:00	SE	SE	SE	SE	SE	SE
17/06/2021 10:00	SE	SE	SE	SE	SE	SE
17/06/2021 11:00	SE	SE	SE	SE	SE	SE
17/06/2021 12:00	459.2	0.0	8.4	50.1	1.4	4.8
17/06/2021 13:00	458.8	0.0	9.5	45.6	1.8	352.1
17/06/2021 14:00	458.4	0.0	9.3	49.4	2.6	338.4
17/06/2021 15:00	458.0	0.0	9.2	47.3	2.1	357.0
17/06/2021 16:00	457.9	0.0	8.6	57.4	2.4	353.0
17/06/2021 17:00	458.2	0.0	6.2	70.9	1.7	5.8
17/06/2021 18:00	458.5	0.0	4.7	81.8	1.3	351.1
17/06/2021 19:00	459.0	0.0	4.1	89.7	1.0	5.7
17/06/2021 20:00	459.3	0.0	3.9	90.0	1.2	4.3
17/06/2021 21:00	459.5	0.0	3.5	92.7	0.8	354.5
17/06/2021 22:00	459.6	0.0	3.2	94.7	0.8	6.8
17/06/2021 23:00	459.6	0.0	3.6	93.0	0.9	19.4
18/06/2021 00:00	459.5	0.0	3.6	93.4	0.7	10.0
18/06/2021 01:00	459.3	0.0	3.6	92.1	0.6	27.6
18/06/2021 02:00	459.0	0.0	3.4	91.6	0.8	6.4
18/06/2021 03:00	458.8	0.0	3.3	85.9	0.5	11.0
18/06/2021 04:00	458.8	0.0	2.5	87.4	0.3	15.9
18/06/2021 05:00	459.1	0.0	2.3	91.9	0.4	9.6
18/06/2021 06:00	459.3	0.0	2.7	87.2	0.6	336.6
18/06/2021 07:00	459.7	0.0	3.2	83.6	0.5	7.7
18/06/2021 08:00	460.1	0.0	4.3	79.8	0.8	15.0
18/06/2021 09:00	460.3	0.0	5.7	70.0	1.4	23.3
18/06/2021 10:00	460.3	0.0	7.6	53.7	1.3	23.3

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18	18/06/2021 11:00	460.1	0.0	7.6	52.9	1.3	1.7
	18/06/2021 12:00	459.7	0.0	8.9	45.9	1.3	12.8
	18/06/2021 13:00	459.2	0.0	10.5	44.0	2.5	351.6
	18/06/2021 14:00	458.8	0.0	11.2	43.6	2.3	359.7
	18/06/2021 15:00	458.5	0.0	10.2	51.2	2.6	346.4
	18/06/2021 16:00	458.5	0.0	9.2	55.3	1.8	9.9
	18/06/2021 17:00	458.7	0.0	7.7	61.1	1.3	31.2
	18/06/2021 18:00	459.0	0.0	5.9	71.2	0.9	39.0
	18/06/2021 19:00	459.3	0.0	4.7	85.3	1.3	4.2
	18/06/2021 20:00	459.6	0.0	4.2	90.0	0.7	22.5
	18/06/2021 21:00	459.8	0.0	4.1	92.8	0.9	13.5
	18/06/2021 22:00	459.9	0.0	3.8	93.8	1.4	3.8
	18/06/2021 23:00	459.8	0.0	3.6	91.6	1.6	1.3
	19/06/2021 00:00	459.7	0.0	3.5	90.9	1.3	359.7
	19/06/2021 01:00	459.4	0.0	3.0	93.1	1.1	7.8
	19/06/2021 02:00	459.2	0.0	1.9	96.1	0.7	6.0
	19/06/2021 03:00	459.1	0.0	1.5	95.4	0.4	35.7
	19/06/2021 04:00	459.2	0.0	1.3	96.9	0.5	5.3
19/06/2021 05:00	459.5	0.0	1.4	94.0	0.5	4.6	
19/06/2021 06:00	459.8	0.0	1.6	90.8	0.6	344.0	
19/06/2021 07:00	460.2	0.0	1.8	89.0	0.7	322.6	
19/06/2021 08:00	460.5	0.0	3.7	75.6	0.3	340.8	
19/06/2021 09:00	460.6	0.0	5.1	68.3	0.7	38.5	
19/06/2021 10:00	460.4	0.0	6.5	59.5	0.6	56.6	
19/06/2021 11:00	460.1	0.0	8.3	51.9	0.8	51.6	
19	19/06/2021 12:00	459.8	0.0	8.4	53.1	1.2	23.0
	19/06/2021 13:00	459.4	0.0	8.3	56.7	1.5	13.9
	19/06/2021 14:00	459.2	0.0	7.5	63.5	1.4	20.7
	19/06/2021 15:00	459.3	0.0	5.5	83.6	1.3	34.9
	19/06/2021 16:00	459.3	0.0	5.1	83.6	1.2	30.7
	19/06/2021 17:00	459.4	0.0	4.9	87.1	1.3	7.7
	19/06/2021 18:00	459.6	0.0	4.3	91.8	1.1	11.7
	19/06/2021 19:00	460.0	0.0	4.3	93.0	0.7	20.1
	19/06/2021 20:00	460.3	0.0	4.1	94.0	0.9	0.3
	19/06/2021 21:00	460.5	0.0	3.7	95.0	0.7	359.4
	19/06/2021 22:00	460.5	0.0	3.6	95.2	0.8	21.3
	19/06/2021 23:00	460.4	0.0	3.4	95.4	1.0	13.4
	20/06/2021 00:00	460.2	0.0	3.6	89.4	0.8	8.1
	20/06/2021 01:00	460.0	0.0	3.9	82.5	0.2	43.9
	20/06/2021 02:00	459.8	0.0	3.4	92.6	0.4	41.9
	20/06/2021 03:00	459.6	0.0	2.9	90.7	0.5	46.6
	20/06/2021 04:00	459.7	0.0	2.6	90.2	0.3	312.4
	20/06/2021 05:00	459.8	0.0	2.5	94.7	0.4	196.5
20/06/2021 06:00	460.1	0.0	2.5	95.1	0.6	188.3	
20/06/2021 07:00	460.4	0.0	3.4	90.4	0.7	186.0	
20/06/2021 08:00	460.8	0.0	5.6	75.1	0.5	182.6	
20/06/2021 09:00	461.0	0.0	6.7	68.0	0.8	355.0	
20/06/2021 10:00	461.0	0.0	7.6	59.5	0.9	49.0	
20	20/06/2021 11:00	460.6	0.0	8.9	48.8	1.2	354.8
	20/06/2021 12:00	460.2	0.0	9.8	42.6	0.9	9.2
	20/06/2021 13:00	459.8	0.0	9.9	44.1	1.2	7.9
	20/06/2021 14:00	459.4	0.0	10.0	50.8	1.6	13.2
	20/06/2021 15:00	459.2	0.0	9.2	64.3	1.7	13.2
	20/06/2021 16:00	459.3	0.0	7.7	66.3	1.4	27.9
	20/06/2021 17:00	459.5	0.0	5.9	73.0	1.2	39.0
	20/06/2021 18:00	459.7	0.0	4.8	80.0	0.9	10.0
	20/06/2021 19:00	460.0	0.0	4.2	82.6	0.6	8.8
	20/06/2021 20:00	460.3	0.0	3.5	85.9	0.1	72.8
	20/06/2021 21:00	460.4	0.0	3.0	90.0	0.2	90.9
	20/06/2021 22:00	460.4	0.0	2.7	92.3	0.4	8.8
	20/06/2021 23:00	460.4	0.0	2.0	96.5	0.6	24.0
	21/06/2021 00:00	460.4	0.0	1.1	99.3	0.3	294.1
	21/06/2021 01:00	460.1	0.0	1.4	99.3	0.2	14.6
	21/06/2021 02:00	459.9	0.0	0.3	99.3	1.0	340.0
	21/06/2021 03:00	459.8	0.0	-0.4	99.3	0.7	333.0
	21/06/2021 04:00	459.7	0.0	-0.6	99.4	0.3	328.0
21/06/2021 05:00	459.8	0.0	-0.8	99.4	0.4	310.4	
21/06/2021 06:00	460.0	0.0	-0.5	99.4	0.3	241.5	
21/06/2021 07:00	460.2	0.0	-0.7	99.4	0.7	213.2	
21/06/2021 08:00	460.6	0.0	-0.1	99.4	0.9	205.0	
21/06/2021 09:00	460.9	0.0	1.5	99.4	0.8	189.5	
21/06/2021 10:00	460.7	0.0	4.5	96.9	0.8	213.0	
21	21/06/2021 11:00	460.3	0.0	8.2	66.3	1.2	226.7
	21/06/2021 12:00	459.8	0.0	10.2	54.6	1.0	22.5
	21/06/2021 13:00	459.3	0.0	12.8	42.7	1.7	11.4
	21/06/2021 14:00	458.9	0.0	12.2	44.7	2.2	0.7
	21/06/2021 15:00	458.7	0.0	12.0	47.4	1.8	19.2
	21/06/2021 16:00	458.8	0.0	9.4	59.7	1.2	38.7
	21/06/2021 17:00	459.0	0.0	7.1	67.8	0.8	113.6
	21/06/2021 18:00	459.2	0.0	5.8	75.6	1.3	33.1
	21/06/2021 19:00	459.4	0.0	5.2	89.8	1.4	3.7
	21/06/2021 20:00	459.7	0.0	4.6	92.5	1.2	8.7
	21/06/2021 21:00	459.9	0.0	4.1	91.4	0.8	8.5
	21/06/2021 22:00	459.9	0.0	3.8	90.6	0.6	339.9
	21/06/2021 23:00	459.9	0.0	3.5	90.5	0.2	338.0
	22/06/2021 00:00	459.8	0.0	2.9	90.1	0.4	328.7
	22/06/2021 01:00	459.6	0.0	2.2	92.6	0.1	338.0
	22/06/2021 02:00	459.4	0.0	1.6	95.0	0.1	193.4
	22/06/2021 03:00	459.3	0.0	0.4	98.6	0.4	179.2



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22/06/2021 04:00	459.3	0.0	-0.7	99.3	0.6	198.3
22/06/2021 05:00	459.5	0.0	0.0	99.4	0.7	212.5
22/06/2021 06:00	459.7	0.0	0.2	99.4	0.5	220.2
22/06/2021 07:00	460.0	0.0	0.4	99.4	0.6	172.8
22/06/2021 08:00	460.5	0.0	1.9	98.5	1.3	191.0
22/06/2021 09:00	460.7	0.0	5.0	83.6	1.3	193.1
22/06/2021 10:00	460.7	0.0	7.7	57.1	1.4	190.7
22/06/2021 11:00	460.4	0.0	10.0	34.6	1.3	9.5
22/06/2021 12:00	460.0	0.0	11.6	29.4	1.5	18.5
22/06/2021 13:00	459.5	0.0	12.3	30.8	1.9	11.7
22/06/2021 14:00	459.0	0.0	12.2	33.2	2.2	359.4
22/06/2021 15:00	458.8	0.0	11.4	37.4	1.9	12.0
22/06/2021 16:00	458.8	0.0	10.3	45.9	1.4	41.8
22/06/2021 17:00	459.1	0.0	6.6	67.8	0.7	152.1
22/06/2021 18:00	459.3	0.0	5.2	69.6	0.8	39.3
22/06/2021 19:00	459.5	0.0	4.7	77.0	1.1	4.4
22/06/2021 20:00	459.8	0.0	3.9	86.6	0.3	359.2
22/06/2021 21:00	460.0	0.0	3.0	92.6	0.4	329.4
22/06/2021 22:00	460.1	0.0	2.8	93.7	0.0	322.0
22/06/2021 23:00	460.0	0.0	2.6	94.2	0.1	34.4
23/06/2021 00:00	459.8	0.0	1.9	96.2	0.5	43.8
23/06/2021 01:00	459.7	0.0	0.8	99.3	0.4	25.9
23/06/2021 02:00	459.6	0.0	0.2	99.3	0.5	194.7
23/06/2021 03:00	459.5	0.0	-0.4	99.4	0.3	224.7
23/06/2021 04:00	459.4	0.0	-0.4	99.4	0.1	235.4
23/06/2021 05:00	459.5	0.0	-0.7	99.4	0.2	188.0
23/06/2021 06:00	459.7	0.0	-1.3	99.4	0.5	183.8
23/06/2021 07:00	460.0	0.0	-1.9	99.4	0.6	191.9
23/06/2021 08:00	460.6	0.0	-1.5	99.4	0.8	185.6
23/06/2021 09:00	460.7	0.0	0.8	99.4	1.1	187.0
23/06/2021 10:00	460.7	0.0	4.9	84.8	1.5	207.6
23/06/2021 11:00	460.4	0.0	8.5	52.3	1.3	204.5
23/06/2021 12:00	459.9	0.0	10.6	39.8	1.0	313.6
23/06/2021 13:00	459.5	0.0	12.0	33.3	1.4	24.3
23/06/2021 14:00	459.0	0.0	11.5	36.4	2.0	353.6
23/06/2021 15:00	458.7	0.0	11.6	38.4	2.0	359.8
23/06/2021 16:00	458.6	0.0	10.6	44.1	2.0	359.0
23/06/2021 17:00	458.6	0.0	8.5	55.3	2.0	1.2
23/06/2021 18:00	458.8	0.0	6.2	72.8	2.3	355.1
23/06/2021 19:00	459.0	0.0	5.0	85.3	1.5	11.6
23/06/2021 20:00	459.4	0.0	4.2	90.4	0.5	11.8
23/06/2021 21:00	459.7	0.0	3.8	92.9	0.6	217.9
23/06/2021 22:00	459.7	0.0	3.3	93.3	0.2	316.9
23/06/2021 23:00	459.7	0.0	2.6	95.6	0.2	315.7
24/06/2021 00:00	459.6	0.0	1.9	99.0	0.5	20.3
24/06/2021 01:00	459.3	0.0	1.2	99.3	0.5	42.5
24/06/2021 02:00	459.0	0.0	0.6	99.4	0.3	354.7
24/06/2021 03:00	458.9	0.0	0.3	99.4	0.4	170.1
24/06/2021 04:00	459.0	0.0	-0.3	99.4	0.3	166.6
24/06/2021 05:00	459.1	0.0	-0.8	99.4	0.3	184.0
24/06/2021 06:00	459.4	0.0	-0.9	99.4	0.4	233.9
24/06/2021 07:00	459.7	0.0	-0.8	99.4	0.4	233.2
24/06/2021 08:00	460.0	0.0	0.2	99.4	0.5	189.1
24/06/2021 09:00	460.2	0.0	2.7	99.4	0.8	223.1
24/06/2021 10:00	460.0	0.0	6.4	73.7	1.2	208.6
24/06/2021 11:00	459.6	0.0	8.3	52.8	1.1	209.0
24/06/2021 12:00	459.0	0.0	9.9	45.5	0.9	202.5
24/06/2021 13:00	458.5	0.0	12.1	23.3	2.1	352.6
24/06/2021 14:00	458.0	0.0	11.9	22.8	2.5	347.2
24/06/2021 15:00	457.8	0.0	11.9	26.1	1.9	356.9
24/06/2021 16:00	457.7	0.0	10.8	30.4	2.3	349.6
24/06/2021 17:00	457.9	0.0	8.3	45.2	2.1	8.2
24/06/2021 18:00	458.2	0.0	5.8	61.3	2.1	4.9
24/06/2021 19:00	458.6	0.0	4.3	76.9	1.3	19.2
24/06/2021 20:00	459.0	0.0	3.5	88.7	1.3	353.9
24/06/2021 21:00	459.5	0.0	3.4	93.6	1.4	344.1
24/06/2021 22:00	459.5	0.0	3.0	95.5	1.1	347.9
24/06/2021 23:00	459.5	0.0	3.3	91.4	0.9	346.9
25/06/2021 00:00	459.4	0.0	2.5	92.2	0.8	331.1
25/06/2021 01:00	459.1	0.0	1.8	93.1	0.8	318.8
25/06/2021 02:00	458.9	0.0	0.9	98.8	0.4	205.1
25/06/2021 03:00	458.7	0.0	0.5	99.3	0.3	189.2
25/06/2021 04:00	458.7	0.0	0.1	99.3	0.1	159.9
25/06/2021 05:00	458.8	0.0	-0.2	99.3	0.2	193.7
25/06/2021 06:00	458.9	0.0	-0.3	99.3	0.0	161.2
25/06/2021 07:00	459.2	0.0	0.6	96.0	0.3	132.4
25/06/2021 08:00	459.6	0.0	4.6	76.8	0.6	183.6
25/06/2021 09:00	459.7	0.0	5.6	73.3	1.2	206.0
25/06/2021 10:00	459.6	0.0	8.3	54.0	0.9	244.4
25/06/2021 11:00	459.4	0.0	9.7	44.4	0.9	298.9
25/06/2021 12:00	459.0	0.0	10.9	34.3	1.4	354.7
25/06/2021 13:00	458.6	0.0	12.1	29.1	2.0	352.8
25/06/2021 14:00	458.0	0.0	12.0	30.0	2.2	11.1
25/06/2021 15:00	457.8	0.0	11.4	31.5	1.8	16.0
25/06/2021 16:00	457.8	0.0	10.1	39.4	2.0	5.8
25/06/2021 17:00	458.0	0.0	7.4	59.6	2.0	8.7
25/06/2021 18:00	458.1	0.0	5.4	73.3	1.7	4.8
25/06/2021 19:00	458.4	0.0	4.4	80.2	0.7	9.1
25/06/2021 20:00	458.8	0.0	3.9	83.9	0.5	16.3

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25/06/2021 21:00	459.0	0.0	4.0	86.4	0.2	144.4
25/06/2021 22:00	458.9	0.0	3.5	85.9	0.4	328.1
25/06/2021 23:00	458.9	0.0	2.5	91.0	0.3	205.1
26/06/2021 00:00	458.8	0.0	1.8	93.1	0.2	183.4
26/06/2021 01:00	458.6	0.0	1.2	95.8	0.2	243.9
26/06/2021 02:00	458.2	0.0	0.7	97.6	0.1	184.7
26/06/2021 03:00	458.1	0.0	0.4	98.8	0.4	211.8
26/06/2021 04:00	458.1	0.0	-0.7	99.3	0.5	216.2
26/06/2021 05:00	458.2	0.0	-0.7	99.4	0.4	178.3
26/06/2021 06:00	458.4	0.0	-0.5	99.4	0.3	174.8
26/06/2021 07:00	458.8	0.0	-0.6	99.4	0.5	208.6
26/06/2021 08:00	459.2	0.0	-0.2	99.4	0.6	210.8
26/06/2021 09:00	459.3	0.0	3.9	81.7	0.9	164.5
26/06/2021 10:00	459.2	0.0	8.7	22.0	1.0	8.7
26/06/2021 11:00	459.0	0.0	9.7	25.4	1.5	352.3
26/06/2021 12:00	458.7	0.0	10.6	25.8	1.6	359.6
26/06/2021 13:00	458.4	0.0	11.7	25.4	1.4	26.9
26/06/2021 14:00	457.9	0.0	11.6	27.4	1.8	1.8
26/06/2021 15:00	457.5	0.0	11.2	28.0	2.1	348.6
26/06/2021 16:00	457.3	0.0	10.6	29.9	1.9	353.1
26/06/2021 17:00	457.4	0.0	8.0	44.4	1.7	1.5
26/06/2021 18:00	457.7	0.0	6.0	61.0	1.3	10.4
26/06/2021 19:00	458.3	0.0	4.8	77.9	0.4	350.0
26/06/2021 20:00	458.6	0.0	4.0	89.1	0.4	2.5
26/06/2021 21:00	458.8	0.0	3.7	90.4	0.4	202.9
26/06/2021 22:00	458.9	0.0	2.7	92.7	0.2	198.9
26/06/2021 23:00	458.8	0.0	2.0	92.0	0.3	187.8
27/06/2021 00:00	458.9	0.0	1.6	99.0	0.5	2.6
27/06/2021 01:00	458.5	0.0	1.3	99.4	0.3	350.4
27/06/2021 02:00	458.1	0.0	0.9	99.4	0.2	138.6
27/06/2021 03:00	457.8	0.0	0.3	99.4	0.2	194.4
27/06/2021 04:00	457.9	0.0	-0.5	99.4	0.2	192.3
27/06/2021 05:00	458.1	0.0	-2.1	99.4	0.8	178.4
27/06/2021 06:00	458.5	0.0	-2.6	99.4	0.5	206.2
27/06/2021 07:00	458.9	0.0	-1.4	99.4	0.5	207.2
27/06/2021 08:00	459.3	0.0	0.0	99.4	0.6	179.0
27/06/2021 09:00	459.4	0.0	2.9	98.0	1.1	188.6
27/06/2021 10:00	459.4	0.0	7.3	66.2	0.9	277.6
27/06/2021 11:00	459.0	0.0	10.2	38.6	1.2	26.0
27/06/2021 12:00	458.6	0.0	11.2	32.2	1.8	3.2
27/06/2021 13:00	458.4	0.0	10.9	36.0	1.7	1.8
27/06/2021 14:00	458.0	0.0	10.6	38.1	1.5	3.1
27/06/2021 15:00	457.7	0.0	11.1	36.3	1.6	16.3
27/06/2021 16:00	457.4	0.0	10.2	42.5	2.0	4.0
27/06/2021 17:00	457.5	0.0	7.7	57.9	1.7	358.8
27/06/2021 18:00	457.8	0.0	5.7	74.9	1.4	3.0
27/06/2021 19:00	458.2	0.0	4.6	93.3	1.6	358.7
27/06/2021 20:00	458.8	0.0	4.3	93.1	1.4	13.6
27/06/2021 21:00	459.2	0.0	4.2	96.0	1.0	0.6
27/06/2021 22:00	459.4	0.0	4.4	91.6	0.4	32.7
27/06/2021 23:00	459.3	0.0	4.1	95.8	0.8	344.6
28/06/2021 00:00	459.3	0.0	3.1	87.2	1.0	289.6
28/06/2021 01:00	459.1	0.0	3.5	59.5	0.3	211.4
28/06/2021 02:00	458.9	0.0	4.0	58.0	0.1	6.5
28/06/2021 03:00	458.6	0.0	3.2	68.4	0.5	255.8
28/06/2021 04:00	458.7	0.0	2.1	78.9	0.3	49.2
28/06/2021 05:00	458.9	0.0	2.4	82.2	0.3	31.3
28/06/2021 06:00	459.0	0.0	2.3	78.3	0.3	233.1
28/06/2021 07:00	459.3	0.0	2.6	72.0	0.5	217.9
28/06/2021 08:00	459.8	0.0	5.8	52.5	0.6	200.5
28/06/2021 09:00	459.9	0.0	6.2	50.1	1.0	252.5
28/06/2021 10:00	459.9	0.0	8.0	33.5	1.1	261.8
28/06/2021 11:00	459.6	0.0	8.5	34.4	1.0	329.7
28/06/2021 12:00	459.3	0.0	9.6	39.9	1.3	350.3
28/06/2021 13:00	458.9	0.0	10.8	44.4	1.5	21.4
28/06/2021 14:00	458.3	0.0	11.2	43.4	1.8	11.4
28/06/2021 15:00	458.1	0.0	10.2	49.1	2.0	0.8
28/06/2021 16:00	458.0	0.0	9.3	55.7	1.8	17.1
28/06/2021 17:00	458.3	0.0	7.0	64.6	1.8	9.9
28/06/2021 18:00	458.7	0.0	5.4	84.2	1.7	18.0
28/06/2021 19:00	459.1	0.0	5.0	92.4	1.6	8.4
28/06/2021 20:00	459.4	0.0	4.5	94.2	1.4	7.3
28/06/2021 21:00	459.8	0.0	3.6	99.1	1.2	25.8
28/06/2021 22:00	459.9	0.0	3.9	98.3	1.0	16.2
28/06/2021 23:00	459.9	0.0	3.9	99.2	0.8	5.1
29/06/2021 00:00	459.8	0.0	3.5	99.2	1.1	355.9
29/06/2021 01:00	459.7	1.5	1.8	99.3	0.8	353.2
29/06/2021 02:00	459.4	0.0	1.6	99.3	0.7	186.1
29/06/2021 03:00	459.3	1.2	1.3	99.3	0.6	195.9
29/06/2021 04:00	459.3	0.0	1.4	99.3	0.3	174.6
29/06/2021 05:00	459.4	0.0	1.7	99.3	0.6	190.2
29/06/2021 06:00	459.6	0.0	1.8	99.3	0.8	187.9
29/06/2021 07:00	460.0	0.0	1.9	99.3	0.7	218.9
29/06/2021 08:00	460.3	0.0	2.5	97.8	0.5	167.4
29/06/2021 09:00	460.4	0.3	4.1	86.7	0.6	188.2
29/06/2021 10:00	460.3	0.0	5.9	74.8	0.5	240.4
29/06/2021 11:00	460.1	0.0	6.2	74.4	1.2	343.9
29/06/2021 12:00	459.7	0.0	7.8	68.9	1.0	6.2
29/06/2021 13:00	459.1	0.0	8.5	62.0	0.8	18.9

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29/06/2021 14:00	458.7	0.0	9.6	65.8	1.6	16.8
29/06/2021 15:00	458.5	0.0	9.7	65.6	2.0	2.6
29/06/2021 16:00	458.8	0.0	6.0	78.0	1.8	296.5
29/06/2021 17:00	459.1	0.0	3.8	89.9	0.9	248.9
29/06/2021 18:00	459.1	0.0	3.8	88.9	1.6	8.7
29/06/2021 19:00	459.4	0.0	3.1	96.9	1.1	46.8
29/06/2021 20:00	459.9	0.0	2.8	98.0	0.7	46.5
29/06/2021 21:00	460.0	0.0	2.9	95.7	0.7	46.8
29/06/2021 22:00	460.0	0.0	3.0	94.0	0.4	45.1
29/06/2021 23:00	459.9	0.0	3.1	94.5	0.5	359.1
30/06/2021 00:00	459.8	0.0	2.7	97.7	0.9	6.4
30/06/2021 01:00	459.6	0.0	2.6	99.0	0.8	11.5
30/06/2021 02:00	459.3	0.0	2.4	99.2	0.6	15.8
30/06/2021 03:00	459.1	0.0	2.3	97.4	0.3	26.8
30/06/2021 04:00	459.1	0.0	2.4	98.3	0.7	357.5
30/06/2021 05:00	459.2	0.0	2.4	98.6	0.4	18.0
30/06/2021 06:00	459.4	0.3	1.9	99.3	0.4	348.3
30/06/2021 07:00	459.6	0.0	1.9	99.3	0.4	327.1
30/06/2021 08:00	459.8	0.0	4.2	86.9	0.3	91.0
30/06/2021 09:00	460.0	0.0	4.5	87.8	0.8	24.4
30/06/2021 10:00	459.8	0.0	6.2	78.9	0.9	34.0
30/06/2021 11:00	459.5	0.0	8.8	62.6	1.3	29.3
30/06/2021 12:00	459.0	0.0	9.4	57.4	1.5	25.8
30/06/2021 13:00	458.4	0.0	9.1	59.1	1.7	15.9
30/06/2021 14:00	458.2	0.3	7.3	72.4	1.6	22.9
30/06/2021 15:00	458.2	0.3	3.7	93.0	1.0	205.6
30/06/2021 16:00	458.3	0.0	5.0	90.3	0.7	59.0
30/06/2021 17:00	458.4	0.0	4.5	91.8	1.0	39.6
30/06/2021 18:00	458.7	0.0	4.0	96.2	1.0	26.5
30/06/2021 19:00	458.9	0.0	3.6	99.3	1.0	20.5
30/06/2021 20:00	459.1	0.0	3.5	99.3	0.7	22.3
30/06/2021 21:00	459.4	0.0	3.3	99.3	1.0	15.5
30/06/2021 22:00	459.5	0.0	2.9	99.3	0.8	13.3
30/06/2021 23:00	459.5	0.0	2.7	97.1	0.8	6.0

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SE: Sin equipo debido al cambio de la estacion Vantage Pro 2 por Campbell

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en junio de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01      **CÓDIGO DE ACCIÓN:** 0003-6-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:** Estación meteorológica      **MARCA:** Davis Instruments y Campbell

**MODELO:** Vantage Pro 2 y CR1000      **SERIE:** BE181010012

DIA 1 - JUNIO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
21/06/2021 17:00	459.0	7.1	68	0.8
21/06/2021 18:00	459.2	5.8	76	1.3
21/06/2021 19:00	459.4	5.2	90	1.4
21/06/2021 20:00	459.7	4.6	93	1.2
21/06/2021 21:00	459.9	4.1	91	0.8
21/06/2021 22:00	459.9	3.8	91	0.6
21/06/2021 23:00	459.9	3.5	91	0.2
22/06/2021 00:00	459.8	2.9	90	0.4
22/06/2021 01:00	459.6	2.2	93	0.1
22/06/2021 02:00	459.4	1.6	95	0.1
22/06/2021 03:00	459.3	0.4	99	0.4
22/06/2021 04:00	459.3	-0.7	99	0.6
22/06/2021 05:00	459.5	0.0	99	0.7
22/06/2021 06:00	459.7	0.2	99	0.5
22/06/2021 07:00	460.0	0.4	99	0.6
22/06/2021 08:00	460.5	1.9	99	1.3
22/06/2021 09:00	460.7	5.0	84	1.3
22/06/2021 10:00	460.7	7.7	57	1.4
22/06/2021 11:00	460.4	10.0	35	1.3
22/06/2021 12:00	460.0	11.6	29	1.5
22/06/2021 13:00	459.5	12.3	31	1.9
22/06/2021 14:00	459.0	12.2	33	2.2
22/06/2021 15:00	458.8	11.4	37	1.9
22/06/2021 16:00	458.8	10.3	46	1.4
<b>Promedio DIA 1</b>	<b>459.7</b>	<b>5.1</b>	<b>75.9</b>	<b>1.0</b>

DIA 2 - JUNIO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
22/06/2021 18:00	459.3	5.2	70	0.8
22/06/2021 19:00	459.5	4.7	77	1.1
22/06/2021 20:00	459.8	3.9	87	0.3
22/06/2021 21:00	460.0	3.0	93	0.4
22/06/2021 22:00	460.1	2.8	94	0.0
22/06/2021 23:00	460.0	2.6	94	0.1
23/06/2021 00:00	459.8	1.9	96	0.5
23/06/2021 01:00	459.7	0.8	99	0.4
23/06/2021 02:00	459.6	0.2	99	0.5
23/06/2021 03:00	459.5	-0.4	99	0.3
23/06/2021 04:00	459.4	-0.4	99	0.1
23/06/2021 05:00	459.5	-0.7	99	0.2
23/06/2021 06:00	459.7	-1.3	99	0.5
23/06/2021 07:00	460.0	-1.9	99	0.6
23/06/2021 08:00	460.6	-1.5	99	0.8
23/06/2021 09:00	460.7	0.8	99	1.1
23/06/2021 10:00	460.7	4.9	85	1.5
23/06/2021 11:00	460.4	8.5	52	1.3
23/06/2021 12:00	459.9	10.6	40	1.0
23/06/2021 13:00	459.5	12.0	33	1.4
23/06/2021 14:00	459.0	11.5	36	2.0
23/06/2021 15:00	458.7	11.6	38	2.0
23/06/2021 16:00	458.6	10.6	44	2.0
23/06/2021 17:00	458.6	8.5	55	2.0
<b>Promedio DIA 2</b>	<b>459.7</b>	<b>4.1</b>	<b>78.7</b>	<b>0.9</b>

DIA 3 - JUNIO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
23/06/2021 18:00	458.8	6.2	73	2.3
23/06/2021 19:00	459.0	5.0	85	1.5
23/06/2021 20:00	459.4	4.2	90	0.5
23/06/2021 21:00	459.7	3.8	93	0.6
23/06/2021 22:00	459.7	3.3	93	0.2
23/06/2021 23:00	459.7	2.6	96	0.2
24/06/2021 00:00	459.6	1.9	99	0.5
24/06/2021 01:00	459.3	1.2	99	0.5
24/06/2021 02:00	459.0	0.6	99	0.3
24/06/2021 03:00	458.9	0.3	99	0.4
24/06/2021 04:00	459.0	-0.3	99	0.3
24/06/2021 05:00	459.1	-0.8	99	0.3
24/06/2021 06:00	459.4	-0.9	99	0.4
24/06/2021 07:00	459.7	-0.8	99	0.4
24/06/2021 08:00	460.0	0.2	99	0.5
24/06/2021 09:00	460.2	2.7	99	0.8
24/06/2021 10:00	460.0	6.4	74	1.2
24/06/2021 11:00	459.6	8.3	53	1.1
24/06/2021 12:00	459.0	9.9	46	0.9
24/06/2021 13:00	458.5	12.1	23	2.1
24/06/2021 14:00	458.0	11.9	23	2.5
24/06/2021 15:00	457.8	11.9	26	1.9
24/06/2021 16:00	457.7	10.8	30	2.3
<b>Promedio DIA 3</b>	<b>459.2</b>	<b>4.4</b>	<b>78.2</b>	<b>0.9</b>

DIA 4 - JUNIO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
24/06/2021 17:00	457.9	8.3	45	2.1
24/06/2021 18:00	458.2	5.8	61	2.1
24/06/2021 19:00	458.6	4.3	77	1.3
24/06/2021 20:00	459.0	3.5	89	1.3
24/06/2021 21:00	459.5	3.4	94	1.4
24/06/2021 22:00	459.5	3.0	96	1.1
24/06/2021 23:00	459.5	3.3	91	0.9
25/06/2021 00:00	459.4	2.5	92	0.8
25/06/2021 01:00	459.1	1.8	93	0.8
25/06/2021 02:00	458.9	0.9	99	0.4
25/06/2021 03:00	458.7	0.5	99	0.3
25/06/2021 04:00	458.7	0.1	99	0.1
25/06/2021 05:00	458.8	-0.2	99	0.2
25/06/2021 06:00	458.9	-0.3	99	0.0
25/06/2021 07:00	459.2	0.6	96	0.3
25/06/2021 08:00	459.6	4.6	77	0.6
25/06/2021 09:00	459.7	5.6	73	1.2
25/06/2021 10:00	459.6	8.3	54	0.9
25/06/2021 11:00	459.4	9.7	44	0.9
25/06/2021 12:00	459.0	10.9	34	1.4
25/06/2021 13:00	458.6	12.1	29	2.0
25/06/2021 14:00	458.0	12.0	30	2.2
25/06/2021 15:00	457.8	11.4	32	1.8
25/06/2021 16:00	457.8	10.1	39	2.0
<b>Promedio DIA 4</b>	<b>458.9</b>	<b>5.1</b>	<b>72.6</b>	<b>1.1</b>

DIA 5 - JUNIO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
25/06/2021 18:00	458.1	5.4	73	1.7
25/06/2021 19:00	458.4	4.4	80	0.7
25/06/2021 20:00	458.8	3.9	84	0.5
25/06/2021 21:00	459.0	4.0	86	0.2
25/06/2021 22:00	458.9	3.5	86	0.4
25/06/2021 23:00	458.9	2.5	91	0.3
26/06/2021 00:00	458.8	1.8	93	0.2
26/06/2021 01:00	458.6	1.2	96	0.2
26/06/2021 02:00	458.2	0.7	98	0.1
26/06/2021 03:00	458.1	0.4	99	0.4
26/06/2021 04:00	458.1	-0.7	99	0.5
26/06/2021 05:00	458.2	-0.7	99	0.4
26/06/2021 06:00	458.4	-0.5	99	0.3
26/06/2021 07:00	458.8	-0.6	99	0.5
26/06/2021 08:00	459.2	-0.2	99	0.6
26/06/2021 09:00	459.3	3.9	82	0.9
26/06/2021 10:00	459.2	8.7	22	1.0
26/06/2021 11:00	459.0	9.7	25	1.5
26/06/2021 12:00	458.7	10.6	26	1.6
26/06/2021 13:00	458.4	11.7	25	1.4
26/06/2021 14:00	457.9	11.6	27	1.8
26/06/2021 15:00	457.5	11.2	28	2.1
26/06/2021 16:00	457.3	10.6	30	1.9
26/06/2021 17:00	457.4	8.0	44	1.7
<b>Promedio DIA 5</b>	<b>458.5</b>	<b>4.6</b>	<b>70.5</b>	<b>0.9</b>

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en junio de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0003-6-2021-412

**MEDICIONES PROMEDIO (DATOS DIARIOS)**

**DÍA 1** **INICIO:** 21/06/2021 16:43 **FINAL:** 22/06/2021 16:42 **PERIODO :** 23:59 horas **1439 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 5.1 **Presión (mm Hg):** 459.7

**DÍA 2** **INICIO:** 22/06/2021 17:39 **FINAL:** 23/06/2021 17:30 **PERIODO :** 23:51 horas **1431 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 4.1 **Presión (mm Hg):** 459.7

**DÍA 3** **INICIO:** 23/06/2021 17:47 **FINAL:** 24/06/2021 17:18 **PERIODO :** 23:31 horas **1411 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 4.4 **Presión (mm Hg):** 459.2

**DÍA 4** **INICIO:** 24/06/2021 17:34 **FINAL:** 25/06/2021 17:31 **PERIODO :** 23:57 horas **1437 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 5.1 **Presión (mm Hg):** 458.9

**DÍA 5** **INICIO:** 25/06/2021 17:51 **FINAL:** 26/06/2021 17:51 **PERIODO :** 24:00 horas **1440 min**

**Datos horarios registrados:** 24 horas

**Temperatura (°C):** 4.6 **Presión (mm Hg):** 458.5

**OBSERVACIONES:**

DATOS GENERALES

TÍTULO DEL ESTUDIO: Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en junio de 2021

ESTACIÓN DE MONITOREO: CA-SB-01

CÓDIGO DE ACCIÓN: 0003-6-2021-412

DATOS DE LOS EQUIPOS

Barómetro	MARCA:	-	MODELO:	-	SERIE:	-
Venturi PM-10	MARCA:	THERMO SCIENTIFIC				
	MODELO:	HI VOL				
	SERIE:	P9327X				

CÁLCULOS

PM-10							
DÍA 1		Fecha Inicio: 21/06/2021 16:43			Fecha Final: 22/06/2021 16:42		
Presión inicial:				13.9 pulg H2O			
Presión final:				14.1 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
14.0	26.1	459.7	0.943	5.1	1.123	1.127	1.125
DÍA 2		Fecha Inicio: 22/06/2021 17:39			Fecha Final: 23/06/2021 17:30		
Presión inicial:				13.1 pulg H2O			
Presión final:				13.3 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.2	24.6	459.7	0.946	4.1	1.127	1.131	1.127
DÍA 3		Fecha Inicio: 23/06/2021 17:47			Fecha Final: 24/06/2021 17:18		
Presión inicial:				13.0 pulg H2O			
Presión final:				13.3 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.2	24.5	459.2	0.947	4.4	1.128	1.132	1.129
DÍA 4		Fecha Inicio: 24/06/2021 17:34			Fecha Final: 25/06/2021 17:31		
Presión inicial:				12.9 pulg H2O			
Presión final:				13.2 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.1	24.4	458.9	0.947	5.1	1.128	1.132	1.130
DÍA 5		Fecha Inicio: 25/06/2021 17:51			Fecha Final: 26/06/2021 17:51		
Presión inicial:				13 pulg H2O			
Presión final:				13.2 pulg H2O			
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.1	24.4	458.5	0.947	4.6	1.128	1.132	1.129
OBSERVACIONES:							
* : No aplica.							



**Tabla 3.6. Concentración de PM<sub>10</sub> y el volumen muestreado de metales - alto volumen**

Evalución de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en junio de 2021

**PUNTO DE MONITOREO:** CA-SB-01

**CÓDIGO DE ACCIÓN:** 0003-6-2021-412

N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Tiempo o periodo de muestreo en minutos (t)	Flujo de muestreo, en m³/min (Qa)	Volumen de muestreo en m³ (Va)*	ΔPeso (µg) **	Concentración de partículas (µg/m³)
1	PM <sub>10</sub>	1-2-10514	21/06/2021 16:43	22/06/2021 16:42	1439	1.125	1619.29	22000	13.6
2		1-2-10515	22/06/2021 17:39	23/06/2021 17:30	1431	1.127	1612.96	25000	15.5
3		1-2-10516	23/06/2021 17:47	24/06/2021 17:18	1411	1.129	1592.65	27000	17.0
4		1-2-10517	24/06/2021 17:34	25/06/2021 17:31	1437	1.130	1624.07	34000	20.9
5		1-2-10518	25/06/2021 17:51	26/06/2021 17:51	1440	1.129	1626.13	31000	19.1

22  
25  
27  
34  
31

**OBSERVACIONES:**

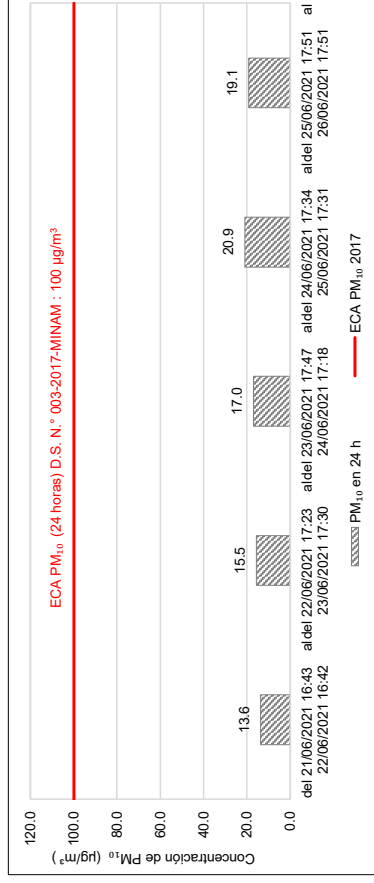
(\*) En el caso del material particulado y las sustancias que deben analizarse en la fase de partículas (metales, iones, carbonáceas, otros), el **volumen de muestreo** se debe expresar en las condiciones ambientales (volumen actual) en términos de temperatura ambiental y presión atmosférica promedio, medidas durante el periodo de muestreo, (Sección L.1.3 Cálculo de concentraciones señalada en el Protocolo de Monitoreo de la Calidad del aire del MINAM - D.S. N° 010-2019-MINAM).

(\*\*) Fuente: Informe de Ensayo MA2119223

\*. : No aplica.

PM <sub>10</sub> en 24 h	ECA PM <sub>10</sub> 2017
0	100
1	100

Fecha inicio Fecha final  
del 21/06/2021 16:43 al 22/06/2021 16:42  
del 22/06/2021 17:23 al 23/06/2021 17:30  
del 23/06/2021 17:47 al 24/06/2021 17:18  
del 24/06/2021 17:34 al 25/06/2021 17:31  
del 25/06/2021 17:51 al 26/06/2021 17:51



**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en junio de 2021

**PUNTO DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0003-6-2021-412

RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		21/06/2021	22/06/2021	23/06/2021	24/06/2021	25/06/2021	
Aluminio	Al	µg/mtra	100.982	162.852	139.714	161.149	169.476
Antimonio	Sb	µg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	µg/mtra	1.679	1.794	2.323	2.369	2.116
Bario	Ba	µg/mtra	1.517	4.681	2.565	2.128	2.749
Berilio	Be	µg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	µg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	µg/mtra	<1,506	2.243	2.956	4.474	<1,506
Cadmio	Cd	µg/mtra	<1,457	<1,457	<1,457	1.702	<1,457
Calcio	Ca	µg/mtra	728.721	834.912	734.471	860.165	911.616
Cobalto	Co	µg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	µg/mtra	4.278	<3,337	<3,337	<3,337	21.689
Cromo	Cr	µg/mtra	<1,586	<1,586	<1,586	<1,586	<1,586
Estaño	Sn	µg/mtra	<0,967	<0,967	<0,967	<0,967	<0,967
Estroncio	Sr	µg/mtra	<0,725	1.139	1.047	0.932	<0,725
Fósforo	P	µg/mtra	14.03	14.28	20.47	34.04	31.33
Hierro	Fe	µg/mtra	466.28	475.32	240.81	402.55	519.96
Litio	Li	µg/mtra	<0,449	<0,449	<0,449	<0,449	<0,449
Magnesio	Mg	µg/mtra	141.65	150.06	75.91	153.19	190.66
Manganeso	Mn	µg/mtra	62.227	54.084	38.352	51.900	53.486
Mercurio	Hg	µg/mtra	11.5575	2.9325	1.7595	0.6785	0.7705
Molibdeno	Mo	µg/mtra	<1,264	<1,264	<1,264	<1,264	<1,264
Níquel	Ni	µg/mtra	<1,411	<1,411	<1,411	<1,411	<1,411
Plata	Ag	µg/mtra	<0,576	0.610	<0,576	1.300	0.886
Plomo	Pb	µg/mtra	40.710	22.816	18.423	21.620	23.552
Potasio	K	µg/mtra	48.55	51.34	74.77	70.43	88.71
Selenio	Se	µg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	µg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	µg/mtra	17.0	<4,6	<4,6	<4,6	<4,6
Talio	Tl	µg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	µg/mtra	2.185	2.749	2.450	3.393	4.129
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	µg/mtra	45.52	40.66	21.64	20.19	50.07

<: Debajo del límite de detección

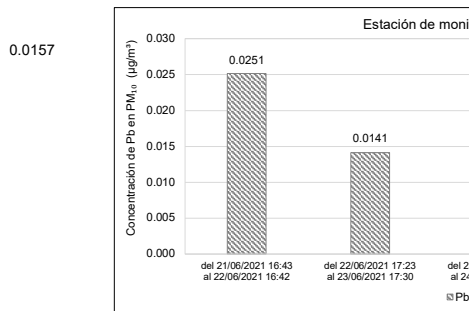
-: Sin dato

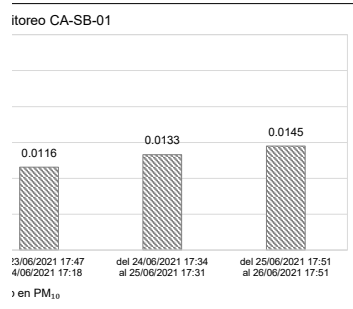
Fuente: Informe de Ensayo N° MA2119223 del laboratorio SGS del Perú S.A.C

CONCENTRACIÓN DE METALES							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		21/06/2021	22/06/2021	23/06/2021	24/06/2021	25/06/2021	
<b>Volumen de muestreo, en m<sup>3</sup> (Va)</b>		<b>1619.29</b>	<b>1612.96</b>	<b>1592.65</b>	<b>1624.07</b>	<b>1626.13</b>	
Aluminio	Al	µg/m <sup>3</sup>	0.0624	0.1010	0.0877	0.0992	0.1042
Antimonio	Sb	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Arsénico	As	µg/m <sup>3</sup>	0.0010	0.0011	0.0015	0.0015	0.0013
Bario	Ba	µg/m <sup>3</sup>	0.0009	0.0029	0.0016	0.0013	0.0017
Berilio	Be	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Bismuto	Bi	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Boro	B	µg/m <sup>3</sup>	<LC	0.0014	0.0019	0.0028	<LC
Cadmio	Cd	µg/m <sup>3</sup>	<LC	<LC	<LC	0.0010	<LC
Calcio	Ca	µg/m <sup>3</sup>	0.4500	0.5176	0.4612	0.5296	0.5606
Cobalto	Co	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Cobre	Cu	µg/m <sup>3</sup>	0.0026	<LC	<LC	<LC	0.0133
Cromo	Cr	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Estaño	Sn	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Estroncio	Sr	µg/m <sup>3</sup>	<LC	0.0007	0.0007	0.0006	<LC
Fósforo	P	µg/m <sup>3</sup>	0.0087	0.0089	0.0129	0.0210	0.0193
Hierro	Fe	µg/m <sup>3</sup>	0.2880	0.2947	0.1512	0.2479	0.3198
Litio	Li	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Magnesio	Mg	µg/m <sup>3</sup>	0.0875	0.0930	0.0477	0.0943	0.1172
Manganeso	Mn	µg/m <sup>3</sup>	0.0384	0.0335	0.0241	0.0320	0.0329
Mercurio	Hg	µg/m <sup>3</sup>	0.0071	0.0018	0.0011	0.0004	0.0005
Molibdeno	Mo	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Níquel	Ni	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Plata	Ag	µg/m <sup>3</sup>	<LC	0.0004	<LC	0.0008	0.0005
Plomo	Pb	µg/m <sup>3</sup>	0.0251	0.0141	0.0116	0.0133	0.0145
Potasio	K	µg/m <sup>3</sup>	0.0300	0.0318	0.0469	0.0434	0.0546
Selenio	Se	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Silicio	Si	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Sodio	Na	µg/m <sup>3</sup>	0.0105	<LC	<LC	<LC	<LC
Talio	Tl	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Titanio	Ti	µg/m <sup>3</sup>	0.0013	0.0017	0.0015	0.0021	0.0025
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Zinc	Zn	µg/m <sup>3</sup>	0.0281	0.0252	0.0136	0.0124	0.0308

< LD: Menor al límite de detección

CONCENTRACIÓN DE PLOMO MENSUAL (µg/m <sup>3</sup> )						
FECHA	21/06/2021	22/06/2021	23/06/2021	24/06/2021	25/06/2021	Promedio mensual (µg/m <sup>3</sup> )
<b>Volumen de muestreo (m<sup>3</sup>)</b>	<b>1619.29</b>	<b>1612.96</b>	<b>1592.65</b>	<b>1624.07</b>	<b>1626.13</b>	
Junio 2021	0.0251	0.0141	0.0116	0.0133	0.0145	0.0157





**Tabla 3.8. Volumen muestreado para metales en PM<sub>10</sub> a temperatura de 10°C**

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en junio de 2021

**PUNTO DE MONITOREO:**

CA-SB-01

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N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Periodo (minutos)	Temperatura ambiental (°C)	Presión ambiental (mm Hg)	Flujo de muestreo (m <sup>3</sup> /min)	Volumen de muestreo en m <sup>3</sup> (Va)	Volumen de muestreo a 10°C en m <sup>3</sup> (Va <sub>10°C</sub> )*
1	Metales en PM <sub>10</sub>	1-210514	21/06/2021 16:43	22/06/2021 16:42	1439	5.1	459.7	1.125	1619.29	996.47
2		1-210515	22/06/2021 17:39	23/06/2021 17:30	1431	4.1	459.7	1.127	1612.96	996.45
3		1-210516	23/06/2021 17:47	24/06/2021 17:18	1411	4.4	459.2	1.129	1592.65	981.77
4		1-210517	24/06/2021 17:34	25/06/2021 17:31	1437	5.1	458.9	1.130	1624.07	997.92
5		1-210518	25/06/2021 17:51	26/06/2021 17:51	1440	4.6	458.5	1.129	1626.13	999.92

**OBSERVACIONES:**

(\*) El cálculo de volumen muestreado para metales en PM<sub>10</sub>, se realizó en base a las condiciones de temperatura de 10°C (283,15 °K) y presión estándar (760 mmHg ó 1013,25 mBar), establecidas en la Norma referencial ONTARIO'S AMBIENT AIR QUALITY CRITERIA.  
 "-": No aplica.

TÍTULO DEL ESTUDIO:

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en junio de 2021

PUNTO DE MONITOREO:

CA-SB-01

CÓDIGO DE ACCIÓN:

0003-6-2021-412

RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		21/06/2021	22/06/2021	23/06/2021	24/06/2021	25/06/2021	
Aluminio	Al	µg/mtra	100.982	162.852	139.714	161.149	169.476
Antimonio	Sb	µg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	µg/mtra	1.679	1.794	2.323	2.369	2.116
Bario	Ba	µg/mtra	1.517	4.681	2.565	2.128	2.749
Berilio	Be	µg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	µg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	µg/mtra	<1,506	2.243	2.956	4.474	<1,506
Cadmio	Cd	µg/mtra	<1,457	<1,457	<1,457	1.702	<1,457
Calcio	Ca	µg/mtra	728.721	834.912	734.471	860.165	911.616
Cobalto	Co	µg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	µg/mtra	4.278	<3,337	<3,337	<3,337	21.689
Cromo	Cr	µg/mtra	<1,586	<1,586	<1,586	<1,586	<1,586
Estaño	Sn	µg/mtra	<0,967	<0,967	<0,967	<0,967	<0,967
Estroncio	Sr	µg/mtra	<0,725	1.139	1.047	0.932	<0,725
Fósforo	P	µg/mtra	14.03	14.28	20.47	34.04	31.33
Hierro	Fe	µg/mtra	466.28	475.32	240.81	402.55	519.96
Litio	Li	µg/mtra	<0,449	<0,449	<0,449	<0,449	<0,449
Magnesio	Mg	µg/mtra	141.65	150.06	75.91	153.19	190.66
Manganeso	Mn	µg/mtra	62.227	54.084	38.352	51.9	53.486
Mercurio	Hg	µg/mtra	11.5575	2.9325	1.7595	0.6785	0.7705
Molibdeno	Mo	µg/mtra	<1,264	<1,264	<1,264	<1,264	<1,264
Níquel	Ni	µg/mtra	<1,411	<1,411	<1,411	<1,411	<1,411
Plata	Ag	µg/mtra	<0,576	0.61	<0,576	1.3	0.886
Plomo	Pb	µg/mtra	40.71	22.816	18.423	21.62	23.552
Potasio	K	µg/mtra	48.55	51.34	74.77	70.43	88.71
Selenio	Se	µg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	µg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	µg/mtra	17	<4,6	<4,6	<4,6	<4,6
Talio	Tl	µg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	µg/mtra	2.185	2.749	2.45	3.393	4.129
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	µg/mtra	45.52	40.66	21.64	20.19	50.07

<: Debajo del límite de cuantificación

-: Sin dato

Fuente: Informe de Ensayo N° MA2119223 del laboratorio SGS del Perú S.A.C

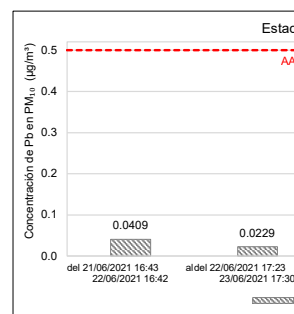
CONCENTRACIÓN DE METALES								
Metal medido en PM <sub>10</sub>	Unidad	Fecha					AAQC- Ontario	
		21/06/2021	22/06/2021	23/06/2021	24/06/2021	25/06/2021	Valor (µg/m³)	CASRN
Volumen de muestreo a 10°C en m³ (Va <sub>10°C</sub> )		996.47	996.45	981.77	997.92	999.92		
Aluminio	Al	µg/m³	0.1013	0.1634	0.1423	0.1615	0.1695	-
Antimonio	Sb	µg/m³	<LC	<LC	<LC	<LC	<LC	25
Arsénico	As	µg/m³	0.0017	0.0018	0.0024	0.0024	0.0021	0.3
Bario	Ba	µg/m³	0.0015	0.0047	0.0026	0.0021	0.0027	-
Berilio	Be	µg/m³	<LC	<LC	<LC	<LC	<LC	0.01
Bismuto	Bi	µg/m³	<LC	<LC	<LC	<LC	<LC	-
Boro	B	µg/m³	<LC	0.0023	0.0030	0.0045	<LC	120
Cadmio	Cd	µg/m³	<LC	<LC	<LC	0.0017	<LC	0.025
Calcio	Ca	µg/m³	0.7313	0.8379	0.7481	0.8620	0.9117	-
Cobalto	Co	µg/m³	<LC	<LC	<LC	<LC	<LC	0.1
Cobre	Cu	µg/m³	0.0043	<LC	<LC	<LC	0.0217	50
Cromo	Cr	µg/m³	<LC	<LC	<LC	<LC	<LC	0.5
Estaño	Sn	µg/m³	<LC	<LC	<LC	<LC	<LC	10
Estroncio	Sr	µg/m³	<LC	0.0011	0.0011	0.0009	<LC	120
Fósforo	P	µg/m³	0.0141	0.0143	0.0209	0.0341	0.0313	-
Hierro	Fe	µg/m³	0.4679	0.4770	0.2453	0.4034	0.5200	4
Litio	Li	µg/m³	<LC	<LC	<LC	<LC	<LC	-
Magnesio	Mg	µg/m³	0.1422	0.1506	0.0773	0.1535	0.1907	-
Manganeso	Mn	µg/m³	0.0624	0.0543	0.0391	0.0520	0.0535	0.2
Mercurio	Hg	µg/m³	0.0116	0.0029	0.0018	0.0007	0.0008	2
Molibdeno	Mo	µg/m³	<LC	<LC	<LC	<LC	<LC	120
Níquel	Ni	µg/m³	<LC	<LC	<LC	<LC	<LC	0.1
Plata	Ag	µg/m³	<LC	0.0006	<LC	0.0013	0.0009	1
Plomo	Pb	µg/m³	0.0409	0.0229	0.0188	0.0217	0.0236	0.5
Potasio	K	µg/m³	0.0487	0.0515	0.0762	0.0706	0.0887	-
Selenio	Se	µg/m³	<LC	<LC	<LC	<LC	<LC	10
Silicio	Si	µg/m³	<LC	<LC	<LC	<LC	<LC	-
Sodio	Na	µg/m³	0.0171	<LC	<LC	<LC	<LC	-
Talio	Tl	µg/m³	<LC	<LC	<LC	<LC	<LC	-
Titanio	Ti	µg/m³	0.0022	0.0028	0.0025	0.0034	0.0041	120
Uranio	U	µg/m³	-	-	-	-	-	0.15
Vanadio	V	µg/m³	<LC	<LC	<LC	<LC	<LC	2
Zinc	Zn	µg/m³	0.0457	0.0408	0.0220	0.0202	0.0501	120

< LC: Menor al límite de cuantificación

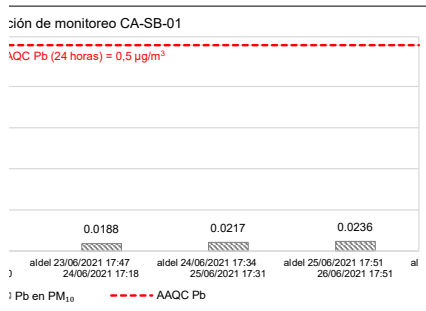
-: Sin dato

Pb en PM <sub>10</sub>	AAQC Pb
0	0.5
1	0.5

Fecha inicio	Fecha fin
del 21/06/2021 16:43	al 22/06/2021 17:23
del 22/06/2021 17:23	al 23/06/2021 17:47
del 23/06/2021 17:47	al 24/06/2021 17:34
del 24/06/2021 17:34	al 25/06/2021 17:51
del 25/06/2021 17:51	al 26/06/2021 17:30



inal  
3/2021 16:42  
3/2021 17:30  
3/2021 17:18  
3/2021 17:31  
3/2021 17:51





**Tabla 3.1. Concentraciones horarias y 24 horas de PM<sub>10</sub>**

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en julio de 2021

**ESTACIÓN DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0001-7-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:** Monitor automático de partículas

Thermo Scientific

**MODELO:**

TEOM 1405

**MARCA:**

1405A208321003

**SERIE:**

Hora/Día	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
00:00	13.0	30.1	41.5	64.4	21.5	76.5	63.5	52.3	58.2	24.2	41.7	17.5	4.1	7.2	16.2	28.3	28.1	19.9	6.4	8.2	6.0	9.3	35.1	24.6	26.4	29.6	28.0	22.9	20.4	9.6	9.1
01:00	14.7	39.2	43.2	47.8	25.6	53.1	57.0	47.0	57.0	17.4	28.5	15.6	2.2	12.4	22.1	16.0	25.0	13.4	1.9	7.9	7.4	6.1	12.8	26.2	31.1	25.8	22.6	21.7	16.6	7.2	9.5
02:00	22.5	40.8	41.3	51.5	43.5	32.6	46.1	40.0	69.0	29.4	23.9	14.2	3.8	22.4	30.6	17.5	24.7	9.7	3.0	ID	7.6	5.3	8.1	20.1	28.7	33.3	11.6	13.3	14.5	5.5	8.2
03:00	47.6	39.0	32.6	45.9	54.9	18.8	46.6	36.8	62.5	52.7	12.4	9.1	8.5	22.8	29.1	11.0	22.2	9.7	ID	5.4	4.1	4.3	9.1	24.2	38.6	23.8	8.0	18.9	16.5	6.0	6.0
04:00	43.0	43.0	39.9	52.5	27.7	16.9	49.2	46.5	51.2	56.2	30.3	23.2	12.7	16.9	28.3	13.2	27.3	7.9	4.3	22.8	9.1	9.4	10.6	36.1	45.5	29.9	10.3	15.6	16.3	5.6	5.4
05:00	46.1	45.4	74.0	49.9	23.6	18.8	70.1	61.9	78.6	48.2	22.8	28.7	9.0	15.9	8.6	19.5	29.2	20.6	7.9	22.9	9.3	6.5	13.3	55.7	46.9	46.4	15.2	17.0	15.9	7.0	9.1
06:00	18.0	46.2	77.7	47.5	32.5	14.7	100.9	78.9	78.6	43.3	25.5	42.1	22.0	17.7	7.1	23.6	28.9	30.3	14.2	16.2	14.3	9.7	13.2	109.7	48.3	104.8	16.8	21.4	20.0	6.4	11.7
07:00	16.8	34.3	110.1	51.3	36.1	21.7	159.9	120.4	49.4	21.2	48.0	45.0	28.1	29.7	13.6	53.2	18.2	29.7	28.5	27.8	16.3	9.3	17.6	63.0	54.9	121.4	25.0	31.6	19.5	7.6	12.1
08:00	16.3	29.6	90.8	52.3	34.2	25.4	76.6	85.3	74.3	36.2	35.4	35.6	23.6	53.0	10.8	73.3	25.2	31.8	24.1	40.9	25.7	16.7	23.7	49.8	66.1	66.8	24.6	22.7	25.1	15.2	16.3
09:00	3.4	ID	ID	ID	28.3	41.4	ID	27.4	24.0	52.9	12.9	21.2	ID	63.0	ID	ID	44.8	46.7	37.0	19.5	13.7	48.6	31.1	72.3	34.4	38.3	27.1	30.7	32.0	15.6	20.9
10:00	ID	LD	LD	ID	23.6	ID	LD	ID	ID	41.9	27.9	29.3	8.3	56.1	ID	VF	53.3	41.3	12.0	17.3	3.9	59.8	32.5	36.8	35.9	8.7	26.8	51.8	27.1	20.4	17.4
11:00	20.8	8.2	ID	ID	58.1	60.1	18.0	11.8	16.6	25.7	28.4	30.4	14.7	50.5	ID	VF	34.2	28.7	14.9	24.7	7.0	24.0	29.3	16.6	22.1	17.8	23.5	34.5	30.2	14.2	19.0
12:00	18.1	21.1	19.1	14.6	14.2	38.1	20.0	26.4	20.5	34.3	21.5	27.1	20.7	49.7	MA	VF	27.8	30.4	15.2	20.8	16.5	29.3	19.4	19.9	21.0	23.6	40.0	31.4	23.1	12.4	17.0
13:00	13.9	24.0	24.3	9.2	18.8	27.4	25.2	24.5	28.4	29.0	30.9	13.4	27.4	39.8	MA	VF	14.0	43.0	12.5	18.3	13.3	22.3	15.2	21.9	21.5	29.5	40.8	28.9	20.2	8.1	16.0
14:00	24.5	29.5	16.9	13.4	19.2	19.2	21.7	18.4	32.3	31.8	32.4	25.9	35.1	51.9	MA	VF	25.6	20.0	30.6	21.2	12.1	40.0	20.7	37.1	20.1	28.0	29.4	25.9	26.6	12.9	17.6
15:00	15.5	24.5	18.1	25.8	20.1	18.3	24.6	27.7	47.0	35.8	37.6	35.8	66.7	49.8	ID	VF	39.7	35.2	27.4	18.7	22.7	36.0	24.1	30.3	23.7	28.2	19.1	32.7	21.4	19.3	21.4
16:00	23.2	22.3	29.6	27.4	35.3	33.2	25.7	31.7	44.8	58.9	18.5	41.9	57.5	51.9	36.6	26.2	48.8	50.6	26.6	34.1	37.4	25.3	28.6	25.2	44.1	44.5	39.1	32.9	31.4	21.9	35.2
17:00	25.9	26.9	29.3	23.3	39.6	44.1	42.6	34.5	58.2	47.9	23.8	36.3	42.6	34.0	55.2	33.5	35.3	40.0	29.2	33.0	22.2	48.8	32.5	40.1	51.9	52.9	37.2	38.2	34.3	31.3	
18:00	38.2	44.3	51.2	39.4	71.2	51.0	64.0	96.1	67.1	60.1	31.3	24.7	39.2	47.4	67.8	37.8	46.9	18.8	33.8	41.0	37.7	32.0	48.1	71.8	69.7	72.0	55.6	36.7	39.2	40.8	42.8
19:00	37.8	45.4	66.3	60.0	78.8	74.4	72.0	98.0	90.5	58.0	32.1	29.3	52.8	69.3	72.4	45.7	73.3	29.2	34.5	22.4	30.7	31.8	50.2	65.0	73.0	78.3	55.5	61.4	48.6	39.9	40.0
20:00	36.6	55.8	94.0	98.0	72.2	85.3	69.2	70.7	77.3	44.8	39.2	22.0	38.9	50.0	83.1	42.2	61.5	32.0	25.3	17.6	24.7	33.5	40.5	49.3	65.0	64.2	44.3	47.7	35.5	32.2	32.0
21:00	53.0	52.0	80.1	104.1	74.2	64.6	71.1	73.6	67.5	36.7	20.8	13.5	21.9	39.2	77.7	49.2	55.9	24.1	26.6	17.0	20.7	34.9	33.4	44.4	52.2	54.5	45.4	36.1	31.0	17.6	28.8
22:00	45.4	46.7	70.2	61.3	71.9	68.4	63.0	62.9	56.0	30.4	14.2	5.7	20.4	19.7	38.6	38.4	40.9	17.2	17.3	7.6	12.7	24.2	28.2	32.8	49.9	46.5	36.4	26.8	32.3	10.5	16.9
23:00	30.2	40.6	73.3	33.1	74.1	56.8	57.8	70.8	38.8	36.8	13.9	8.6	17.2	16.7	32.2	32.9	29.2	14.6	9.7	5.2	10.1	34.5	25.6	35.9	37.4	39.0	37.4	22.6	18.3	10.7	13.6
<b>Promedio de PM<sub>10</sub> en 24 h</b>	<b>27.2</b>	<b>35.9</b>	<b>53.5</b>	<b>46.3</b>	<b>41.6</b>	<b>41.8</b>	<b>56.6</b>	<b>54.2</b>	<b>54.3</b>	<b>39.7</b>	<b>27.2</b>	<b>24.8</b>	<b>25.1</b>	<b>37.0</b>	<b>ID</b>	<b>ID</b>	<b>35.8</b>	<b>26.8</b>	<b>19.3</b>	<b>20.5</b>	<b>16.0</b>	<b>25.1</b>	<b>25.1</b>	<b>42.0</b>	<b>42.0</b>	<b>46.2</b>	<b>30.7</b>	<b>30.1</b>	<b>25.8</b>	<b>15.9</b>	<b>19.1</b>
<b>ECA aire de PM<sub>10</sub></b>	<b>100 µg/m³ en periodo de 24 horas</b>																														

ID: Insuficiencia de datos por no cumplir con la mínima suficiencia de datos para calcular el promedio de 1 o 24 horas (45 minutos o 18 horas)

LD: Dato que es menor al límite de detección del equipo

MA: Dato no registrado por mantenimiento del equipo

VF: Dato no registrado por verificación del equipo

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en julio de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0001-7-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:** Estación meteorológica **MARCA:** Campbell

**MODELO:** CR1000 **SERIE:** 30825

FECHA Y HORA	Presión atmosférica (mmHg)	Precipitación (mm)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)	Dirección de Viento (°)
1/07/2021 00:00	459.4	0.0	2.2	97.0	0.5	29.6
1/07/2021 01:00	459.2	0.0	1.2	98.2	0.4	59.8
1/07/2021 02:00	459.0	0.0	0.4	99.3	0.1	115.5
1/07/2021 03:00	458.8	0.0	0.1	99.3	0.0	190.9
1/07/2021 04:00	458.8	0.0	-0.9	99.3	0.2	67.7
1/07/2021 05:00	458.9	0.0	-1.4	99.3	0.4	347.8
1/07/2021 06:00	459.1	0.0	-1.5	99.4	0.3	333.4
1/07/2021 07:00	459.4	0.0	-1.5	99.4	0.3	199.7
1/07/2021 08:00	459.9	0.0	-0.6	99.4	0.6	182.8
1/07/2021 09:00	460.0	0.0	0.7	99.4	1.0	193.7
1/07/2021 10:00	460.0	0.0	3.4	86.8	1.3	195.8
1/07/2021 11:00	459.8	0.0	5.9	53.8	1.2	215.9
1/07/2021 12:00	459.4	0.0	8.7	34.6	1.2	43.6
1/07/2021 13:00	459.0	0.0	8.7	34.0	1.0	23.3
1/07/2021 14:00	458.6	0.0	9.4	32.5	1.0	44.7
1/07/2021 15:00	458.4	0.0	9.3	33.0	2.0	357.1
1/07/2021 16:00	458.5	0.0	8.6	38.5	2.0	358.4
1/07/2021 17:00	458.7	0.0	6.9	51.0	1.7	359.3
1/07/2021 18:00	459.1	0.0	4.7	72.7	1.9	11.5
1/07/2021 19:00	459.5	0.0	3.5	79.6	1.6	46.9
1/07/2021 20:00	459.7	0.0	2.5	81.6	1.7	46.7
1/07/2021 21:00	460.0	0.0	1.7	80.0	1.3	53.5
1/07/2021 22:00	460.1	0.0	1.3	73.4	0.2	332.4
1/07/2021 23:00	460.1	0.0	1.2	75.1	0.1	277.8
2/07/2021 00:00	459.9	0.0	0.4	85.2	0.2	205.5
2/07/2021 01:00	459.6	0.0	-0.4	90.0	0.0	224.3
2/07/2021 02:00	459.3	0.0	-0.8	89.2	0.0	195.6
2/07/2021 03:00	459.2	0.0	-1.7	91.8	0.0	0.0
2/07/2021 04:00	459.3	0.0	-1.8	96.1	0.0	242.0
2/07/2021 05:00	459.5	0.0	-1.8	92.4	0.0	0.0
2/07/2021 06:00	459.7	0.0	-2.0	92.5	0.1	243.3
2/07/2021 07:00	460.1	0.0	-0.8	86.5	0.4	215.6
2/07/2021 08:00	460.5	0.0	1.6	76.3	0.7	222.5
2/07/2021 09:00	460.7	0.0	3.4	62.8	1.0	211.3
2/07/2021 10:00	460.6	0.0	5.6	47.8	0.8	352.7
2/07/2021 11:00	460.3	0.0	8.0	27.4	1.8	2.6
2/07/2021 12:00	459.9	0.0	9.0	26.3	1.9	6.6
2/07/2021 13:00	459.6	0.0	9.4	25.4	2.1	7.9
2/07/2021 14:00	459.3	0.0	9.5	26.3	2.0	5.4
2/07/2021 15:00	459.1	0.0	9.8	27.3	1.6	5.9
2/07/2021 16:00	459.3	0.0	8.4	30.6	2.4	351.7
2/07/2021 17:00	459.5	0.0	6.4	38.0	1.8	0.5
2/07/2021 18:00	459.9	0.0	4.8	47.3	1.5	2.6
2/07/2021 19:00	460.1	0.0	3.5	57.4	1.5	4.8
2/07/2021 20:00	460.4	0.0	2.4	65.6	1.3	349.3
2/07/2021 21:00	460.6	0.0	1.7	71.2	1.2	357.6
2/07/2021 22:00	460.6	0.0	1.2	73.3	0.8	1.2
2/07/2021 23:00	460.5	0.0	0.2	78.5	0.5	334.0
3/07/2021 00:00	460.3	0.0	-0.7	83.2	0.0	0.0
3/07/2021 01:00	460.0	0.0	-1.2	86.5	0.3	204.2
3/07/2021 02:00	459.8	0.0	-2.0	91.6	0.0	244.4
3/07/2021 03:00	459.6	0.0	-2.4	87.3	0.0	0.0
3/07/2021 04:00	459.7	0.0	-3.0	89.6	0.0	0.0
3/07/2021 05:00	460.0	0.0	-3.5	92.5	0.0	177.0
3/07/2021 06:00	460.4	0.0	-3.8	93.2	0.1	187.5
3/07/2021 07:00	460.9	0.0	-2.7	89.4	0.6	189.5
3/07/2021 08:00	461.2	0.0	0.5	76.0	0.8	209.1
3/07/2021 09:00	461.4	0.0	2.9	64.0	1.2	196.4
3/07/2021 10:00	461.3	0.0	5.8	40.5	1.1	331.6
3/07/2021 11:00	461.1	0.0	8.0	19.4	1.8	16.0
3/07/2021 12:00	460.6	0.0	9.0	22.7	1.4	35.0
3/07/2021 13:00	460.2	0.0	9.1	23.0	1.7	14.8
3/07/2021 14:00	459.9	0.0	9.6	22.6	1.4	358.7



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	3/07/2021 15:00	459.6	0.0	9.1	25.0	2.0	7.7
	3/07/2021 16:00	459.6	0.0	8.0	28.6	2.3	348.5
	3/07/2021 17:00	459.8	0.0	5.9	37.5	1.9	5.4
	3/07/2021 18:00	460.2	0.0	3.9	51.4	1.8	0.3
	3/07/2021 19:00	460.3	0.0	2.7	63.0	1.0	30.0
	3/07/2021 20:00	460.6	0.0	1.6	77.5	1.1	49.6
	3/07/2021 21:00	460.7	0.0	1.0	79.4	0.4	358.7
	3/07/2021 22:00	460.7	0.0	0.1	80.9	0.5	216.5
	3/07/2021 23:00	460.6	0.0	-0.6	83.7	0.2	198.9
	4/07/2021 00:00	460.4	0.0	-0.9	83.1	0.0	259.7
	4/07/2021 01:00	460.1	0.0	-1.3	85.4	0.2	202.0
	4/07/2021 02:00	459.7	0.0	-2.0	89.1	0.2	198.5
	4/07/2021 03:00	459.6	0.0	-2.2	88.1	0.4	194.3
	4/07/2021 04:00	459.6	0.0	-3.0	92.8	0.3	181.9
	4/07/2021 05:00	459.8	0.0	-3.2	92.4	0.4	200.5
	4/07/2021 06:00	460.0	0.0	-4.3	95.3	0.2	181.2
	4/07/2021 07:00	460.3	0.0	-2.5	94.1	0.4	192.0
	4/07/2021 08:00	460.6	0.0	1.1	77.0	1.0	193.9
	4/07/2021 09:00	460.7	0.0	3.0	65.2	1.4	204.9
	4/07/2021 10:00	460.7	0.0	5.3	43.2	1.3	219.9
	4/07/2021 11:00	460.4	0.0	7.7	28.0	1.1	113.5
	4/07/2021 12:00	460.0	0.0	9.6	18.8	1.2	329.8
	4/07/2021 13:00	459.6	0.0	10.6	18.0	1.4	353.9
	4/07/2021 14:00	459.2	0.0	10.7	19.8	2.1	340.9
	4/07/2021 15:00	459.0	0.0	10.8	23.1	1.9	353.3
	4/07/2021 16:00	459.0	0.0	9.8	23.8	2.0	355.7
	4/07/2021 17:00	459.1	0.0	7.8	30.4	1.8	359.2
	4/07/2021 18:00	459.4	0.0	5.6	42.1	1.4	356.0
	4/07/2021 19:00	459.7	0.0	4.2	55.8	1.0	34.7
	4/07/2021 20:00	460.0	0.0	2.6	77.7	0.9	57.3
	4/07/2021 21:00	460.2	0.0	1.3	98.3	0.8	357.1
	4/07/2021 22:00	460.4	0.0	1.6	99.3	0.6	9.5
	4/07/2021 23:00	460.4	0.0	1.9	91.1	0.9	357.0
	5/07/2021 00:00	460.2	0.0	1.6	87.3	0.5	326.9
	5/07/2021 01:00	459.9	0.0	0.6	91.3	0.3	297.2
	5/07/2021 02:00	459.7	0.0	-0.3	97.6	0.6	205.7
	5/07/2021 03:00	459.5	0.0	-1.7	99.3	0.6	210.1
	5/07/2021 04:00	459.5	0.0	-2.5	99.4	0.5	190.0
	5/07/2021 05:00	459.7	0.0	-3.1	99.4	0.9	185.9
	5/07/2021 06:00	460.1	0.0	-3.1	99.4	0.6	236.3
	5/07/2021 07:00	460.4	0.0	-2.4	99.4	0.5	198.9
	5/07/2021 08:00	460.7	0.0	-1.9	99.4	0.8	195.1
	5/07/2021 09:00	460.8	0.0	0.2	99.4	1.1	194.6
	5/07/2021 10:00	460.6	0.0	4.7	79.7	1.5	194.1
	5/07/2021 11:00	460.2	0.0	9.6	34.6	1.3	4.4
	5/07/2021 12:00	459.9	0.0	10.7	29.1	1.7	359.5
	5/07/2021 13:00	459.4	0.0	11.5	28.7	1.8	9.4
	5/07/2021 14:00	459.0	0.0	11.6	27.7	2.3	350.0
	5/07/2021 15:00	458.9	0.0	11.6	28.8	2.1	353.1
	5/07/2021 16:00	458.9	0.0	10.7	32.2	2.5	348.3
	5/07/2021 17:00	459.2	0.0	8.0	44.3	2.3	4.4
	5/07/2021 18:00	459.6	0.0	5.6	65.2	1.7	11.1
	5/07/2021 19:00	459.9	0.0	3.9	83.9	1.4	47.7
	5/07/2021 20:00	460.2	0.0	3.1	89.0	0.7	47.8
	5/07/2021 21:00	460.6	0.0	2.2	95.5	0.6	332.0
	5/07/2021 22:00	460.6	0.0	2.0	95.8	0.0	171.8
	5/07/2021 23:00	460.5	0.0	1.5	94.4	0.1	349.7
	6/07/2021 00:00	460.4	0.0	1.1	95.3	0.0	195.0
	6/07/2021 01:00	460.3	0.0	-0.7	98.2	0.3	214.2
	6/07/2021 02:00	460.0	0.0	-1.2	99.3	0.5	209.2
	6/07/2021 03:00	459.9	0.0	-1.6	99.4	0.2	201.3
	6/07/2021 04:00	459.8	0.0	-1.7	99.4	0.3	181.1
	6/07/2021 05:00	460.0	0.0	-2.3	99.4	0.6	198.7
	6/07/2021 06:00	460.3	0.0	-2.5	99.4	0.6	242.2
	6/07/2021 07:00	460.5	0.0	-2.1	99.4	0.7	197.2
	6/07/2021 08:00	460.8	0.0	-1.7	99.4	0.9	218.8
	6/07/2021 09:00	461.0	0.0	-0.2	99.4	1.1	207.6
	6/07/2021 10:00	460.8	0.0	3.0	98.5	1.3	203.6
	6/07/2021 11:00	460.4	0.0	7.4	55.7	1.3	244.7
	6/07/2021 12:00	459.9	0.0	10.6	29.4	1.6	0.0
	6/07/2021 13:00	459.4	0.0	11.5	27.9	1.6	9.1
	6/07/2021 14:00	459.0	0.0	11.6	26.6	1.7	356.1
	6/07/2021 15:00	458.7	0.0	11.6	26.2	1.6	353.5
	6/07/2021 16:00	458.7	0.0	10.6	31.2	1.9	359.0
	6/07/2021 17:00	458.7	0.0	8.0	39.7	1.8	3.5
	6/07/2021 18:00	458.8	0.0	6.1	51.3	1.5	9.7
	6/07/2021 19:00	459.0	0.0	5.0	59.5	0.9	37.5
	6/07/2021 20:00	459.3	0.0	3.9	66.0	0.4	32.3
	6/07/2021 21:00	459.5	0.0	3.2	73.7	0.3	75.1
	6/07/2021 22:00	459.5	0.0	2.7	81.9	0.3	324.9
	6/07/2021 23:00	459.5	0.0	1.8	87.5	0.1	297.1
	7/07/2021 00:00	459.4	0.0	1.1	90.4	0.0	205.9
	7/07/2021 01:00	459.1	0.0	0.5	90.7	0.0	0.0
	7/07/2021 02:00	458.8	0.0	-0.3	92.2	0.0	0.0
	7/07/2021 03:00	458.6	0.0	-0.8	93.8	0.2	200.2
	7/07/2021 04:00	458.6	0.0	-1.7	94.5	0.0	0.0
	7/07/2021 05:00	458.8	0.0	-2.3	95.6	0.0	0.0
	7/07/2021 06:00	459.0	0.0	-2.5	96.2	0.0	0.0
	7/07/2021 07:00	459.2	0.0	-1.0	95.2	0.1	157.7

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	7/07/2021 08:00	459.6	0.0	2.5	77.6	1.0	194.0
	7/07/2021 09:00	459.8	0.0	5.9	52.5	0.9	7.3
	7/07/2021 10:00	459.7	0.0	7.9	37.5	1.1	23.5
	7/07/2021 11:00	459.4	0.0	9.5	31.2	1.4	23.1
	7/07/2021 12:00	459.0	0.0	10.8	29.2	1.5	8.8
	7/07/2021 13:00	458.5	0.0	11.2	28.8	1.9	3.3
	7/07/2021 14:00	458.0	0.0	11.3	26.5	2.0	353.8
	7/07/2021 15:00	457.6	0.0	11.3	23.3	2.2	348.7
	7/07/2021 16:00	457.6	0.0	10.5	26.3	2.1	357.9
	7/07/2021 17:00	457.7	0.0	7.8	41.3	2.1	5.7
	7/07/2021 18:00	458.0	0.0	5.4	57.8	1.8	4.8
	7/07/2021 19:00	458.3	0.0	4.4	64.0	1.1	358.7
	7/07/2021 20:00	458.5	0.0	3.3	68.8	0.4	28.7
	7/07/2021 21:00	458.8	0.0	2.7	73.1	0.4	57.0
	7/07/2021 22:00	459.0	0.0	1.9	76.6	0.2	31.4
	7/07/2021 23:00	459.1	0.0	1.5	78.2	0.2	325.1
	8/07/2021 00:00	459.1	0.0	0.8	81.3	0.3	326.9
	8/07/2021 01:00	458.8	0.0	0.0	84.8	0.3	320.6
	8/07/2021 02:00	458.6	0.0	-0.3	76.4	0.1	336.6
	8/07/2021 03:00	458.4	0.0	-1.1	78.2	0.0	247.9
	8/07/2021 04:00	458.4	0.0	-1.7	83.8	0.2	189.3
	8/07/2021 05:00	458.6	0.0	-2.5	85.2	0.0	323.9
	8/07/2021 06:00	458.8	0.0	-2.7	90.1	0.1	185.8
	8/07/2021 07:00	459.2	0.0	-1.2	80.6	0.3	171.7
	8/07/2021 08:00	459.7	0.0	2.7	51.7	0.6	205.1
	8/07/2021 09:00	459.9	0.0	5.0	46.5	0.8	230.8
	8/07/2021 10:00	459.8	0.0	7.7	33.7	0.9	22.4
	8/07/2021 11:00	459.5	0.0	9.2	30.4	1.4	4.5
	8/07/2021 12:00	459.1	0.0	10.5	28.4	1.8	12.6
	8/07/2021 13:00	458.7	0.0	10.9	27.6	1.9	4.9
	8/07/2021 14:00	458.2	0.0	11.0	27.6	1.6	353.7
	8/07/2021 15:00	457.9	0.0	10.3	30.4	1.6	355.6
	8/07/2021 16:00	457.7	0.0	10.3	31.0	2.0	358.4
	8/07/2021 17:00	457.9	0.0	8.3	36.7	1.6	352.8
	8/07/2021 18:00	458.1	0.0	6.4	46.3	0.9	357.6
	8/07/2021 19:00	458.5	0.0	5.1	54.2	0.6	39.3
	8/07/2021 20:00	458.9	0.0	4.1	64.3	0.8	51.7
	8/07/2021 21:00	459.3	0.0	2.8	79.8	0.2	55.2
	8/07/2021 22:00	459.4	0.0	2.4	89.6	0.1	233.2
	8/07/2021 23:00	459.5	0.0	1.9	91.0	0.2	288.3
	9/07/2021 00:00	459.4	0.0	1.1	92.7	0.0	0.0
	9/07/2021 01:00	459.1	0.0	0.7	91.8	0.0	176.3
	9/07/2021 02:00	458.9	0.0	0.1	93.2	0.1	184.9
	9/07/2021 03:00	458.6	0.0	-1.0	94.9	0.2	178.1
	9/07/2021 04:00	458.5	0.0	-1.7	98.8	0.0	0.0
	9/07/2021 05:00	458.7	0.0	-1.7	97.5	0.1	137.9
	9/07/2021 06:00	458.9	0.0	-3.1	99.3	0.3	182.1
	9/07/2021 07:00	459.2	0.0	-3.3	99.3	0.5	162.5
	9/07/2021 08:00	459.5	0.0	0.3	96.3	0.7	183.8
	9/07/2021 09:00	459.6	0.0	3.9	78.7	1.1	197.1
	9/07/2021 10:00	459.6	0.0	6.8	60.5	1.5	205.3
	9/07/2021 11:00	459.4	0.0	9.1	42.9	1.1	304.6
	9/07/2021 12:00	459.0	0.0	11.1	30.5	1.0	54.6
	9/07/2021 13:00	458.6	0.0	11.5	32.4	1.2	28.4
	9/07/2021 14:00	458.0	0.0	11.9	33.7	2.1	351.8
	9/07/2021 15:00	457.7	0.0	11.8	34.3	2.3	353.1
	9/07/2021 16:00	457.8	0.0	10.8	38.4	2.3	352.2
	9/07/2021 17:00	458.2	0.0	8.8	53.6	1.6	7.3
	9/07/2021 18:00	458.6	0.0	6.4	69.5	1.1	6.2
	9/07/2021 19:00	459.0	0.0	5.0	81.7	0.8	20.3
	9/07/2021 20:00	459.2	0.0	4.5	85.4	0.4	19.2
	9/07/2021 21:00	459.5	0.0	3.6	94.6	0.6	18.4
	9/07/2021 22:00	459.6	0.0	3.5	97.6	0.9	5.9
	9/07/2021 23:00	459.6	0.0	3.4	96.3	0.6	17.6
	10/07/2021 00:00	459.4	0.0	3.5	90.5	0.8	9.2
	10/07/2021 01:00	459.0	0.0	3.0	85.3	0.2	329.2
	10/07/2021 02:00	458.6	0.0	2.2	91.5	0.2	324.9
	10/07/2021 03:00	458.5	0.0	1.5	97.1	0.0	0.0
	10/07/2021 04:00	458.4	0.0	1.0	99.1	0.3	212.7
	10/07/2021 05:00	458.7	0.0	-0.4	99.3	0.3	208.2
	10/07/2021 06:00	458.9	0.0	-0.8	99.4	0.6	181.2
	10/07/2021 07:00	459.2	0.0	-1.5	99.4	0.4	169.0
	10/07/2021 08:00	459.4	0.0	0.8	99.4	0.6	190.5
	10/07/2021 09:00	459.6	0.0	3.9	90.2	1.3	201.8
	10/07/2021 10:00	459.3	0.0	7.7	58.4	1.0	162.3
	10/07/2021 11:00	459.2	0.0	9.8	41.5	1.2	29.0
	10/07/2021 12:00	458.8	0.0	10.9	39.6	1.9	16.2
	10/07/2021 13:00	458.3	0.0	11.7	36.3	1.8	18.5
	10/07/2021 14:00	457.9	0.0	11.1	37.5	1.7	11.6
	10/07/2021 15:00	457.6	0.0	10.3	44.0	2.2	2.1
	10/07/2021 16:00	457.6	0.0	9.4	53.7	2.2	1.9
	10/07/2021 17:00	457.8	0.0	7.5	62.9	1.7	6.5
	10/07/2021 18:00	458.2	0.0	5.6	77.4	1.6	3.5
	10/07/2021 19:00	458.6	0.0	4.4	90.4	1.4	7.6
	10/07/2021 20:00	459.0	0.0	3.8	94.8	1.0	357.8
	10/07/2021 21:00	459.5	0.0	3.8	95.3	0.7	5.6
	10/07/2021 22:00	459.4	0.0	3.6	95.1	0.5	6.9
	10/07/2021 23:00	459.2	0.0	3.0	96.4	0.2	31.9
	11/07/2021 00:00	459.3	0.0	1.6	98.2	0.7	213.8

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11/07/2021 01:00	459.0	0.0	1.0	99.4	0.4	162.3
11/07/2021 02:00	458.6	0.0	0.1	99.4	0.8	332.4
11/07/2021 03:00	458.5	0.0	-0.1	99.4	0.5	9.2
11/07/2021 04:00	458.7	0.0	0.9	99.4	0.3	176.8
11/07/2021 05:00	458.7	0.0	1.4	99.4	0.3	184.4
11/07/2021 06:00	458.8	0.0	2.0	99.3	0.4	34.0
11/07/2021 07:00	459.1	0.0	3.2	91.8	0.4	3.6
11/07/2021 08:00	459.4	0.0	4.9	80.0	0.5	9.6
11/07/2021 09:00	459.5	0.0	5.7	75.9	1.2	14.7
11/07/2021 10:00	459.5	0.0	7.5	61.9	1.0	35.9
11/07/2021 11:00	459.4	0.0	8.7	55.1	1.2	26.8
11/07/2021 12:00	459.0	0.0	10.1	48.9	1.7	6.5
11/07/2021 13:00	458.6	0.0	9.6	55.2	1.9	16.2
11/07/2021 14:00	458.2	0.0	8.3	67.4	1.5	37.4
11/07/2021 15:00	458.1	0.0	6.3	84.1	1.2	32.8
11/07/2021 16:00	458.1	0.0	6.6	79.3	1.9	5.0
11/07/2021 17:00	458.2	0.0	5.0	89.8	1.9	3.9
11/07/2021 18:00	458.3	0.0	4.0	94.5	1.0	25.8
11/07/2021 19:00	458.5	0.0	3.8	94.3	1.0	28.5
11/07/2021 20:00	458.8	0.0	3.7	95.4	0.9	8.8
11/07/2021 21:00	459.1	0.0	3.6	94.3	0.8	4.7
11/07/2021 22:00	459.3	0.0	3.1	98.1	0.8	351.9
11/07/2021 23:00	459.1	0.0	2.9	98.0	0.7	9.3
12/07/2021 00:00	459.0	0.0	2.4	97.8	0.4	61.9
12/07/2021 01:00	458.8	0.0	2.2	98.3	0.3	44.9
12/07/2021 02:00	458.6	0.0	2.0	99.1	0.3	355.0
12/07/2021 03:00	458.4	0.0	1.7	99.2	0.2	220.9
12/07/2021 04:00	458.4	0.0	1.8	99.3	0.1	282.5
12/07/2021 05:00	458.5	0.0	2.3	97.4	0.1	38.4
12/07/2021 06:00	458.8	0.0	2.5	93.1	0.1	199.7
12/07/2021 07:00	459.4	0.0	2.4	96.3	0.4	205.8
12/07/2021 08:00	459.8	0.0	3.2	93.0	0.7	189.7
12/07/2021 09:00	460.0	0.0	5.9	72.4	0.7	46.5
12/07/2021 10:00	459.9	0.0	7.3	63.7	0.7	10.2
12/07/2021 11:00	459.8	0.0	8.1	57.9	1.0	34.8
12/07/2021 12:00	459.5	0.0	9.4	52.9	1.1	26.8
12/07/2021 13:00	459.1	0.0	10.9	45.2	1.4	13.7
12/07/2021 14:00	458.9	0.0	9.5	50.6	1.8	358.7
12/07/2021 15:00	458.6	0.0	8.6	61.3	1.5	14.5
12/07/2021 16:00	458.6	0.0	7.6	72.3	2.0	358.0
12/07/2021 17:00	458.9	0.0	5.7	84.6	2.0	7.4
12/07/2021 18:00	459.2	0.0	4.6	92.2	2.1	7.6
12/07/2021 19:00	459.5	0.0	4.2	96.7	1.4	10.0
12/07/2021 20:00	459.7	0.0	3.9	95.7	1.5	16.2
12/07/2021 21:00	460.0	0.0	3.9	96.7	1.1	3.4
12/07/2021 22:00	460.0	0.0	3.2	98.4	0.9	359.3
12/07/2021 23:00	460.1	0.0	3.7	94.0	1.0	7.2
13/07/2021 00:00	460.0	0.0	3.8	93.9	0.4	2.1
13/07/2021 01:00	459.6	0.0	3.4	95.6	0.3	22.5
13/07/2021 02:00	459.4	0.0	3.3	89.7	0.1	358.7
13/07/2021 03:00	459.1	0.0	3.3	95.4	0.4	30.1
13/07/2021 04:00	459.1	0.0	2.9	99.0	0.3	22.2
13/07/2021 05:00	459.3	0.0	3.0	94.9	0.1	193.8
13/07/2021 06:00	459.4	0.0	2.7	96.6	0.6	196.3
13/07/2021 07:00	459.7	0.0	3.3	96.2	0.2	82.8
13/07/2021 08:00	460.1	0.0	5.9	75.6	0.8	273.8
13/07/2021 09:00	460.4	0.0	5.7	75.6	0.7	250.0
13/07/2021 10:00	460.4	0.0	7.5	63.0	1.0	319.1
13/07/2021 11:00	460.2	0.0	9.2	52.9	1.4	13.4
13/07/2021 12:00	459.8	0.0	10.2	47.7	1.9	355.1
13/07/2021 13:00	459.5	0.0	10.6	47.5	2.3	358.0
13/07/2021 14:00	458.9	0.0	11.5	45.1	2.2	2.8
13/07/2021 15:00	458.6	0.0	11.7	43.1	2.1	7.1
13/07/2021 16:00	458.6	0.0	10.6	51.3	1.9	12.6
13/07/2021 17:00	459.0	0.0	7.4	69.3	2.0	7.9
13/07/2021 18:00	459.3	0.0	6.2	80.8	1.3	13.1
13/07/2021 19:00	459.6	0.0	5.5	92.8	1.6	359.3
13/07/2021 20:00	459.9	0.0	4.5	96.4	1.3	358.0
13/07/2021 21:00	460.1	0.0	3.5	99.1	0.7	343.9
13/07/2021 22:00	460.2	0.0	3.7	99.3	0.6	18.9
13/07/2021 23:00	460.1	0.0	3.7	97.6	0.6	2.7
14/07/2021 00:00	459.9	0.0	2.6	99.2	0.7	349.1
14/07/2021 01:00	459.6	0.0	2.2	99.3	0.5	178.8
14/07/2021 02:00	459.3	0.0	1.4	99.3	0.3	184.7
14/07/2021 03:00	459.4	0.0	1.1	99.4	0.8	186.0
14/07/2021 04:00	459.4	0.0	1.5	99.4	1.0	165.8
14/07/2021 05:00	459.5	0.0	2.0	98.1	0.9	170.2
14/07/2021 06:00	459.7	0.0	2.3	93.1	0.6	200.9
14/07/2021 07:00	460.1	0.0	2.3	93.3	0.8	201.1
14/07/2021 08:00	460.6	0.0	3.4	85.1	0.6	243.5
14/07/2021 09:00	460.7	0.0	5.1	76.0	1.0	217.9
14/07/2021 10:00	460.4	0.0	6.8	67.8	1.3	194.8
14/07/2021 11:00	460.0	0.0	9.9	50.7	0.8	312.3
14/07/2021 12:00	459.6	0.0	11.5	44.0	1.1	47.1
14/07/2021 13:00	459.1	0.0	13.2	37.3	1.6	19.6
14/07/2021 14:00	458.7	0.0	12.8	40.5	2.6	354.3
14/07/2021 15:00	458.7	0.0	11.8	39.0	1.6	37.0
14/07/2021 16:00	458.6	0.3	8.9	58.9	0.8	148.6
14/07/2021 17:00	458.7	0.0	7.9	72.6	0.8	84.1

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14/07/2021 18:00	459.0	0.0	6.5	82.1	1.4	24.9
14/07/2021 19:00	459.1	0.0	5.1	92.8	1.8	6.0
14/07/2021 20:00	459.4	0.0	4.4	97.7	0.8	37.7
14/07/2021 21:00	459.8	0.0	3.9	99.3	0.5	281.1
14/07/2021 22:00	459.9	0.0	4.2	95.9	0.4	30.3
14/07/2021 23:00	459.9	0.0	3.8	94.1	0.8	334.0
15/07/2021 00:00	459.7	0.0	2.8	95.0	0.9	334.2
15/07/2021 01:00	459.4	0.0	2.2	93.4	0.6	335.6
15/07/2021 02:00	459.3	0.0	1.0	95.8	0.2	198.6
15/07/2021 03:00	459.1	0.0	-0.4	99.3	0.6	194.8
15/07/2021 04:00	459.1	0.0	0.2	99.4	0.6	178.6
15/07/2021 05:00	459.2	0.0	-0.6	99.4	0.6	199.0
15/07/2021 06:00	459.4	0.0	-1.2	99.4	0.7	193.8
15/07/2021 07:00	459.7	0.0	-0.9	99.4	0.7	194.0
15/07/2021 08:00	460.1	0.0	-0.7	99.4	0.7	203.7
15/07/2021 09:00	460.3	0.0	1.3	99.4	1.1	191.0
15/07/2021 10:00	460.1	0.0	5.5	79.5	1.3	195.0
15/07/2021 11:00	459.8	0.0	9.1	42.4	1.2	230.7
15/07/2021 12:00	459.4	0.0	12.1	19.0	1.8	5.7
15/07/2021 13:00	459.1	0.0	12.3	21.7	2.0	1.7
15/07/2021 14:00	458.7	0.0	12.7	26.1	1.9	8.9
15/07/2021 15:00	ID	ID	ID	ID	ID	ID
15/07/2021 16:00	458.4	0.0	11.2	33.2	2.0	1.7
15/07/2021 17:00	458.6	0.0	8.6	49.1	1.9	10.0
15/07/2021 18:00	458.8	0.0	6.4	66.0	1.8	7.2
15/07/2021 19:00	459.1	0.0	4.8	78.3	0.8	33.7
15/07/2021 20:00	459.3	0.0	3.9	89.4	0.7	58.8
15/07/2021 21:00	459.5	0.0	3.4	94.2	0.4	31.2
15/07/2021 22:00	459.6	0.0	2.8	94.2	0.6	15.2
15/07/2021 23:00	459.4	0.0	2.3	95.3	0.8	339.0
16/07/2021 00:00	459.4	0.0	1.9	96.4	0.9	334.4
16/07/2021 01:00	459.1	0.0	1.0	97.3	0.6	332.0
16/07/2021 02:00	458.9	0.0	0.3	99.3	0.4	260.3
16/07/2021 03:00	458.7	0.0	-0.3	99.3	0.5	322.6
16/07/2021 04:00	458.6	0.0	-0.8	99.3	0.6	281.0
16/07/2021 05:00	458.8	0.0	-1.0	99.3	0.6	178.9
16/07/2021 06:00	458.9	0.0	-1.8	99.3	0.6	201.2
16/07/2021 07:00	459.3	0.0	-1.6	99.3	0.6	192.2
16/07/2021 08:00	459.7	0.0	-0.2	97.4	1.0	193.9
16/07/2021 09:00	459.8	0.0	2.6	85.0	1.4	189.3
16/07/2021 10:00	459.6	0.0	8.2	55.9	1.4	11.7
16/07/2021 11:00	459.4	0.0	9.0	49.5	2.0	355.8
16/07/2021 12:00	459.0	0.0	10.2	46.0	1.8	35.9
16/07/2021 13:00	458.7	0.0	10.8	42.1	2.4	355.6
16/07/2021 14:00	458.4	0.0	10.9	41.9	1.8	13.6
16/07/2021 15:00	458.1	0.0	10.4	44.3	2.3	358.2
16/07/2021 16:00	458.1	0.0	9.7	48.5	2.0	1.7
16/07/2021 17:00	458.4	0.0	7.7	59.1	2.2	2.8
16/07/2021 18:00	458.6	0.0	5.7	71.3	1.5	8.8
16/07/2021 19:00	458.9	0.0	4.7	72.8	0.4	33.0
16/07/2021 20:00	459.2	0.0	3.9	77.0	0.4	29.2
16/07/2021 21:00	459.5	0.0	3.2	82.9	0.3	49.0
16/07/2021 22:00	459.7	0.0	2.5	87.2	0.1	211.4
16/07/2021 23:00	459.7	0.0	2.0	89.6	0.1	276.4
17/07/2021 00:00	459.6	0.0	1.8	92.1	0.3	324.2
17/07/2021 01:00	459.4	0.0	0.4	93.9	0.1	199.4
17/07/2021 02:00	459.2	0.0	0.4	95.4	0.1	280.3
17/07/2021 03:00	459.0	0.0	-0.3	95.2	0.0	0.0
17/07/2021 04:00	459.0	0.0	-1.1	97.6	0.3	190.3
17/07/2021 05:00	459.2	0.0	-1.2	98.2	0.3	201.0
17/07/2021 06:00	459.3	0.0	-2.5	99.2	0.6	215.5
17/07/2021 07:00	459.8	0.0	-2.3	99.4	0.4	244.8
17/07/2021 08:00	460.2	0.0	-0.3	99.4	0.4	209.6
17/07/2021 09:00	460.3	0.0	2.9	93.0	0.9	231.8
17/07/2021 10:00	460.2	0.0	6.4	67.2	0.8	259.7
17/07/2021 11:00	459.9	0.0	8.9	45.1	1.0	13.1
17/07/2021 12:00	459.4	0.0	11.3	31.4	1.6	20.8
17/07/2021 13:00	458.9	0.0	11.5	30.5	2.0	9.9
17/07/2021 14:00	458.5	0.0	10.9	32.8	2.2	354.8
17/07/2021 15:00	458.3	0.0	10.4	37.7	1.8	346.7
17/07/2021 16:00	458.3	0.0	10.8	38.2	1.8	6.1
17/07/2021 17:00	458.5	0.0	8.5	47.7	2.0	6.2
17/07/2021 18:00	459.0	0.0	6.3	63.7	1.8	4.3
17/07/2021 19:00	459.4	0.0	5.2	78.9	1.1	48.5
17/07/2021 20:00	459.6	0.0	4.2	86.7	0.5	53.1
17/07/2021 21:00	459.9	0.0	3.7	91.6	0.3	356.8
17/07/2021 22:00	460.1	0.0	3.4	96.0	0.7	4.3
17/07/2021 23:00	460.1	0.0	3.4	93.8	0.8	45.4
18/07/2021 00:00	459.9	0.0	3.3	88.5	0.5	44.7
18/07/2021 01:00	459.7	0.0	3.2	88.6	0.3	40.1
18/07/2021 02:00	459.6	0.0	3.0	85.5	0.1	71.1
18/07/2021 03:00	459.4	0.0	2.8	85.7	0.2	25.2
18/07/2021 04:00	459.3	0.0	2.8	83.3	0.3	183.8
18/07/2021 05:00	459.4	0.0	1.8	89.9	0.5	210.9
18/07/2021 06:00	459.9	0.0	1.2	94.3	0.3	238.1
18/07/2021 07:00	460.3	0.0	1.3	97.9	0.6	194.3
18/07/2021 08:00	460.6	0.0	3.0	87.4	0.7	198.2
18/07/2021 09:00	460.7	0.0	4.0	82.0	0.6	252.2
18/07/2021 10:00	460.6	0.0	5.5	69.8	0.6	252.6

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18	18/07/2021 11:00	460.3	0.0	7.0	58.1	1.1	35.9
	18/07/2021 12:00	459.8	0.0	9.0	49.2	1.4	26.9
	18/07/2021 13:00	459.3	0.0	10.2	44.6	1.7	3.6
	18/07/2021 14:00	458.8	0.0	11.3	40.3	1.4	25.8
	18/07/2021 15:00	458.6	0.0	10.1	49.5	1.1	49.3
	18/07/2021 16:00	458.6	0.0	7.8	65.3	1.6	42.3
	18/07/2021 17:00	458.9	0.0	5.5	78.7	1.7	41.9
	18/07/2021 18:00	459.2	0.0	4.6	87.4	1.2	50.4
	18/07/2021 19:00	459.5	0.0	4.2	92.3	1.0	30.9
	18/07/2021 20:00	460.0	0.0	3.6	96.6	1.3	5.5
	18/07/2021 21:00	460.4	0.0	3.5	96.6	1.2	1.3
	18/07/2021 22:00	460.4	0.0	3.3	96.4	1.1	5.3
	18/07/2021 23:00	460.3	0.0	3.4	94.6	0.7	16.2
	19/07/2021 00:00	460.2	0.0	3.0	98.3	0.7	2.1
	19/07/2021 01:00	459.8	0.0	2.8	98.3	0.4	9.1
	19/07/2021 02:00	459.5	0.0	2.9	97.8	0.4	177.9
	19/07/2021 03:00	459.4	0.0	2.8	96.0	0.5	106.1
	19/07/2021 04:00	459.5	0.0	2.7	94.7	0.5	36.8
19/07/2021 05:00	459.6	0.0	2.7	84.7	0.3	46.0	
19/07/2021 06:00	459.9	0.0	1.8	90.4	0.3	31.1	
19/07/2021 07:00	460.4	0.0	1.8	98.0	0.7	347.9	
19/07/2021 08:00	460.8	0.0	4.0	84.6	0.5	56.1	
19/07/2021 09:00	460.9	0.0	5.0	73.1	0.7	115.6	
19/07/2021 10:00	460.8	0.0	5.8	65.2	0.8	130.9	
19/07/2021 11:00	460.6	0.0	7.0	62.2	0.7	100.2	
19	19/07/2021 12:00	460.0	0.0	8.8	54.1	0.7	86.7
	19/07/2021 13:00	459.4	0.0	9.8	51.8	1.1	29.7
	19/07/2021 14:00	458.8	0.0	9.1	63.6	1.3	20.8
	19/07/2021 15:00	458.5	0.0	8.8	61.4	2.1	11.3
	19/07/2021 16:00	458.6	0.0	8.7	58.1	1.4	18.8
	19/07/2021 17:00	458.7	0.0	6.7	75.2	1.4	1.7
	19/07/2021 18:00	459.0	0.0	5.7	86.1	1.0	32.0
	19/07/2021 19:00	459.3	0.0	4.7	90.8	1.0	7.5
	19/07/2021 20:00	459.7	0.0	4.3	96.3	0.9	15.6
	19/07/2021 21:00	459.9	0.0	4.2	97.4	0.7	16.4
	19/07/2021 22:00	460.0	0.0	3.8	96.4	0.4	8.2
	19/07/2021 23:00	459.8	0.0	3.9	93.7	0.6	10.3
	20/07/2021 00:00	459.7	0.0	3.8	90.9	0.6	7.2
	20/07/2021 01:00	459.5	0.0	3.7	90.7	0.7	334.5
	20/07/2021 02:00	459.2	0.0	2.8	90.8	0.3	7.5
	20/07/2021 03:00	458.9	0.0	1.6	97.0	0.3	40.3
	20/07/2021 04:00	458.9	0.0	1.0	99.3	0.1	213.1
	20/07/2021 05:00	458.9	0.0	0.4	99.3	0.4	325.8
20/07/2021 06:00	459.2	0.0	0.0	99.4	0.4	22.6	
20/07/2021 07:00	459.6	0.0	0.1	99.4	0.3	30.0	
20/07/2021 08:00	459.9	0.0	3.2	92.8	0.4	13.7	
20/07/2021 09:00	460.1	0.0	6.1	66.0	0.8	64.1	
20/07/2021 10:00	460.0	0.0	7.0	61.8	0.9	36.0	
20	20/07/2021 11:00	459.6	0.0	9.2	53.3	0.8	47.6
	20/07/2021 12:00	459.1	0.0	9.9	48.2	1.4	0.3
	20/07/2021 13:00	458.6	0.0	10.4	45.0	2.2	350.9
	20/07/2021 14:00	458.0	0.0	10.8	45.6	2.5	359.4
	20/07/2021 15:00	457.8	0.0	11.0	43.4	2.4	357.8
	20/07/2021 16:00	457.9	0.0	9.3	49.7	2.3	355.3
	20/07/2021 17:00	458.3	0.0	6.8	74.2	2.1	5.0
	20/07/2021 18:00	458.6	0.0	5.3	89.0	1.7	355.0
	20/07/2021 19:00	459.1	0.0	4.3	89.9	1.2	320.9
	20/07/2021 20:00	459.5	0.0	2.8	94.5	1.3	212.1
	20/07/2021 21:00	459.9	0.0	2.0	99.1	1.2	202.9
	20/07/2021 22:00	459.9	0.0	2.1	99.3	0.6	218.2
	20/07/2021 23:00	460.0	0.9	1.6	99.3	0.5	201.7
	21/07/2021 00:00	459.8	0.0	1.0	99.3	0.0	139.0
	21/07/2021 01:00	459.4	0.3	1.4	99.3	0.0	0.0
	21/07/2021 02:00	459.1	0.0	1.8	99.3	0.2	341.5
	21/07/2021 03:00	458.8	0.3	1.9	99.2	0.1	326.3
	21/07/2021 04:00	458.8	0.3	2.0	98.4	0.3	321.2
21/07/2021 05:00	459.0	0.0	1.3	99.3	0.1	202.3	
21/07/2021 06:00	459.3	0.0	0.8	99.3	0.1	178.0	
21/07/2021 07:00	459.7	0.0	1.2	99.2	0.5	181.4	
21/07/2021 08:00	460.2	1.2	3.6	83.3	0.6	179.5	
21/07/2021 09:00	460.4	0.6	5.7	64.4	1.0	6.4	
21/07/2021 10:00	460.4	0.0	7.2	54.0	1.1	350.5	
21	21/07/2021 11:00	460.2	0.0	8.7	46.0	1.4	22.0
	21/07/2021 12:00	459.9	0.0	9.3	44.7	1.4	27.4
	21/07/2021 13:00	459.5	0.0	10.4	37.7	2.1	10.3
	21/07/2021 14:00	459.0	0.0	10.7	35.4	1.8	19.7
	21/07/2021 15:00	458.8	0.0	9.3	47.5	1.5	31.9
	21/07/2021 16:00	459.0	0.0	7.6	55.7	2.1	13.3
	21/07/2021 17:00	459.2	0.0	6.3	59.3	2.1	10.9
	21/07/2021 18:00	459.6	0.0	4.5	78.2	1.9	5.7
	21/07/2021 19:00	460.0	0.0	3.7	87.6	1.5	6.1
	21/07/2021 20:00	460.4	0.0	3.4	93.1	1.4	8.4
	21/07/2021 21:00	460.7	0.0	3.0	93.8	0.8	16.8
	21/07/2021 22:00	460.8	0.0	2.3	95.9	1.1	1.9
	21/07/2021 23:00	460.7	0.0	1.4	99.2	0.6	347.7
	22/07/2021 00:00	460.6	0.0	1.5	97.1	0.5	5.1
	22/07/2021 01:00	460.3	0.0	0.9	95.3	0.5	338.0
	22/07/2021 02:00	460.1	0.0	0.3	96.9	0.6	338.5
	22/07/2021 03:00	460.0	0.0	-0.1	98.5	0.4	338.4

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22/07/2021 04:00	460.0	0.0	-0.6	98.8	0.5	335.9
22/07/2021 05:00	460.2	0.0	-1.6	99.3	0.8	329.6
22/07/2021 06:00	460.5	0.0	-1.9	99.4	0.7	297.8
22/07/2021 07:00	460.7	0.0	-1.8	99.4	0.6	197.4
22/07/2021 08:00	461.2	0.0	-1.1	99.4	0.7	190.6
22/07/2021 09:00	461.4	0.0	2.5	89.9	1.3	184.3
22/07/2021 10:00	461.2	0.0	6.9	56.0	1.9	349.3
22/07/2021 11:00	460.9	0.0	10.0	34.3	1.6	51.6
22/07/2021 12:00	460.6	0.0	10.6	34.7	1.9	24.4
22/07/2021 13:00	460.3	0.0	9.3	38.1	1.9	20.8
22/07/2021 14:00	459.9	0.0	9.0	40.9	1.7	33.9
22/07/2021 15:00	459.7	0.0	8.6	39.9	2.0	21.9
22/07/2021 16:00	459.7	0.0	6.8	53.4	1.7	23.7
22/07/2021 17:00	459.9	0.0	5.6	66.6	2.0	6.4
22/07/2021 18:00	460.1	0.0	4.2	69.8	2.1	1.4
22/07/2021 19:00	460.6	0.0	3.3	86.7	2.0	356.3
22/07/2021 20:00	460.8	0.0	2.5	92.7	0.9	358.1
22/07/2021 21:00	460.9	0.0	1.9	94.4	0.3	0.3
22/07/2021 22:00	461.0	0.0	1.1	98.6	0.3	330.8
22/07/2021 23:00	460.8	0.0	0.7	99.3	0.1	198.9
23/07/2021 00:00	460.7	0.0	-0.3	99.3	0.3	195.0
23/07/2021 01:00	460.4	0.0	-0.9	99.4	0.1	179.7
23/07/2021 02:00	460.1	0.0	-1.1	99.4	0.4	209.9
23/07/2021 03:00	460.1	0.0	-1.0	99.4	0.5	216.8
23/07/2021 04:00	460.2	0.0	-0.9	99.4	1.2	159.1
23/07/2021 05:00	460.5	0.0	-1.4	99.4	1.1	162.9
23/07/2021 06:00	460.6	0.0	-2.1	99.4	0.7	211.7
23/07/2021 07:00	461.0	0.0	-2.2	99.4	0.8	208.9
23/07/2021 08:00	461.3	0.0	-1.0	99.4	1.1	191.3
23/07/2021 09:00	461.5	0.0	2.6	81.4	1.1	197.0
23/07/2021 10:00	461.2	0.0	6.2	55.0	0.9	202.4
23/07/2021 11:00	460.9	0.0	9.7	27.1	1.2	73.4
23/07/2021 12:00	460.5	0.0	11.0	24.4	1.9	19.5
23/07/2021 13:00	460.2	0.0	10.1	27.1	1.4	23.1
23/07/2021 14:00	459.7	0.0	11.0	26.9	1.5	25.1
23/07/2021 15:00	459.3	0.0	10.5	28.1	2.7	352.9
23/07/2021 16:00	459.4	0.0	9.2	33.8	2.0	359.5
23/07/2021 17:00	459.5	0.0	7.6	42.7	1.8	8.8
23/07/2021 18:00	459.6	0.0	5.5	57.5	1.7	1.5
23/07/2021 19:00	459.8	0.0	4.4	69.4	1.5	4.8
23/07/2021 20:00	460.0	0.0	3.6	75.0	1.1	1.8
23/07/2021 21:00	460.1	0.0	2.9	83.8	1.2	3.4
23/07/2021 22:00	460.0	0.0	2.3	89.7	1.2	1.1
23/07/2021 23:00	460.0	0.0	1.2	95.7	0.5	296.9
24/07/2021 00:00	460.0	0.0	0.6	95.4	0.2	327.5
24/07/2021 01:00	459.7	0.0	0.0	95.8	0.0	0.0
24/07/2021 02:00	459.5	0.0	-0.1	89.6	0.0	182.0
24/07/2021 03:00	459.4	0.0	-0.9	94.6	0.0	0.0
24/07/2021 04:00	459.4	0.0	-2.1	96.1	0.0	0.0
24/07/2021 05:00	459.6	0.0	-2.5	98.0	0.0	141.0
24/07/2021 06:00	459.9	0.0	-2.6	98.7	0.0	163.3
24/07/2021 07:00	460.1	0.0	-1.1	95.2	0.2	150.5
24/07/2021 08:00	460.4	0.0	2.8	69.3	0.7	186.0
24/07/2021 09:00	460.4	0.0	4.7	57.0	1.5	189.6
24/07/2021 10:00	460.4	0.0	7.6	31.1	1.1	250.1
24/07/2021 11:00	460.1	0.0	10.0	19.0	1.6	1.4
24/07/2021 12:00	459.8	0.0	10.6	20.9	2.3	351.7
24/07/2021 13:00	459.6	0.0	11.3	22.7	2.0	14.1
24/07/2021 14:00	459.1	0.0	11.5	23.0	1.9	8.0
24/07/2021 15:00	458.9	0.0	10.4	25.4	2.1	354.2
24/07/2021 16:00	458.9	0.0	10.2	27.6	1.5	29.4
24/07/2021 17:00	459.0	0.0	8.2	36.6	1.7	359.1
24/07/2021 18:00	459.1	0.0	6.2	50.0	1.5	8.4
24/07/2021 19:00	459.4	0.0	5.1	58.2	1.7	2.1
24/07/2021 20:00	459.6	0.0	4.4	62.8	1.3	21.9
24/07/2021 21:00	459.8	0.0	4.0	66.1	1.1	4.1
24/07/2021 22:00	459.9	0.0	3.1	71.5	0.4	328.3
24/07/2021 23:00	459.9	0.0	2.1	69.5	0.2	343.7
25/07/2021 00:00	459.7	0.0	1.9	61.8	0.1	15.6
25/07/2021 01:00	459.4	0.0	1.0	67.7	0.2	209.8
25/07/2021 02:00	459.2	0.0	0.2	73.4	0.1	192.0
25/07/2021 03:00	459.0	0.0	-0.2	76.9	0.1	194.9
25/07/2021 04:00	459.0	0.0	0.0	74.6	0.1	217.3
25/07/2021 05:00	459.1	0.0	-0.8	78.5	0.0	204.3
25/07/2021 06:00	459.4	0.0	-2.0	84.7	0.1	183.5
25/07/2021 07:00	459.7	0.0	-0.5	77.1	0.8	181.7
25/07/2021 08:00	460.0	0.0	2.7	65.0	0.8	197.9
25/07/2021 09:00	459.9	0.0	5.5	46.5	0.9	211.5
25/07/2021 10:00	459.9	0.0	8.5	29.2	1.9	356.5
25/07/2021 11:00	459.7	0.0	10.0	24.0	1.5	15.0
25/07/2021 12:00	459.4	0.0	10.9	24.9	1.7	10.9
25/07/2021 13:00	459.2	0.0	11.5	23.8	1.9	1.8
25/07/2021 14:00	458.7	0.0	11.6	22.9	2.2	6.4
25/07/2021 15:00	458.4	0.0	11.4	23.8	2.1	353.1
25/07/2021 16:00	458.2	0.0	10.7	28.3	1.9	14.2
25/07/2021 17:00	458.3	0.0	7.7	43.7	2.4	1.0
25/07/2021 18:00	458.5	0.0	5.2	61.3	2.5	7.2
25/07/2021 19:00	459.0	0.0	3.8	73.5	2.0	7.8
25/07/2021 20:00	459.4	0.0	3.0	82.5	1.5	4.8

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25/07/2021 21:00	459.6	0.0	2.4	86.2	0.3	37.8
25/07/2021 22:00	459.7	0.0	2.0	89.0	0.2	344.3
25/07/2021 23:00	459.6	0.0	1.4	88.9	0.1	341.8
26/07/2021 00:00	459.5	0.0	0.9	81.4	0.4	330.4
26/07/2021 01:00	459.3	0.0	0.1	84.0	0.3	239.7
26/07/2021 02:00	459.0	0.0	-0.6	83.4	0.0	0.0
26/07/2021 03:00	458.8	0.0	-1.2	79.6	0.0	0.0
26/07/2021 04:00	458.8	0.0	-1.5	81.3	0.0	185.0
26/07/2021 05:00	458.8	0.0	-2.1	83.5	0.0	0.0
26/07/2021 06:00	459.1	0.0	-2.0	83.6	0.1	178.3
26/07/2021 07:00	459.5	0.0	-0.7	79.3	0.5	192.2
26/07/2021 08:00	460.0	0.0	3.4	61.3	0.4	168.4
26/07/2021 09:00	460.2	0.0	7.4	46.1	0.9	31.8
26/07/2021 10:00	460.2	0.0	8.8	36.2	1.4	17.3
26/07/2021 11:00	460.0	0.0	9.9	34.8	1.4	28.2
26/07/2021 12:00	459.6	0.0	10.7	34.6	1.7	6.3
26/07/2021 13:00	459.2	0.0	11.6	34.4	1.9	359.7
26/07/2021 14:00	458.8	0.0	12.0	33.9	1.9	3.8
26/07/2021 15:00	458.4	0.0	11.9	33.8	2.0	15.7
26/07/2021 16:00	458.2	0.0	10.8	38.0	2.0	21.5
26/07/2021 17:00	458.3	0.0	8.1	52.2	2.5	3.3
26/07/2021 18:00	458.6	0.0	5.6	78.0	2.9	3.4
26/07/2021 19:00	459.1	0.0	4.7	89.1	1.7	10.7
26/07/2021 20:00	459.6	0.0	4.3	92.0	1.2	16.4
26/07/2021 21:00	459.8	0.0	3.7	93.9	1.0	5.9
26/07/2021 22:00	459.9	0.0	2.9	98.0	0.6	336.5
26/07/2021 23:00	459.8	0.0	2.1	99.3	0.3	2.2
27/07/2021 00:00	459.7	0.0	1.2	99.3	0.4	326.0
27/07/2021 01:00	459.5	0.0	1.0	99.4	0.6	322.4
27/07/2021 02:00	459.2	0.0	0.2	99.4	0.7	326.0
27/07/2021 03:00	459.0	0.0	0.1	99.4	0.4	262.8
27/07/2021 04:00	458.9	0.0	0.1	99.4	0.5	296.2
27/07/2021 05:00	459.0	0.0	0.2	99.4	0.5	322.4
27/07/2021 06:00	459.2	0.0	0.5	99.4	0.5	313.3
27/07/2021 07:00	459.6	0.0	0.8	99.3	0.7	343.6
27/07/2021 08:00	460.1	0.0	2.9	85.6	0.6	324.8
27/07/2021 09:00	460.3	0.0	5.7	66.2	0.7	16.5
27/07/2021 10:00	460.3	0.0	7.8	53.4	1.4	17.2
27/07/2021 11:00	460.1	0.0	9.4	44.7	2.0	13.4
27/07/2021 12:00	459.7	0.0	10.6	42.0	1.7	17.4
27/07/2021 13:00	459.4	0.0	10.6	42.9	2.0	7.9
27/07/2021 14:00	458.8	0.0	11.1	37.0	2.2	359.5
27/07/2021 15:00	458.5	0.0	11.1	32.9	2.0	3.1
27/07/2021 16:00	458.2	0.0	10.2	43.9	2.1	16.2
27/07/2021 17:00	458.3	0.0	7.2	62.1	2.4	5.0
27/07/2021 18:00	458.7	0.0	5.4	79.0	1.9	18.9
27/07/2021 19:00	459.1	0.0	4.7	87.9	1.6	8.2
27/07/2021 20:00	459.5	0.0	4.2	92.0	1.5	4.2
27/07/2021 21:00	459.8	0.0	3.8	95.7	1.1	19.5
27/07/2021 22:00	459.9	0.0	3.3	96.8	0.7	16.9
27/07/2021 23:00	459.8	0.0	2.7	98.1	0.8	11.9
28/07/2021 00:00	459.7	0.0	2.8	98.0	0.8	26.2
28/07/2021 01:00	459.4	0.0	2.1	99.2	0.8	14.5
28/07/2021 02:00	459.0	0.0	2.6	94.6	0.8	356.2
28/07/2021 03:00	458.8	0.0	2.5	99.1	0.8	16.2
28/07/2021 04:00	458.7	0.0	2.6	93.6	0.4	21.6
28/07/2021 05:00	458.8	0.0	2.5	91.5	0.4	337.3
28/07/2021 06:00	459.0	0.0	2.4	92.7	0.2	347.1
28/07/2021 07:00	459.4	0.0	2.6	95.9	0.8	23.4
28/07/2021 08:00	459.8	0.0	4.4	79.2	1.4	356.2
28/07/2021 09:00	460.0	0.0	5.7	64.1	1.7	359.7
28/07/2021 10:00	460.0	0.0	7.8	54.5	1.5	23.4
28/07/2021 11:00	459.7	0.0	9.5	46.0	1.8	24.2
28/07/2021 12:00	459.3	0.0	9.2	48.4	2.1	359.9
28/07/2021 13:00	458.9	0.0	10.5	41.1	2.1	12.9
28/07/2021 14:00	458.4	0.0	10.5	42.5	2.1	13.2
28/07/2021 15:00	458.0	0.0	10.3	45.9	1.8	27.1
28/07/2021 16:00	457.8	0.0	9.6	48.2	1.9	16.2
28/07/2021 17:00	457.9	0.0	7.9	53.0	1.6	10.4
28/07/2021 18:00	458.2	0.0	5.9	65.7	2.4	4.5
28/07/2021 19:00	458.7	0.0	4.7	89.9	2.2	2.3
28/07/2021 20:00	459.2	0.0	4.3	94.0	1.5	7.2
28/07/2021 21:00	459.5	0.0	4.1	93.5	1.5	20.1
28/07/2021 22:00	459.5	0.0	3.5	94.5	1.7	6.8
28/07/2021 23:00	459.6	0.0	3.3	95.2	1.6	7.6
29/07/2021 00:00	459.4	0.0	3.1	97.5	1.0	11.0
29/07/2021 01:00	459.1	0.0	2.8	97.2	1.0	16.4
29/07/2021 02:00	458.9	0.0	2.6	95.6	1.0	32.8
29/07/2021 03:00	458.7	0.0	2.3	96.9	0.8	14.1
29/07/2021 04:00	458.7	0.0	2.4	95.2	0.7	11.9
29/07/2021 05:00	458.8	0.0	2.2	95.6	0.5	27.3
29/07/2021 06:00	458.9	0.0	2.0	95.9	0.6	0.6
29/07/2021 07:00	459.2	0.0	2.7	92.4	0.5	6.8
29/07/2021 08:00	459.5	0.0	3.5	87.2	0.8	356.4
29/07/2021 09:00	459.7	0.0	4.6	81.8	1.0	357.0
29/07/2021 10:00	459.6	0.0	6.3	70.3	1.6	6.4
29/07/2021 11:00	459.5	0.0	7.2	66.8	1.5	12.7
29/07/2021 12:00	459.1	0.0	8.4	57.7	1.7	1.7
29/07/2021 13:00	458.6	0.0	10.1	49.9	1.9	11.0

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	29/07/2021 14:00	458.1	0.0	10.7	49.6	1.7	15.5
	29/07/2021 15:00	457.7	0.0	10.6	48.1	1.8	26.8
	29/07/2021 16:00	457.8	0.0	9.4	55.6	1.8	17.4
	29/07/2021 17:00	458.0	0.0	7.1	66.8	2.1	12.1
	29/07/2021 18:00	458.2	0.0	5.3	79.6	1.8	6.7
	29/07/2021 19:00	458.5	0.0	4.2	90.0	1.7	2.8
	29/07/2021 20:00	458.9	0.0	3.7	94.7	1.3	6.8
	29/07/2021 21:00	459.4	0.0	4.1	95.1	0.9	30.2
	29/07/2021 22:00	459.5	0.0	4.0	94.1	1.3	357.1
	29/07/2021 23:00	459.4	0.0	3.8	97.3	1.2	12.3
	30/07/2021 00:00	459.2	0.0	3.2	99.1	0.9	7.6
	30/07/2021 01:00	459.0	0.0	2.8	99.3	0.8	2.7
	30/07/2021 02:00	458.8	0.0	2.6	99.1	1.1	6.6
	30/07/2021 03:00	458.7	0.0	2.5	98.6	0.9	7.4
	30/07/2021 04:00	458.8	0.0	2.5	99.2	0.6	11.9
	30/07/2021 05:00	459.0	0.0	2.3	99.3	0.5	7.9
	30/07/2021 06:00	459.2	0.0	2.5	99.3	0.5	355.3
	30/07/2021 07:00	459.6	0.0	3.0	90.7	1.5	342.4
	30/07/2021 08:00	460.0	0.0	4.4	82.6	1.2	359.5
	30/07/2021 09:00	460.2	0.0	5.4	78.8	1.2	17.8
	30/07/2021 10:00	460.1	0.0	7.5	66.6	1.4	28.9
	30/07/2021 11:00	459.9	0.0	9.2	56.5	1.5	34.6
30	30/07/2021 12:00	459.4	0.0	10.1	54.0	1.9	22.8
	30/07/2021 13:00	458.8	0.0	10.4	48.2	1.7	14.8
	30/07/2021 14:00	458.4	0.0	10.3	48.9	1.8	10.3
	30/07/2021 15:00	458.0	0.0	10.7	47.9	1.8	20.5
	30/07/2021 16:00	458.1	0.0	9.5	53.6	2.2	11.4
	30/07/2021 17:00	458.4	0.0	6.8	72.0	2.3	9.5
	30/07/2021 18:00	458.7	0.0	5.0	90.4	1.8	19.7
	30/07/2021 19:00	459.2	0.0	4.7	92.2	1.5	5.1
	30/07/2021 20:00	459.5	0.0	4.1	93.9	1.8	6.0
	30/07/2021 21:00	459.7	0.0	3.7	95.1	1.4	8.2
	30/07/2021 22:00	459.8	0.0	3.4	96.8	1.0	10.5
	30/07/2021 23:00	459.7	0.0	3.3	97.8	0.8	14.9
	31/07/2021 00:00	459.3	0.0	3.1	96.8	0.8	17.5
	31/07/2021 01:00	459.1	0.0	2.8	99.3	0.6	350.5
	31/07/2021 02:00	458.9	0.0	2.5	99.3	1.0	4.1
	31/07/2021 03:00	458.7	0.0	2.2	99.3	0.9	3.1
	31/07/2021 04:00	458.6	0.0	2.3	98.5	0.8	9.2
	31/07/2021 05:00	458.9	0.0	2.3	97.1	1.0	14.5
	31/07/2021 06:00	459.3	0.0	2.2	98.3	0.7	9.8
	31/07/2021 07:00	459.6	0.0	2.2	95.1	0.9	5.5
	31/07/2021 08:00	459.9	0.0	5.4	73.1	1.1	33.3
	31/07/2021 09:00	460.2	0.0	6.8	61.9	1.4	26.3
	31/07/2021 10:00	460.3	0.0	7.9	56.3	1.9	22.9
31	31/07/2021 11:00	460.1	0.0	7.8	55.1	2.2	4.3
	31/07/2021 12:00	459.7	0.0	8.2	49.8	2.2	4.0
	31/07/2021 13:00	459.2	0.0	9.1	46.9	1.8	21.3
	31/07/2021 14:00	458.9	0.0	9.9	45.7	1.7	18.4
	31/07/2021 15:00	458.7	0.0	9.8	46.1	2.0	31.3
	31/07/2021 16:00	458.8	0.0	9.1	49.3	2.2	16.5
	31/07/2021 17:00	459.0	0.0	6.8	61.6	2.4	11.4
	31/07/2021 18:00	459.4	0.0	5.0	80.8	2.0	9.1
	31/07/2021 19:00	459.7	0.0	4.3	88.7	2.0	5.0
	31/07/2021 20:00	460.1	0.0	4.1	90.8	1.3	20.7
	31/07/2021 21:00	460.4	0.0	3.7	93.0	1.4	6.0
	31/07/2021 22:00	460.4	0.0	3.4	92.1	1.1	18.5
	31/07/2021 23:00	460.3	0.0	3.2	91.2	1.2	1.8

ID: Insuficiencia de datos por no cumplir con la mínima suficiencia de datos para calcular el promedio de 1 hora (45 minutos)



**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en julio de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01      **CÓDIGO DE ACCIÓN:** 0001-7-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:** Estación meteorológica      **MARCA:** Campbell

**MODELO:** CR1000      **SERIE:** 30825

DIA 1 - JULIO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
20/07/2021 18:00	458.6	5.3	89	1.7
20/07/2021 19:00	459.1	4.3	90	1.2
20/07/2021 20:00	459.5	2.8	95	1.3
20/07/2021 21:00	459.9	2.0	99	1.2
20/07/2021 22:00	459.9	2.1	99	0.6
20/07/2021 23:00	460.0	1.6	99	0.5
21/07/2021 00:00	459.8	1.0	99	0.0
21/07/2021 01:00	459.4	1.4	99	0.0
21/07/2021 02:00	459.1	1.8	99	0.2
21/07/2021 03:00	458.8	1.9	99	0.1
21/07/2021 04:00	458.8	2.0	98	0.3
21/07/2021 05:00	459.0	1.3	99	0.1
21/07/2021 06:00	459.3	0.8	99	0.1
21/07/2021 07:00	459.7	1.2	99	0.5
21/07/2021 08:00	460.2	3.6	83	0.6
21/07/2021 09:00	460.4	5.7	64	1.0
21/07/2021 10:00	460.4	7.2	54	1.1
21/07/2021 11:00	460.2	8.7	46	1.4
21/07/2021 12:00	459.9	9.3	45	1.4
21/07/2021 13:00	459.5	10.4	38	2.1
21/07/2021 14:00	459.0	10.7	35	1.8
21/07/2021 15:00	458.8	9.3	48	1.5
21/07/2021 16:00	459.0	7.6	56	2.1
<b>Promedio DIA 1</b>	<b>459.5</b>	<b>4.4</b>	<b>79.7</b>	<b>0.9</b>

DIA 2 - JULIO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
21/07/2021 18:00	459.6	4.5	78	1.9
21/07/2021 19:00	460.0	3.7	88	1.5
21/07/2021 20:00	460.4	3.4	93	1.4
21/07/2021 21:00	460.7	3.0	94	0.8
21/07/2021 22:00	460.8	2.3	96	1.1
21/07/2021 23:00	460.7	1.4	99	0.6
22/07/2021 00:00	460.6	1.5	97	0.5
22/07/2021 01:00	460.3	0.9	95	0.5
22/07/2021 02:00	460.1	0.3	97	0.6
22/07/2021 03:00	460.0	-0.1	99	0.4
22/07/2021 04:00	460.0	-0.6	99	0.5
22/07/2021 05:00	460.2	-1.6	99	0.8
22/07/2021 06:00	460.5	-1.9	99	0.7
22/07/2021 07:00	460.7	-1.8	99	0.6
22/07/2021 08:00	461.2	-1.1	99	0.7
22/07/2021 09:00	461.4	2.5	90	1.3
22/07/2021 10:00	461.2	6.9	56	1.9
22/07/2021 11:00	460.9	10.0	34	1.6
22/07/2021 12:00	460.6	10.6	35	1.9
22/07/2021 13:00	460.3	9.3	38	1.9
22/07/2021 14:00	459.9	9.0	41	1.7
22/07/2021 15:00	459.7	8.6	40	2.0
22/07/2021 16:00	459.7	6.8	53	1.7
<b>Promedio DIA 2</b>	<b>460.4</b>	<b>3.4</b>	<b>79.1</b>	<b>1.2</b>

DIA 3 - JULIO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
22/07/2021 17:00	459.9	5.6	67	2.0
22/07/2021 18:00	460.1	4.2	70	2.1
22/07/2021 19:00	460.6	3.3	87	2.0
22/07/2021 20:00	460.8	2.5	93	0.9
22/07/2021 21:00	460.9	1.9	94	0.3
22/07/2021 22:00	461.0	1.1	99	0.3
22/07/2021 23:00	460.8	0.7	99	0.1
23/07/2021 00:00	460.7	-0.3	99	0.3
23/07/2021 01:00	460.4	-0.9	99	0.1
23/07/2021 02:00	460.1	-1.1	99	0.4
23/07/2021 03:00	460.1	-1.0	99	0.5
23/07/2021 04:00	460.2	-0.9	99	1.2
23/07/2021 05:00	460.5	-1.4	99	1.1
23/07/2021 06:00	460.6	-2.1	99	0.7
23/07/2021 07:00	461.0	-2.2	99	0.8
23/07/2021 08:00	461.3	-1.0	99	1.1
23/07/2021 09:00	461.5	2.6	81	1.1
23/07/2021 10:00	461.2	6.2	55	0.9
23/07/2021 11:00	460.9	9.7	27	1.2
23/07/2021 12:00	460.5	11.0	24	1.9
23/07/2021 13:00	460.2	10.1	27	1.4
23/07/2021 14:00	459.7	11.0	27	1.5
23/07/2021 15:00	459.3	10.5	28	2.7
23/07/2021 16:00	459.4	9.2	34	2.0
<b>Promedio DIA 3</b>	<b>460.5</b>	<b>3.3</b>	<b>75.3</b>	<b>1.1</b>

DIA 4 - JULIO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
23/07/2021 17:00	459.5	7.6	43	1.8
23/07/2021 18:00	459.6	5.5	58	1.7
23/07/2021 19:00	459.8	4.4	69	1.5
23/07/2021 20:00	460.0	3.6	75	1.1
23/07/2021 21:00	460.1	2.9	84	1.2
23/07/2021 22:00	460.0	2.3	90	1.2
23/07/2021 23:00	460.0	1.2	96	0.5
24/07/2021 00:00	460.0	0.6	95	0.2
24/07/2021 01:00	459.7	0.0	96	0.0
24/07/2021 02:00	459.5	-0.1	90	0.0
24/07/2021 03:00	459.4	-0.9	95	0.0
24/07/2021 04:00	459.4	-2.1	96	0.0
24/07/2021 05:00	459.6	-2.5	98	0.0
24/07/2021 06:00	459.9	-2.6	99	0.0
24/07/2021 07:00	460.1	-1.1	95	0.2
24/07/2021 08:00	460.4	2.8	69	0.7
24/07/2021 09:00	460.4	4.7	57	1.5
24/07/2021 10:00	460.4	7.6	31	1.1
24/07/2021 11:00	460.1	10.0	19	1.6
24/07/2021 12:00	459.8	10.6	21	2.3
24/07/2021 13:00	459.6	11.3	23	2.0
24/07/2021 14:00	459.1	11.5	23	1.9
24/07/2021 15:00	458.9	10.4	25	2.1
24/07/2021 16:00	458.9	10.2	28	1.5
<b>Promedio DIA 4</b>	<b>459.8</b>	<b>4.1</b>	<b>65.6</b>	<b>1.0</b>

DIA 5 - JULIO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
24/07/2021 17:00	459.0	8.2	37	1.7
24/07/2021 18:00	459.1	6.2	50	1.5
24/07/2021 19:00	459.4	5.1	58	1.7
24/07/2021 20:00	459.6	4.4	63	1.3
24/07/2021 21:00	459.8	4.0	66	1.1
24/07/2021 22:00	459.9	3.1	72	0.4
24/07/2021 23:00	459.9	2.1	70	0.2
25/07/2021 00:00	459.7	1.9	62	0.1
25/07/2021 01:00	459.4	1.0	68	0.2
25/07/2021 02:00	459.2	0.2	73	0.1
25/07/2021 03:00	459.0	-0.2	77	0.1
25/07/2021 04:00	459.0	0.0	75	0.1
25/07/2021 05:00	459.1	-0.8	79	0.0
25/07/2021 06:00	459.4	-2.0	85	0.1
25/07/2021 07:00	459.7	-0.5	77	0.8
25/07/2021 08:00	460.0	2.7	65	0.8
25/07/2021 09:00	459.9	5.5	47	0.9
25/07/2021 10:00	459.9	8.5	29	1.9
25/07/2021 11:00	459.7	10.0	24	1.5
25/07/2021 12:00	459.4	10.9	25	1.7
25/07/2021 13:00	459.2	11.5	24	1.9
25/07/2021 14:00	458.7	11.6	23	2.2
25/07/2021 15:00	458.4	11.4	24	2.1
25/07/2021 16:00	458.2	10.7	28	1.9
<b>Promedio DIA 5</b>	<b>459.4</b>	<b>4.8</b>	<b>54.1</b>	<b>1.0</b>

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en Julio de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0001-7-2021-412

**MEDICIONES PROMEDIO (DATOS DIARIOS)**

**DÍA 1** **INICIO:** 20/07/2021 18:18 **FINAL:** 21/07/2021 17:35 **PERIODO :** 23:17 horas **1397 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 4.4 **Presión (mm Hg):** 459.5

**DÍA 2** **INICIO:** 21/07/2021 17:48 **FINAL:** 22/07/2021 16:54 **PERIODO :** 23:06 horas **1386 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 3.4 **Presión (mm Hg):** 460.4

**DÍA 3** **INICIO:** 22/07/2021 17:10 **FINAL:** 23/07/2021 16:45 **PERIODO :** 23:35 horas **1415 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 3.3 **Presión (mm Hg):** 460.5

**DÍA 4** **INICIO:** 23/07/2021 16:55 **FINAL:** 24/07/2021 16:30 **PERIODO :** 23:35 horas **1415 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 4.1 **Presión (mm Hg):** 459.8

**DÍA 5** **INICIO:** 24/07/2021 16:40 **FINAL:** 25/07/2021 16:40 **PERIODO :** 24:00 horas **1440 min**

**Datos horarios registrados:** 24 horas

**Temperatura (°C):** 4.8 **Presión (mm Hg):** 459.4

**OBSERVACIONES:**

DATOS GENERALES

TÍTULO DEL ESTUDIO: Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en julio de 2021

ESTACIÓN DE MONITOREO: CA-SB-01

CÓDIGO DE ACCIÓN: 0001-7-2021-412

DATOS DE LOS EQUIPOS

Barómetro	MARCA:	-	MODELO:	-	SERIE:	-
Venturi PM-10	MARCA:	THERMO SCIENTIFIC				
	MODELO:	HI VOL				
	SERIE:	P9327X				

CÁLCULOS

PM-10							
DÍA 1				Fecha Inicio: 20/07/2021 18:18		Fecha Final: 21/07/2021 17:35	
Presión inicial:				13.2 pulg H2O		Presión final: 13.2 pulg H2O	
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.2	24.6	459.5	0.946	4.4	1.123	1.127	1.124
DÍA 2				Fecha Inicio: 21/07/2021 17:48		Fecha Final: 22/07/2021 16:54	
Presión inicial:				12.8 pulg H2O		Presión final: 12.9 pulg H2O	
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
12.9	24.0	460.4	0.948	3.4	1.126	1.130	1.129
DÍA 3				Fecha Inicio: 22/07/2021 17:10		Fecha Final: 23/07/2021 16:45	
Presión inicial:				12.7 pulg H2O		Presión final: 13.2 pulg H2O	
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.0	24.2	460.5	0.948	3.3	1.126	1.130	1.129
DÍA 4				Fecha Inicio: 23/07/2021 16:55		Fecha Final: 24/07/2021 16:30	
Presión inicial:				13.0 pulg H2O		Presión final: 13.5 pulg H2O	
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.3	24.7	459.8	0.946	4.1	1.127	1.131	1.127
DÍA 5				Fecha Inicio: 24/07/2021 16:40		Fecha Final: 25/07/2021 16:40	
Presión inicial:				12.5 pulg H2O		Presión final: 13.0 pulg H2O	
PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
12.8	23.8	459.4	0.948	4.8	1.130	1.133	1.131
OBSERVACIONES:							
* : No aplica.							

**Tabla 3.6. Concentración de PM<sub>10</sub> y el volumen muestreado de metales - alto volumen**

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en julio de 2021

**PUNTO DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0001-7-2021-412

N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Tiempo o periodo de muestreo en minutos (t)	Flujo de muestreo, en m³/min (Qa)	Volumen de muestreo en m³ (Va)*	ΔPeso (µg) **	Concentración de partículas (µg/m³)
1	PM <sub>10</sub>	1-212492	20/07/2021 18:18	21/07/2021 17:35	1397	1.124	1570.05	12000	7.6
2		1-212493	21/07/2021 17:48	22/07/2021 16:54	1386	1.129	1564.44	16000	10.2
3		1-212522	22/07/2021 17:10	23/07/2021 16:45	1415	1.129	1596.91	19000	11.9
4		1-212523	23/07/2021 16:55	24/07/2021 16:30	1415	1.127	1594.93	32000	20.1
5		1-202602	24/07/2021 16:40	25/07/2021 16:40	1440	1.131	1628.96	34000	20.9

12  
16  
19  
32  
34

**OBSERVACIONES:**

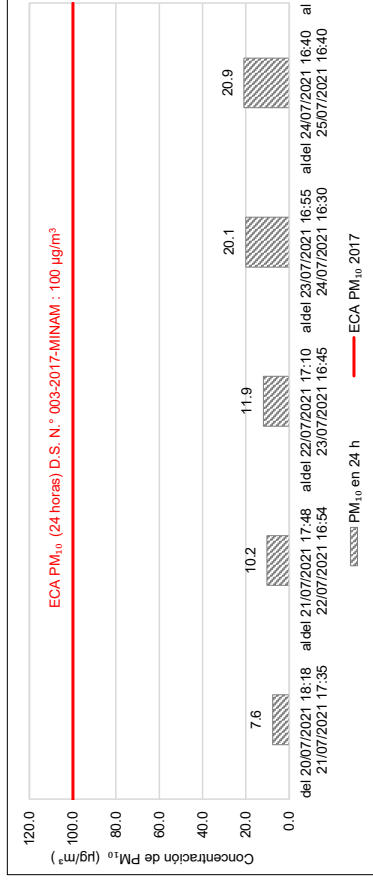
(\*) En el caso del material particulado y las sustancias que deben analizarse en la fase de partículas (metales, iones, carbonáceas, otros), el **volumen de muestreo** se debe expresar en las condiciones ambientales (volumen actual) en términos de temperatura ambiental y presión atmosférica promedio, medidas durante el periodo de muestreo, (Sección L.1.3 Cálculo de concentraciones señalada en el Protocolo de Monitoreo de la Calidad del aire del MINAM - D.S. N° 010-2019-MINAM).

(\*\*) Fuente: Informe de Ensayo MA2122137

\*. : No aplica.

PM <sub>10</sub> en 24 h	ECA PM <sub>10</sub> 2017
0	100
1	100

Fecha inicio Fecha final  
del 20/07/2021 18:18 al 21/07/2021 17:35  
del 21/07/2021 17:48 al 22/07/2021 16:54  
del 22/07/2021 17:10 al 23/07/2021 16:45  
del 23/07/2021 16:55 al 24/07/2021 16:30  
del 24/07/2021 16:40 al 25/07/2021 16:40



**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en julio de 2021

**PUNTO DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0001-7-2021-412

RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		20/07/2021	21/07/2021	22/07/2021	23/07/2021	24/07/2021	
Aluminio	Al	µg/mtra	66.401	126.96	209.737	181.976	202.699
Antimonio	Sb	µg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	µg/mtra	1.587	<1,237	1.357	4.094	1.702
Bario	Ba	µg/mtra	2.473	2.726	4.106	3.899	3.807
Berilio	Be	µg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	µg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	µg/mtra	<1,506	<1,506	<1,506	<1,506	<1,506
Cadmio	Cd	µg/mtra	<1,457	<1,457	<1,457	<1,457	<1,457
Calcio	Ca	µg/mtra	658.101	710.792	1254.604	2003.668	1528.166
Cobalto	Co	µg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	µg/mtra	110.86	85.376	87.354	91.747	94.185
Cromo	Cr	µg/mtra	<1,586	<1,586	3.232	<1,586	<1,586
Estaño	Sn	µg/mtra	2.266	1.829	1.783	1.668	1.806
Estroncio	Sr	µg/mtra	1.162	1.070	2.795	6.337	3.830
Fósforo	P	µg/mtra	<8,70	<8,70	<8,70	15.59	22.45
Hierro	Fe	µg/mtra	440.45	522.18	453.94	717.96	739.37
Litio	Li	µg/mtra	<0,449	<0,449	<0,449	<0,449	<0,449
Magnesio	Mg	µg/mtra	125.81	171.12	167.79	293.89	264.27
Manganeso	Mn	µg/mtra	37.421	41.699	28.681	54.395	47.541
Mercurio	Hg	µg/mtra	<0,4960	<0,4960	<0,4960	<0,4960	<0,4960
Molibdeno	Mo	µg/mtra	<1,264	<1,264	<1,264	<1,264	<1,264
Níquel	Ni	µg/mtra	<1,411	<1,411	1.610	<1,411	<1,411
Plata	Ag	µg/mtra	<0,576	<0,576	<0,576	<0,576	<0,576
Plomo	Pb	µg/mtra	13.961	20.838	14.904	23.207	28.336
Potasio	K	µg/mtra	60.24	56.95	51.80	76.98	97.17
Selenio	Se	µg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	µg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	µg/mtra	508.5	399.6	380.5	478.2	388.0
Talio	Tl	µg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	µg/mtra	1.817	2.208	2.277	3.542	4.370
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	µg/mtra	39.58	66.77	38.23	58.88	64.09

<: Debajo del límite de detección

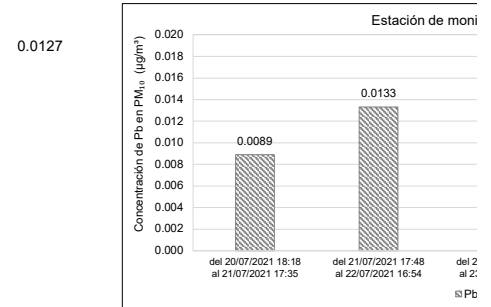
-: Sin dato

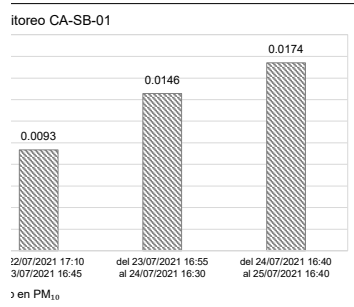
Fuente: Informe de Ensayo N° MA2122137 del laboratorio SGS del Perú S.A.C

CONCENTRACIÓN DE METALES							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		20/07/2021	21/07/2021	22/07/2021	23/07/2021	24/07/2021	
<b>Volumen de muestreo, en m<sup>3</sup> (Va)</b>			<b>1570.05</b>	<b>1564.44</b>	<b>1596.91</b>	<b>1594.93</b>	<b>1628.96</b>
Aluminio	Al	µg/m <sup>3</sup>	0.0423	0.0812	0.1313	0.1141	0.1244
Antimonio	Sb	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Arsénico	As	µg/m <sup>3</sup>	0.0010	<LC	0.0008	0.0026	0.0010
Bario	Ba	µg/m <sup>3</sup>	0.0016	0.0017	0.0026	0.0024	0.0023
Berilio	Be	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Bismuto	Bi	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Boro	B	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Cadmio	Cd	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Calcio	Ca	µg/m <sup>3</sup>	0.4192	0.4543	0.7856	1.2563	0.9381
Cobalto	Co	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Cobre	Cu	µg/m <sup>3</sup>	0.0706	0.0546	0.0547	0.0575	0.0578
Cromo	Cr	µg/m <sup>3</sup>	<LC	<LC	0.0020	<LC	<LC
Estaño	Sn	µg/m <sup>3</sup>	0.0014	0.0012	0.0011	0.0010	0.0011
Estroncio	Sr	µg/m <sup>3</sup>	0.0007	0.0007	0.0018	0.0040	0.0024
Fósforo	P	µg/m <sup>3</sup>	<LC	<LC	<LC	0.0098	0.0138
Hierro	Fe	µg/m <sup>3</sup>	0.2805	0.3338	0.2843	0.4502	0.4539
Litio	Li	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Magnesio	Mg	µg/m <sup>3</sup>	0.0801	0.1094	0.1051	0.1843	0.1622
Manganeso	Mn	µg/m <sup>3</sup>	0.0238	0.0267	0.0180	0.0341	0.0292
Mercurio	Hg	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Molibdeno	Mo	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Níquel	Ni	µg/m <sup>3</sup>	<LC	<LC	0.0010	<LC	<LC
Plata	Ag	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Plomo	Pb	µg/m <sup>3</sup>	0.0089	0.0133	0.0093	0.0146	0.0174
Potasio	K	µg/m <sup>3</sup>	0.0384	0.0364	0.0324	0.0483	0.0597
Selenio	Se	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Silicio	Si	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Sodio	Na	µg/m <sup>3</sup>	0.3239	0.2554	0.2383	0.2998	0.2382
Talio	Tl	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Titanio	Ti	µg/m <sup>3</sup>	0.0012	0.0014	0.0014	0.0022	0.0027
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Zinc	Zn	µg/m <sup>3</sup>	0.0252	0.0427	0.0239	0.0369	0.0393

< LD: Menor al límite de detección

CONCENTRACIÓN DE PLOMO MENSUAL (µg/m <sup>3</sup> )						
FECHA	20/07/2021	21/07/2021	22/07/2021	23/07/2021	24/07/2021	Promedio mensual (µg/m <sup>3</sup> )
<b>Volumen de muestreo (m<sup>3</sup>)</b>	<b>1570.05</b>	<b>1564.44</b>	<b>1596.91</b>	<b>1594.93</b>	<b>1628.96</b>	
Julio 2021	0.0089	0.0133	0.0093	0.0146	0.0174	0.0127







**Tabla 3.8. Volumen muestreado para metales en PM<sub>10</sub> a temperatura de 10°C**

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en julio de 2021

**PUNTO DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0001-7-2021-412

N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Periodo (minutos)	Temperatura ambiental (°C)	Presión ambiental (mm Hg)	Flujo de muestreo (m <sup>3</sup> /min)	Volumen de muestreo en m <sup>3</sup> (Va)	Volumen de muestreo a 10°C en m <sup>3</sup> (Va <sub>10°C</sub> )*
1	Metales en PM <sub>10</sub>	1-212492	20/07/2021 18:18	21/07/2021 17:35	1397	4.4	459.5	1.124	1570.05	968.27
2		1-212493	21/07/2021 17:48	22/07/2021 16:54	1386	3.4	460.4	1.129	1564.44	970.46
3		1-212522	22/07/2021 17:10	23/07/2021 16:45	1415	3.3	460.5	1.129	1596.91	991.10
4		1-212523	23/07/2021 16:55	24/07/2021 16:30	1415	4.1	459.8	1.127	1594.93	985.45
5		1-202602	24/07/2021 16:40	25/07/2021 16:40	1440	4.8	459.4	1.131	1628.96	1002.95

**OBSERVACIONES:**

(\*) El cálculo de volumen muestreado para metales en PM<sub>10</sub>, se realizó en base a las condiciones de temperatura de 10°C (283,15 °K) y presión estándar (760 mmHg ó 1013,25 mBar), establecidas en la Norma referencial ONTARIO'S AMBIENT AIR QUALITY CRITERIA.  
 "-": No aplica.

TÍTULO DEL ESTUDIO:

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en julio de 2021

PUNTO DE MONITOREO:

CA-SB-01

CÓDIGO DE ACCIÓN:

0001-7-2021-412

RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		20/07/2021	21/07/2021	22/07/2021	23/07/2021	24/07/2021	
Aluminio	Al	µg/mtra	66.401	126.96	209.737	181.976	202.699
Antimonio	Sb	µg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	µg/mtra	1.587	<1,237	1.357	4.094	1.702
Bario	Ba	µg/mtra	2.473	2.726	4.106	3.899	3.807
Berilio	Be	µg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	µg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	µg/mtra	<1,506	<1,506	<1,506	<1,506	<1,506
Cadmio	Cd	µg/mtra	<1,457	<1,457	<1,457	<1,457	<1,457
Calcio	Ca	µg/mtra	658.101	710.792	1254.604	2003.668	1528.166
Cobalto	Co	µg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	µg/mtra	110.86	85.376	87.354	91.747	94.185
Cromo	Cr	µg/mtra	<1,586	<1,586	3.232	<1,586	<1,586
Estaño	Sn	µg/mtra	2.266	1.829	1.783	1.668	1.806
Estroncio	Sr	µg/mtra	1.162	1.07	2.795	6.337	3.83
Fósforo	P	µg/mtra	<8,70	<8,70	<8,70	15.59	22.45
Hierro	Fe	µg/mtra	440.45	522.18	453.94	717.96	739.37
Litio	Li	µg/mtra	<0,449	<0,449	<0,449	<0,449	<0,449
Magnesio	Mg	µg/mtra	125.81	171.12	167.79	293.89	264.27
Manganeso	Mn	µg/mtra	37.421	41.699	28.681	54.395	47.541
Mercurio	Hg	µg/mtra	<0,4960	<0,4960	<0,4960	<0,4960	<0,4960
Molibdeno	Mo	µg/mtra	<1,264	<1,264	<1,264	<1,264	<1,264
Níquel	Ni	µg/mtra	<1,411	<1,411	1.61	<1,411	<1,411
Plata	Ag	µg/mtra	<0,576	<0,576	<0,576	<0,576	<0,576
Plomo	Pb	µg/mtra	13.961	20.838	14.904	23.207	28.336
Potasio	K	µg/mtra	60.24	56.95	51.8	76.98	97.17
Selenio	Se	µg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	µg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	µg/mtra	508.5	399.6	380.5	478.2	388
Talio	Tl	µg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	µg/mtra	1.817	2.208	2.277	3.542	4.37
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	µg/mtra	39.58	66.77	38.23	58.88	64.09

<: Debajo del límite de cuantificación

-: Sin dato

Fuente: Informe de Ensayo N° MA2119223 del laboratorio SGS del Perú S.A.C

CONCENTRACIÓN DE METALES									
Metal medido en PM <sub>10</sub>	Unidad	Fecha					AAQC- Ontario		
		20/07/2021	21/07/2021	22/07/2021	23/07/2021	24/07/2021	Valor (µg/m³)	CASRN	
Volumen de muestreo a 10°C en m³ (Va <sub>10°C</sub> )		968.27	970.46	991.10	985.45	1002.95	Valor (µg/m³)	CASRN	
Aluminio	Al	µg/m³	0.0686	0.1308	0.2116	0.1847	0.2021	-	-
Antimonio	Sb	µg/m³	<LC	<LC	<LC	<LC	<LC	25	7440-36-0
Arsénico	As	µg/m³	0.0016	<LC	0.0014	0.0042	0.0017	0.3	7440-38-2
Bario	Ba	µg/m³	0.0026	0.0028	0.0041	0.0040	0.0038	-	-
Berilio	Be	µg/m³	<LC	<LC	<LC	<LC	<LC	0.01	7440-41-7
Bismuto	Bi	µg/m³	<LC	<LC	<LC	<LC	<LC	-	-
Boro	B	µg/m³	<LC	<LC	<LC	<LC	<LC	120	7440-42-8
Cadmio	Cd	µg/m³	<LC	<LC	<LC	<LC	<LC	0.025	7440-43-9
Calcio	Ca	µg/m³	0.6797	0.7324	1.2659	2.0332	1.5237	-	-
Cobalto	Co	µg/m³	<LC	<LC	<LC	<LC	<LC	0.1	7440-48-4
Cobre	Cu	µg/m³	0.1145	0.0880	0.0881	0.0931	0.0939	50	7440-50-8
Cromo	Cr	µg/m³	<LC	<LC	0.0033	<LC	<LC	0.5	7440-47-3
Estaño	Sn	µg/m³	0.0023	0.0019	0.0018	0.0017	0.0018	10	7440-31-5
Estroncio	Sr	µg/m³	0.0012	0.0011	0.0028	0.0064	0.0038	120	7440-24-6
Fósforo	P	µg/m³	<LC	<LC	<LC	0.0158	0.0224	-	-
Hierro	Fe	µg/m³	0.4549	0.5381	0.4580	0.7286	0.7372	4	15438-31-0
Litio	Li	µg/m³	<LC	<LC	<LC	<LC	<LC	-	-
Magnesio	Mg	µg/m³	0.1299	0.1763	0.1693	0.2982	0.2635	-	-
Manganeso	Mn	µg/m³	0.0386	0.0430	0.0289	0.0552	0.0474	0.2	7439-96-5
Mercurio	Hg	µg/m³	<LC	<LC	<LC	<LC	<LC	2	7439-97-6
Molibdeno	Mo	µg/m³	<LC	<LC	<LC	<LC	<LC	120	7439-98-7
Níquel	Ni	µg/m³	<LC	<LC	0.0016	<LC	<LC	0.1	7440-02-0
Plata	Ag	µg/m³	<LC	<LC	<LC	<LC	<LC	1	7440-22-4
Plomo	Pb	µg/m³	0.0144	0.0215	0.0150	0.0235	0.0283	0.5	7439-92-1
Potasio	K	µg/m³	0.0622	0.0587	0.0523	0.0781	0.0969	-	-
Selenio	Se	µg/m³	<LC	<LC	<LC	<LC	<LC	10	7782-49-2
Silicio	Si	µg/m³	<LC	<LC	<LC	<LC	<LC	-	-
Sodio	Na	µg/m³	0.5252	0.4118	0.3839	0.4853	0.3869	-	-
Talio	Tl	µg/m³	<LC	<LC	<LC	<LC	<LC	-	-
Titanio	Ti	µg/m³	0.0019	0.0023	0.0023	0.0036	0.0044	120	7440-32-6
Uranio	U	µg/m³	-	-	-	-	-	0.15	7440-61-1
Vanadio	V	µg/m³	<LC	<LC	<LC	<LC	<LC	2	7440-62-2
Zinc	Zn	µg/m³	0.0409	0.0688	0.0386	0.0597	0.0639	120	7440-66-6

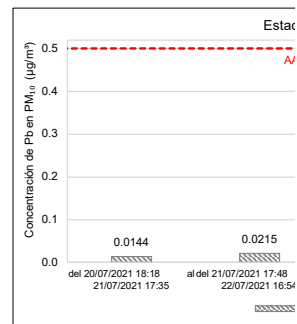
< LC: Menor al límite de cuantificación

-: Sin dato

Pb en PM <sub>10</sub>	AAQC Pb
0	0.5
1	0.5

Fecha inicio  
del 20/07/2021 18:18  
del 21/07/2021 17:48  
del 22/07/2021 17:10  
del 23/07/2021 16:55  
del 24/07/2021 16:40

Fer al 2  
al 2  
al 2  
al 2



cha final  
?1/07/2021 17:35  
?2/07/2021 16:54  
?3/07/2021 16:45  
?4/07/2021 16:30  
?5/07/2021 16:40

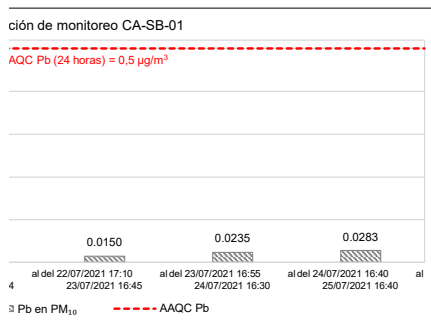


Tabla 3.1. Concentraciones horarias y 24 horas de PM<sub>10</sub>

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en agosto de 2021

**ESTACIÓN DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0002-8-2021-412

**EQUIPO:**

Monitor automático de partículas

**DATOS DEL EQUIPO**

Thermo Scientific

**MODELO:**

TEOM 1405

**MARCA:**

Thermo Scientific

**SERIE:**

1405A208321003

Hora/Día	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
00:00	8.7	3.6	3.5	13.4	17.4	53.5	26.2	56.2	58.4	49.9	49.5	31.5	34.2	22.1	11.1	29.7	35.9	46.3	67.1	52.8	41.9	33.6	31.0	24.7	11.9	28.0	5.7	21.9	14.8	2.7	ID
01:00	5.0	2.5	5.5	12.3	20.9	43.0	20.7	63.0	54.0	45.7	42.7	32.5	35.2	16.3	6.8	30.5	28.4	41.7	72.7	52.6	26.9	19.6	28.2	20.0	7.1	25.3	12.9	19.7	17.4	2.9	2.0
02:00	10.4	1.7	4.6	9.0	26.7	39.5	25.4	55.6	54.3	44.7	38.7	19.9	25.9	22.7	13.2	28.5	22.3	44.9	50.7	50.0	34.6	22.0	15.7	19.4	ID	23.2	8.6	17.7	16.6	1.3	ID
03:00	7.1	1.6	7.8	11.2	39.2	22.1	30.3	45.0	53.1	40.1	37.2	20.5	28.1	22.2	8.2	30.9	26.4	34.1	48.4	57.0	42.2	23.0	21.8	20.7	8.8	24.6	7.9	13.0	14.9	ID	ID
04:00	8.0	3.2	6.8	14.5	43.6	18.2	25.9	50.0	58.0	59.7	44.5	24.5	29.7	15.4	15.6	24.2	34.5	36.5	47.0	52.8	51.5	28.4	18.6	22.9	15.4	25.9	9.5	16.5	16.0	2.6	34.5
05:00	8.0	1.5	10.8	13.3	47.7	18.6	36.0	66.5	68.2	56.3	121.9	25.4	34.9	17.0	17.0	18.8	37.1	25.1	47.2	60.9	29.7	17.5	21.4	22.8	10.6	19.6	27.5	21.0	26.1	26.1	26.1
06:00	7.6	3.6	10.4	10.4	55.9	15.3	33.4	59.7	96.1	44.1	125.0	33.4	65.5	22.7	28.7	42.3	20.7	32.2	60.7	48.4	28.8	13.6	29.8	22.4	7.0	19.7	30.3	22.2	19.4	9.3	72.5
07:00	9.0	9.7	43.3	13.1	41.4	18.2	28.0	85.6	101.7	84.8	69.7	46.9	75.8	46.1	37.8	63.6	14.3	44.3	47.9	51.6	39.9	15.8	22.1	32.0	16.4	27.9	28.1	ND	14.0	9.3	74.3
08:00	14.3	14.8	30.9	15.7	29.8	22.1	42.8	54.7	63.8	96.4	44.5	51.6	32.8	54.7	29.9	74.2	38.9	35.7	54.1	48.8	69.3	27.4	41.5	33.1	37.0	38.9	27.3	ID	25.1	22.5	34.8
09:00	12.4	6.1	14.1	25.7	48.4	33.9	50.7	37.5	53.8	92.3	25.2	50.4	34.8	46.2	27.9	39.7	48.5	46.4	45.8	63.6	76.5	28.6	36.5	27.7	ID	35.0	11.1	49.0	28.8	28.0	29.6
10:00	16.8	6.3	ID	ID	51.5	37.0	85.8	17.8	46.6	81.9	20.5	68.0	49.4	35.2	27.0	18.2	46.5	33.9	36.4	51.5	66.9	35.8	42.9	12.9	ID	29.8	6.7	26.6	15.5	15.2	38.7
11:00	12.0	10.0	16.5	14.1	50.0	15.8	ID	16.5	20.5	21.6	32.9	46.1	29.3	19.1	24.9	18.2	42.4	51.2	19.1	37.7	32.2	21.6	29.1	ID	17.8	40.1	13.2	22.1	13.2	9.7	24.5
12:00	17.6	10.8	18.0	19.8	17.4	20.4	11.8	23.6	34.4	37.4	37.6	30.8	27.8	27.1	23.7	16.9	ID	33.2	23.2	40.9	39.2	24.3	18.3	13.3	25.7	34.5	16.9	32.1	19.5	10.7	19.1
13:00	11.0	ID	IS	18.4	20.4	15.0	16.4	41.9	48.0	48.5	43.0	25.3	32.6	28.5	22.9	20.3	27.8	39.7	29.2	44.0	51.1	29.4	16.7	20.8	17.9	21.4	14.2	35.8	17.2	10.7	19.2
14:00	8.0	18.9	20.5	22.4	14.8	20.4	16.4	34.6	42.9	45.3	56.8	40.6	36.2	20.2	21.3	39.0	28.1	32.2	25.6	45.5	60.4	33.9	27.4	38.3	17.4	16.4	17.2	38.3	19.2	13.9	22.2
15:00	17.0	9.8	22.5	19.9	37.0	26.5	39.3	35.4	38.8	45.1	41.2	38.1	41.8	29.4	27.7	47.8	40.1	31.0	31.8	73.6	54.2	37.9	37.0	40.4	26.5	7.4	18.0	73.6	20.4	6.4	29.8
16:00	12.6	19.9	33.0	35.4	41.6	38.0	60.5	44.2	50.2	49.0	72.9	75.1	52.3	43.0	58.0	59.1	38.0	49.5	68.8	50.2	44.7	71.8	82.7	35.1	11.9	27.3	67.6	24.3	8.7	12.3	
17:00	19.8	28.2	27.8	42.2	44.8	40.9	58.3	58.2	72.0	47.8	57.7	50.7	43.4	67.5	58.2	48.1	40.0	54.5	70.5	39.1	63.2	66.9	77.0	69.7	52.9	ID	28.1	ID	21.2	11.5	16.2
18:00	33.3	37.0	35.9	52.3	63.4	67.4	85.6	75.1	94.1	55.6	52.9	64.1	56.4	72.2	32.5	57.8	37.8	47.7	66.8	49.6	66.9	47.0	82.0	29.0	90.5	27.0	51.1	MA	26.2	14.9	16.9
19:00	15.2	31.9	38.8	53.8	61.2	69.0	90.6	103.6	111.4	68.0	72.6	38.5	58.2	78.3	38.5	56.6	43.2	56.7	85.3	94.5	58.2	39.7	72.8	17.8	69.7	28.1	59.9	MA	23.7	5.7	10.2
20:00	4.2	20.2	35.0	51.8	54.0	58.9	74.2	97.7	113.3	81.1	60.7	41.3	51.1	48.7	35.4	60.4	57.5	78.8	86.0	71.8	65.0	63.2	53.8	9.5	57.3	47.0	50.5	ID	14.5	ID	10.7
21:00	4.8	18.2	26.5	44.3	46.7	56.5	61.9	108.8	116.8	97.2	46.3	39.5	41.6	28.0	41.0	59.9	57.9	87.9	65.5	57.0	47.2	44.9	42.9	10.2	45.1	36.4	34.6	14.7	16.0	ID	37.6
22:00	5.0	12.9	21.4	33.0	44.5	41.9	52.6	66.3	76.4	72.8	34.9	28.8	29.3	34.1	31.6	41.6	34.6	75.8	46.6	47.3	47.3	44.6	33.4	8.4	35.3	24.7	31.0	19.2	6.3	2.9	50.1
23:00	3.6	6.0	16.7	21.5	61.6	40.0	53.5	56.1	57.6	57.8	29.2	22.9	24.5	26.5	35.9	31.8	32.1	57.1	35.5	51.8	55.2	49.6	30.3	10.6	29.2	16.3	24.3	13.4	1.9	ID	9.5
Promedio de PM <sub>10</sub> en 24 h	11.3	12.1	20.6	24.7	40.8	34.7	44.6	56.4	66.0	59.3	52.4	39.4	40.5	35.0	28.1	39.9	36.2	46.5	51.3	53.9	49.9	33.9	37.6	26.5	30.2	26.5	23.3	28.1	17.9	9.9	30.3
<b>ECA aire de PM<sub>10</sub></b>	<b>100 µg/m<sup>3</sup> en periodo de 24 horas</b>																														

ID: insuficiencia de datos por no cumplir con la mínima suficiencia de datos para calcular el promedio de 1 o 24 horas (45 minutos o 18 horas)

LD: Dato que es menor al límite de detección del equipo

MA: Dato no registrado por mantenimiento del equipo

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en agosto de 2021

**ESTACIÓN DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0002-8-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:**

Estación meteorológica

**MARCA:**

Campbell

**MODELO:**

CR1000

**SERIE:**

30825

FECHA Y HORA	Presión atmosférica (mmHg)	Precipitación (mm)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)	Dirección de Viento (°)
1/08/2021 00:00	460.2	0.0	3.0	91.7	1.1	5.3
1/08/2021 01:00	460.0	0.0	2.6	91.9	0.8	19.7
1/08/2021 02:00	459.9	0.0	2.4	96.2	0.8	25.3
1/08/2021 03:00	459.7	0.0	2.4	95.3	1.1	18.2
1/08/2021 04:00	459.9	0.0	2.4	94.8	1.1	2.5
1/08/2021 05:00	460.2	0.0	1.9	96.9	1.5	9.0
1/08/2021 06:00	460.5	0.0	1.6	98.9	1.1	18.3
1/08/2021 07:00	460.8	0.0	2.0	95.1	1.0	23.8
1/08/2021 08:00	461.2	0.0	3.2	86.2	1.1	19.6
1/08/2021 09:00	461.3	0.0	4.4	78.9	1.4	7.2
1/08/2021 10:00	461.3	0.0	3.9	86.9	2.0	346.1
1/08/2021 11:00	461.1	0.0	4.8	82.6	2.1	349.4
1/08/2021 12:00	460.7	0.0	5.6	80.2	1.8	23.7
1/08/2021 13:00	460.3	0.3	5.9	78.2	2.2	355.1
1/08/2021 14:00	460.0	0.0	3.8	91.3	2.2	12.9
1/08/2021 15:00	459.7	0.0	5.2	87.0	2.0	15.7
1/08/2021 16:00	459.8	0.0	6.2	77.2	2.0	18.4
1/08/2021 17:00	460.2	0.0	3.4	91.2	1.4	39.1
1/08/2021 18:00	460.4	0.3	2.5	97.2	1.1	35.3
1/08/2021 19:00	460.6	0.0	2.0	99.3	1.7	7.0
1/08/2021 20:00	460.9	0.0	1.7	99.3	1.2	13.7
1/08/2021 21:00	461.1	0.0	1.9	99.3	1.2	9.1
1/08/2021 22:00	461.2	0.3	1.7	99.3	1.0	16.9
1/08/2021 23:00	461.2	0.3	1.5	99.3	0.9	10.9
2/08/2021 00:00	461.0	0.0	1.4	99.3	0.6	15.5
2/08/2021 01:00	460.7	0.3	1.0	99.3	0.7	357.0
2/08/2021 02:00	460.5	0.0	0.5	99.3	0.6	29.7
2/08/2021 03:00	460.4	0.0	0.0	99.3	0.5	15.3
2/08/2021 04:00	460.5	0.0	0.5	95.7	0.8	5.0
2/08/2021 05:00	460.6	0.0	0.6	87.1	0.5	348.0
2/08/2021 06:00	460.7	0.0	0.6	88.1	0.5	2.3
2/08/2021 07:00	461.0	0.0	0.9	89.2	0.5	359.6
2/08/2021 08:00	461.4	0.0	1.4	88.8	1.2	4.1
2/08/2021 09:00	461.6	0.0	2.3	78.6	0.6	26.7
2/08/2021 10:00	461.4	0.0	3.5	72.8	0.7	19.4
2/08/2021 11:00	461.2	0.0	5.1	63.4	0.8	106.3
2/08/2021 12:00	460.8	0.0	7.9	50.3	1.0	35.7
2/08/2021 13:00	460.5	0.0	9.3	42.6	0.9	70.7
2/08/2021 14:00	460.1	0.0	9.4	43.8	1.1	4.1
2/08/2021 15:00	459.7	0.0	10.1	43.6	1.6	4.0
2/08/2021 16:00	459.7	0.0	8.5	57.0	2.7	350.5
2/08/2021 17:00	459.6	0.0	5.9	71.4	2.4	10.7
2/08/2021 18:00	459.9	0.0	4.0	83.6	1.9	10.6
2/08/2021 19:00	460.2	0.0	3.1	92.0	1.6	3.7
2/08/2021 20:00	460.6	0.0	2.7	93.9	1.1	17.5
2/08/2021 21:00	460.8	0.0	2.4	95.0	1.1	11.4
2/08/2021 22:00	460.9	0.0	2.6	93.3	0.9	12.9
2/08/2021 23:00	460.6	0.0	2.4	88.7	1.1	357.9
3/08/2021 00:00	460.5	0.0	2.3	82.4	1.0	15.1
3/08/2021 01:00	460.3	0.0	2.1	87.9	0.6	9.8
3/08/2021 02:00	460.0	0.0	1.9	88.3	0.9	2.8
3/08/2021 03:00	459.7	0.0	1.5	94.6	0.7	6.0
3/08/2021 04:00	459.9	0.0	0.7	94.2	0.4	350.0
3/08/2021 05:00	460.0	0.0	-0.2	95.7	0.3	324.0
3/08/2021 06:00	460.1	0.0	-0.4	91.2	0.3	330.0
3/08/2021 07:00	460.5	0.0	0.7	87.6	0.6	25.2
3/08/2021 08:00	461.0	0.0	1.4	90.1	1.7	358.1
3/08/2021 09:00	461.3	0.0	3.4	70.3	1.6	12.7
3/08/2021 10:00	461.1	0.0	5.4	58.4	2.2	1.5
3/08/2021 11:00	461.0	0.0	7.0	51.0	2.3	358.1
3/08/2021 12:00	460.5	0.0	8.2	45.3	2.2	7.0
3/08/2021 13:00	460.0	0.0	8.7	42.1	2.4	7.7
3/08/2021 14:00	459.6	0.0	8.4	43.0	1.7	17.5

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3/08/2021 15:00	459.3	0.0	8.5	43.9	2.4	357.1
3/08/2021 16:00	459.2	0.0	7.8	49.0	2.1	5.3
3/08/2021 17:00	459.2	0.0	5.8	56.8	2.2	8.6
3/08/2021 18:00	459.5	0.0	4.0	72.5	2.0	1.7
3/08/2021 19:00	459.8	0.0	3.0	84.1	1.8	12.0
3/08/2021 20:00	460.1	0.0	2.5	91.0	1.3	22.2
3/08/2021 21:00	460.4	0.0	2.3	93.6	0.9	2.8
3/08/2021 22:00	460.5	0.0	2.0	96.9	0.9	9.8
3/08/2021 23:00	460.5	0.0	1.9	96.3	0.8	13.5
4/08/2021 00:00	460.4	0.0	1.8	95.6	0.7	19.2
4/08/2021 01:00	460.1	0.0	1.4	96.3	0.6	14.4
4/08/2021 02:00	459.8	0.0	0.3	99.3	0.3	7.9
4/08/2021 03:00	459.5	0.0	-0.3	99.3	0.2	33.5
4/08/2021 04:00	459.6	0.0	-1.3	99.1	0.2	151.1
4/08/2021 05:00	459.8	0.0	-2.0	99.3	0.1	212.8
4/08/2021 06:00	460.1	0.0	-1.7	99.4	0.3	354.1
4/08/2021 07:00	460.5	0.0	-1.5	99.4	0.5	338.9
4/08/2021 08:00	460.9	0.0	-0.7	99.4	0.6	196.8
4/08/2021 09:00	461.1	0.0	3.5	76.7	0.8	216.8
4/08/2021 10:00	461.1	0.0	6.9	28.4	1.1	87.6
4/08/2021 11:00	460.8	0.0	7.6	29.9	1.4	38.5
4/08/2021 12:00	460.5	0.0	9.1	29.1	1.7	12.8
4/08/2021 13:00	460.0	0.0	9.3	30.1	2.4	1.2
4/08/2021 14:00	459.6	0.0	9.4	28.0	2.1	2.1
4/08/2021 15:00	459.4	0.0	8.4	33.6	2.6	351.5
4/08/2021 16:00	459.5	0.0	7.7	38.6	2.3	353.9
4/08/2021 17:00	459.7	0.0	5.5	53.8	2.0	1.7
4/08/2021 18:00	459.9	0.0	3.5	69.4	2.1	11.8
4/08/2021 19:00	460.2	0.0	2.4	76.6	1.5	15.5
4/08/2021 20:00	460.6	0.0	1.6	83.2	0.8	32.3
4/08/2021 21:00	460.8	0.0	1.1	88.4	0.6	10.7
4/08/2021 22:00	461.0	0.0	1.2	88.3	0.8	359.1
4/08/2021 23:00	461.1	0.0	1.1	85.7	0.9	340.1
5/08/2021 00:00	460.9	0.0	0.9	84.0	0.7	243.7
5/08/2021 01:00	460.6	0.0	-0.1	88.3	0.6	216.9
5/08/2021 02:00	460.3	0.0	-0.8	91.7	0.3	209.8
5/08/2021 03:00	460.1	0.0	-1.3	93.6	0.4	221.4
5/08/2021 04:00	460.1	0.0	-1.9	97.6	0.2	214.0
5/08/2021 05:00	460.3	0.0	-2.3	98.4	0.1	211.0
5/08/2021 06:00	460.4	0.0	-2.2	96.9	0.3	207.6
5/08/2021 07:00	460.8	0.0	-3.5	99.0	1.0	206.0
5/08/2021 08:00	461.3	0.0	-1.9	99.3	0.6	241.6
5/08/2021 09:00	461.5	0.0	1.5	87.0	1.0	214.0
5/08/2021 10:00	461.4	0.0	4.9	61.9	0.9	245.2
5/08/2021 11:00	461.1	0.0	8.2	40.2	1.4	14.9
5/08/2021 12:00	460.7	0.0	9.8	29.0	1.9	346.2
5/08/2021 13:00	460.3	0.0	10.5	22.7	1.9	4.5
5/08/2021 14:00	459.8	0.0	10.9	22.8	1.8	6.0
5/08/2021 15:00	459.5	0.0	10.4	29.2	2.5	345.5
5/08/2021 16:00	459.5	0.0	9.6	36.0	2.0	3.0
5/08/2021 17:00	459.6	0.0	7.2	47.5	2.3	5.8
5/08/2021 18:00	460.0	0.0	5.1	66.0	2.2	3.0
5/08/2021 19:00	460.4	0.0	3.7	77.5	1.9	3.8
5/08/2021 20:00	460.8	0.0	2.8	83.4	0.6	7.4
5/08/2021 21:00	461.0	0.0	2.2	90.0	0.6	346.5
5/08/2021 22:00	461.1	0.0	1.4	92.9	0.4	226.3
5/08/2021 23:00	460.9	0.0	0.6	95.7	0.4	198.6
6/08/2021 00:00	460.6	0.0	0.3	96.4	0.1	189.8
6/08/2021 01:00	460.3	0.0	-0.2	96.8	0.1	213.2
6/08/2021 02:00	460.0	0.0	-0.1	99.3	0.4	225.5
6/08/2021 03:00	459.8	0.0	-1.1	99.3	0.6	230.0
6/08/2021 04:00	459.9	0.0	-1.7	99.4	0.4	221.9
6/08/2021 05:00	460.1	0.0	-2.3	99.4	0.5	219.3
6/08/2021 06:00	460.4	0.0	-2.7	99.4	0.5	193.0
6/08/2021 07:00	460.8	0.0	-2.9	99.4	0.7	208.2
6/08/2021 08:00	461.1	0.0	-1.9	99.4	0.6	214.4
6/08/2021 09:00	461.3	0.0	1.9	90.2	1.3	192.6
6/08/2021 10:00	461.1	0.0	6.6	52.5	1.0	197.2
6/08/2021 11:00	460.7	0.0	10.0	27.6	2.0	355.3
6/08/2021 12:00	460.3	0.0	10.8	24.1	2.3	353.7
6/08/2021 13:00	459.8	0.0	11.1	25.0	1.6	28.8
6/08/2021 14:00	459.3	0.0	11.6	24.3	1.9	11.6
6/08/2021 15:00	459.0	0.0	11.3	26.5	1.9	5.5
6/08/2021 16:00	458.8	0.0	10.8	29.5	1.7	20.8
6/08/2021 17:00	459.0	0.0	8.4	38.5	2.2	7.7
6/08/2021 18:00	459.3	0.0	6.3	57.7	2.1	12.7
6/08/2021 19:00	459.8	0.0	4.9	70.4	1.7	8.9
6/08/2021 20:00	460.1	0.0	3.7	83.0	1.3	4.4
6/08/2021 21:00	460.3	0.0	2.9	92.3	0.7	3.7
6/08/2021 22:00	460.4	0.0	2.4	96.1	0.2	27.5
6/08/2021 23:00	460.3	0.0	1.2	99.2	0.2	341.4
7/08/2021 00:00	460.1	0.0	0.0	99.3	0.4	190.5
7/08/2021 01:00	459.8	0.0	-0.5	99.4	0.1	341.6
7/08/2021 02:00	459.6	0.0	-0.7	99.4	0.1	293.7
7/08/2021 03:00	459.5	0.0	-0.9	99.4	0.1	313.5
7/08/2021 04:00	459.5	0.0	-1.3	99.4	0.0	227.0
7/08/2021 05:00	459.5	0.0	-1.7	99.4	0.2	199.5
7/08/2021 06:00	459.8	0.0	-3.1	99.4	0.5	184.9
7/08/2021 07:00	460.1	0.0	-3.0	99.4	0.7	176.4

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7/08/2021 08:00	460.4	0.0	-1.5	99.4	1.3	184.3
7/08/2021 09:00	460.6	0.0	1.0	99.4	1.4	192.9
7/08/2021 10:00	460.4	0.0	6.9	57.6	1.5	188.3
7/08/2021 11:00	460.1	0.0	10.4	22.8	1.4	12.7
7/08/2021 12:00	459.6	0.0	11.7	18.9	1.5	8.9
7/08/2021 13:00	459.1	0.0	11.9	18.1	2.2	346.8
7/08/2021 14:00	458.6	0.0	12.7	16.5	1.6	15.9
7/08/2021 15:00	458.2	0.0	12.4	22.0	1.7	17.0
7/08/2021 16:00	458.1	0.0	11.6	27.1	1.8	2.5
7/08/2021 17:00	458.2	0.0	8.8	38.3	2.2	6.9
7/08/2021 18:00	458.6	0.0	6.5	57.3	2.2	7.9
7/08/2021 19:00	459.1	0.0	5.2	61.7	1.5	10.5
7/08/2021 20:00	459.4	0.0	4.4	69.8	1.4	0.8
7/08/2021 21:00	459.6	0.0	3.9	74.9	1.1	358.5
7/08/2021 22:00	459.6	0.0	3.3	75.8	0.6	347.1
7/08/2021 23:00	459.8	0.0	1.7	78.1	0.4	222.6
8/08/2021 00:00	459.6	0.0	1.2	78.2	0.2	202.6
8/08/2021 01:00	459.3	0.0	0.8	76.4	0.0	0.0
8/08/2021 02:00	459.0	0.0	0.1	70.7	0.0	0.0
8/08/2021 03:00	458.8	0.0	-0.7	71.1	0.0	0.0
8/08/2021 04:00	458.8	0.0	-0.9	68.0	0.0	197.0
8/08/2021 05:00	458.9	0.0	-1.5	73.9	0.1	192.0
8/08/2021 06:00	459.2	0.0	-2.2	77.7	0.0	183.0
8/08/2021 07:00	459.5	0.0	-0.3	67.8	0.2	181.4
8/08/2021 08:00	459.9	0.0	4.2	44.1	0.6	206.2
8/08/2021 09:00	460.1	0.0	7.8	32.0	0.9	4.1
8/08/2021 10:00	460.0	0.0	9.3	26.4	1.2	25.9
8/08/2021 11:00	459.7	0.0	10.7	23.0	1.5	6.9
8/08/2021 12:00	459.4	0.0	11.9	20.2	2.5	356.4
8/08/2021 13:00	459.1	0.0	12.4	18.2	2.4	359.9
8/08/2021 14:00	458.7	0.0	12.8	16.5	2.1	9.7
8/08/2021 15:00	458.4	0.0	12.5	15.8	2.0	10.0
8/08/2021 16:00	458.4	0.0	11.3	21.7	2.2	357.5
8/08/2021 17:00	458.6	0.0	9.0	31.8	1.9	6.4
8/08/2021 18:00	458.8	0.0	6.8	44.4	2.1	4.6
8/08/2021 19:00	459.1	0.0	5.2	52.5	2.2	5.9
8/08/2021 20:00	459.4	0.0	4.3	58.9	1.1	22.3
8/08/2021 21:00	459.8	0.0	3.5	63.6	0.3	3.6
8/08/2021 22:00	460.0	0.0	2.7	68.3	0.1	346.3
8/08/2021 23:00	460.1	0.0	1.9	73.3	0.3	314.9
9/08/2021 00:00	459.9	0.0	1.4	76.6	0.3	325.9
9/08/2021 01:00	459.7	0.0	0.7	79.4	0.1	317.9
9/08/2021 02:00	459.4	0.0	-0.5	80.5	0.1	179.8
9/08/2021 03:00	459.3	0.0	-1.4	78.5	0.0	0.0
9/08/2021 04:00	459.4	0.0	-1.9	78.0	0.0	0.0
9/08/2021 05:00	459.6	0.0	-2.3	77.5	0.0	0.0
9/08/2021 06:00	459.8	0.0	-2.8	79.6	0.2	202.5
9/08/2021 07:00	460.1	0.0	-1.0	75.9	0.5	170.0
9/08/2021 08:00	460.5	0.0	2.8	56.0	0.9	191.8
9/08/2021 09:00	460.7	0.0	5.5	41.5	1.3	207.4
9/08/2021 10:00	460.7	0.0	8.9	23.6	0.9	23.3
9/08/2021 11:00	460.4	0.0	11.3	16.8	1.6	4.2
9/08/2021 12:00	459.9	0.0	12.3	17.2	1.8	15.1
9/08/2021 13:00	459.4	0.0	12.4	18.1	2.7	347.3
9/08/2021 14:00	459.0	0.0	12.8	18.7	2.1	5.2
9/08/2021 15:00	458.8	0.0	12.4	20.8	2.1	12.6
9/08/2021 16:00	458.8	0.0	11.0	27.2	2.4	3.6
9/08/2021 17:00	459.0	0.0	8.7	36.7	2.2	4.7
9/08/2021 18:00	459.1	0.0	6.6	48.4	2.0	0.8
9/08/2021 19:00	459.4	0.0	5.0	66.0	1.6	3.3
9/08/2021 20:00	459.7	0.0	4.1	74.5	0.9	25.1
9/08/2021 21:00	460.1	0.0	3.0	84.1	0.7	15.2
9/08/2021 22:00	460.4	0.0	2.2	94.2	1.0	5.3
9/08/2021 23:00	460.4	0.0	2.1	91.8	0.4	23.7
10/08/2021 00:00	460.3	0.0	1.1	95.7	0.8	334.2
10/08/2021 01:00	460.0	0.0	-0.7	99.3	0.4	307.7
10/08/2021 02:00	459.8	0.0	-1.5	99.4	0.1	208.4
10/08/2021 03:00	459.6	0.0	-2.1	99.4	0.0	134.0
10/08/2021 04:00	459.7	0.0	-2.2	99.4	0.0	146.0
10/08/2021 05:00	459.9	0.0	-3.2	97.7	0.3	189.7
10/08/2021 06:00	460.1	0.0	-3.6	98.0	0.1	171.1
10/08/2021 07:00	460.3	0.0	-2.4	93.7	0.6	171.8
10/08/2021 08:00	460.7	0.0	-0.8	83.3	1.3	188.1
10/08/2021 09:00	460.9	0.0	1.2	80.6	1.9	191.7
10/08/2021 10:00	460.9	0.0	6.7	49.0	1.5	31.6
10/08/2021 11:00	460.6	0.0	9.2	36.0	1.5	30.7
10/08/2021 12:00	460.2	0.0	10.2	35.9	1.7	19.3
10/08/2021 13:00	459.8	0.0	10.4	35.6	2.3	3.1
10/08/2021 14:00	459.3	0.0	10.6	36.7	2.2	3.8
10/08/2021 15:00	459.1	0.0	10.6	36.1	2.5	357.7
10/08/2021 16:00	459.0	0.0	9.4	39.4	1.7	13.2
10/08/2021 17:00	459.0	0.0	7.8	45.5	1.6	358.8
10/08/2021 18:00	459.1	0.0	5.9	55.5	1.4	353.2
10/08/2021 19:00	459.3	0.0	4.6	66.6	1.4	355.4
10/08/2021 20:00	459.6	0.0	3.8	73.2	0.9	21.4
10/08/2021 21:00	459.8	0.0	3.1	78.8	0.9	33.7
10/08/2021 22:00	460.0	0.0	2.8	87.9	1.0	37.6
10/08/2021 23:00	460.0	0.0	2.3	92.0	0.6	15.9
11/08/2021 00:00	459.9	0.0	1.8	97.2	0.7	5.1

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11/08/2021 01:00	459.8	0.0	1.3	96.3	0.7	4.1
11/08/2021 02:00	459.6	0.0	0.7	96.3	0.3	31.1
11/08/2021 03:00	459.5	0.0	-0.5	97.7	0.3	213.8
11/08/2021 04:00	459.5	0.0	-1.5	99.3	0.2	186.3
11/08/2021 05:00	459.7	0.0	-1.5	99.3	0.0	171.4
11/08/2021 06:00	460.0	0.0	-0.2	98.4	0.3	27.4
11/08/2021 07:00	460.4	0.0	2.0	89.4	0.4	30.6
11/08/2021 08:00	460.7	0.0	4.2	75.0	1.4	13.7
11/08/2021 09:00	461.0	0.0	6.1	59.8	1.0	29.6
11/08/2021 10:00	460.9	0.0	7.9	43.4	1.6	7.3
11/08/2021 11:00	460.6	0.0	9.1	35.6	2.1	5.9
11/08/2021 12:00	460.2	0.0	10.1	36.5	2.6	359.8
11/08/2021 13:00	459.8	0.0	10.6	37.4	2.3	13.1
11/08/2021 14:00	459.4	0.0	10.7	37.1	2.6	354.4
11/08/2021 15:00	459.0	0.0	10.0	37.6	2.2	6.4
11/08/2021 16:00	458.8	0.0	9.4	42.3	2.0	3.5
11/08/2021 17:00	459.0	0.0	7.0	53.6	2.0	9.7
11/08/2021 18:00	459.1	0.0	5.3	67.2	1.8	11.1
11/08/2021 19:00	459.4	0.0	4.2	81.7	1.6	4.4
11/08/2021 20:00	459.8	0.0	3.6	90.1	1.2	20.4
11/08/2021 21:00	460.0	0.0	2.9	95.0	0.7	355.4
11/08/2021 22:00	460.1	0.0	3.0	92.7	0.6	15.0
11/08/2021 23:00	460.0	0.0	2.7	90.6	0.2	18.7

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12/08/2021 00:00	459.9	0.0	2.2	94.9	0.7	4.6
12/08/2021 01:00	459.6	0.0	2.0	96.1	0.8	24.3
12/08/2021 02:00	459.3	0.0	2.2	88.5	0.8	352.9
12/08/2021 03:00	459.1	0.0	2.3	87.7	0.5	13.4
12/08/2021 04:00	459.1	0.0	2.3	90.1	0.5	20.7
12/08/2021 05:00	459.2	0.0	2.2	88.6	0.4	336.5
12/08/2021 06:00	459.4	0.0	1.7	94.0	0.2	336.7
12/08/2021 07:00	459.8	0.0	2.6	88.7	0.4	332.9
12/08/2021 08:00	460.1	0.0	4.7	75.0	0.7	21.8
12/08/2021 09:00	460.2	0.0	5.5	66.5	0.8	30.1
12/08/2021 10:00	460.1	0.0	7.2	54.3	1.0	32.1
12/08/2021 11:00	459.8	0.0	9.3	45.0	1.7	14.2
12/08/2021 12:00	459.4	0.0	10.4	39.4	1.5	7.2
12/08/2021 13:00	458.8	0.0	11.6	36.8	1.6	18.5
12/08/2021 14:00	458.3	0.0	12.2	37.0	2.1	349.2
12/08/2021 15:00	458.2	0.0	10.1	45.8	1.9	356.7
12/08/2021 16:00	458.4	0.0	8.1	60.0	2.0	109.4
12/08/2021 17:00	458.6	0.3	6.1	77.1	1.0	84.9
12/08/2021 18:00	458.9	0.0	5.6	84.4	1.6	42.1
12/08/2021 19:00	459.5	0.0	4.7	89.4	0.9	49.5
12/08/2021 20:00	460.0	0.0	4.7	89.2	0.5	38.6
12/08/2021 21:00	460.3	0.0	4.1	91.6	0.9	191.0
12/08/2021 22:00	460.4	0.0	3.2	94.1	0.8	201.1
12/08/2021 23:00	460.2	0.0	3.2	94.0	0.2	269.6

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13/08/2021 00:00	460.1	0.0	3.1	96.5	0.3	203.9
13/08/2021 01:00	459.9	0.0	3.6	97.4	0.4	34.7
13/08/2021 02:00	459.5	0.0	3.3	96.2	0.3	224.1
13/08/2021 03:00	459.3	0.0	3.1	97.6	0.5	249.7
13/08/2021 04:00	459.4	0.0	2.6	98.6	0.7	206.3
13/08/2021 05:00	459.5	0.0	2.7	95.2	0.1	353.5
13/08/2021 06:00	459.6	0.0	2.2	95.7	0.3	195.3
13/08/2021 07:00	459.9	0.0	2.2	98.9	0.6	199.5
13/08/2021 08:00	460.3	0.0	4.9	78.7	0.7	182.3
13/08/2021 09:00	460.6	0.0	7.1	65.3	0.5	74.4
13/08/2021 10:00	460.4	0.0	9.1	53.3	1.0	44.0
13/08/2021 11:00	460.0	0.0	11.1	40.9	1.2	63.9
13/08/2021 12:00	459.5	0.0	11.0	42.1	1.7	6.1
13/08/2021 13:00	459.1	0.0	11.5	44.3	1.7	13.4
13/08/2021 14:00	458.7	0.0	11.4	46.8	2.1	9.6
13/08/2021 15:00	458.7	0.0	9.9	51.6	1.6	25.8
13/08/2021 16:00	458.8	0.0	8.0	61.0	1.9	343.2
13/08/2021 17:00	459.0	0.0	7.2	73.8	1.9	6.2
13/08/2021 18:00	459.1	0.0	6.0	79.8	1.4	15.2
13/08/2021 19:00	459.5	0.0	5.0	88.5	1.1	11.3
13/08/2021 20:00	459.9	0.0	4.6	93.7	1.0	7.9
13/08/2021 21:00	460.1	0.0	4.0	98.3	1.1	18.6
13/08/2021 22:00	460.0	0.0	3.6	98.4	1.0	11.8
13/08/2021 23:00	460.0	0.0	3.6	97.9	0.4	37.3

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14/08/2021 00:00	459.8	0.0	3.6	93.9	0.7	333.9
14/08/2021 01:00	459.4	0.0	3.7	89.5	0.9	352.5
14/08/2021 02:00	459.2	0.0	3.2	92.9	0.6	12.3
14/08/2021 03:00	459.2	0.0	2.7	94.6	0.5	344.1
14/08/2021 04:00	459.2	0.0	2.3	88.0	0.4	300.8
14/08/2021 05:00	459.3	0.0	2.4	87.1	0.3	210.9
14/08/2021 06:00	459.6	0.0	2.2	88.6	0.2	181.2
14/08/2021 07:00	459.9	0.0	2.7	86.0	0.5	45.4
14/08/2021 08:00	460.3	0.0	5.8	70.5	0.4	261.3
14/08/2021 09:00	460.5	0.0	7.2	61.8	0.9	305.4
14/08/2021 10:00	460.5	0.0	8.4	58.1	1.2	235.5
14/08/2021 11:00	460.1	0.0	10.9	39.9	1.3	27.3
14/08/2021 12:00	459.7	0.0	11.5	35.4	2.1	355.1
14/08/2021 13:00	459.3	0.0	12.1	31.5	2.2	345.5
14/08/2021 14:00	458.8	0.0	12.7	28.1	1.9	357.1
14/08/2021 15:00	458.5	0.0	12.2	31.4	2.2	357.9
14/08/2021 16:00	458.5	0.0	11.6	39.1	2.1	4.7
14/08/2021 17:00	458.7	0.0	8.7	58.5	2.3	7.2



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14/08/2021 18:00	459.0	0.0	6.6	73.0	1.6	25.7
14/08/2021 19:00	459.5	0.0	5.3	82.8	1.8	346.5
14/08/2021 20:00	459.9	0.0	4.0	86.2	1.0	204.4
14/08/2021 21:00	460.0	0.0	4.1	89.2	0.5	213.1
14/08/2021 22:00	459.9	0.0	4.6	89.6	0.6	33.4
14/08/2021 23:00	460.0	0.0	3.6	93.4	0.8	36.4
15/08/2021 00:00	459.9	1.8	2.1	99.2	0.5	49.8
15/08/2021 01:00	459.5	2.2	1.5	99.3	0.3	124.9
15/08/2021 02:00	459.2	0.0	2.0	99.3	0.4	36.1
15/08/2021 03:00	459.0	0.0	2.2	99.3	0.2	70.8
15/08/2021 04:00	458.9	0.0	2.6	98.4	0.5	357.9
15/08/2021 05:00	459.0	0.0	2.1	95.8	0.3	9.8
15/08/2021 06:00	459.3	0.0	1.5	96.4	0.6	335.5
15/08/2021 07:00	459.7	0.0	2.0	93.0	0.6	331.7
15/08/2021 08:00	460.1	0.0	3.6	85.8	0.3	300.2
15/08/2021 09:00	460.3	0.0	5.5	78.7	0.8	23.1
15/08/2021 10:00	460.2	0.0	7.0	70.3	1.5	358.7
15/08/2021 11:00	459.8	0.0	8.0	61.3	1.6	356.6
15/08/2021 12:00	459.3	0.0	9.4	55.1	1.9	0.2
15/08/2021 13:00	458.8	0.0	10.7	47.6	1.8	13.7
15/08/2021 14:00	458.2	0.0	11.3	44.5	1.8	357.4
15/08/2021 15:00	458.0	0.0	9.9	52.5	2.1	12.1
15/08/2021 16:00	458.1	0.0	7.5	65.5	1.2	147.1
15/08/2021 17:00	458.2	0.0	6.2	69.1	1.5	55.7
15/08/2021 18:00	458.4	0.0	4.9	74.9	1.3	46.9
15/08/2021 19:00	458.7	0.0	4.2	90.6	0.9	50.1
15/08/2021 20:00	459.1	0.0	4.1	93.7	0.4	7.9
15/08/2021 21:00	459.4	0.0	4.4	89.3	0.4	33.5
15/08/2021 22:00	459.4	0.0	4.6	84.7	0.4	44.8
15/08/2021 23:00	459.3	0.0	4.1	94.5	0.5	5.5
16/08/2021 00:00	459.0	0.0	3.6	98.1	0.5	348.7
16/08/2021 01:00	458.9	0.0	3.4	96.6	0.3	303.3
16/08/2021 02:00	458.8	0.0	3.1	96.5	0.8	198.2
16/08/2021 03:00	458.6	0.0	2.8	93.8	0.7	159.7
16/08/2021 04:00	458.6	0.0	3.0	88.3	0.4	174.3
16/08/2021 05:00	458.6	0.0	2.4	88.4	0.1	336.4
16/08/2021 06:00	458.8	0.0	1.7	93.6	0.1	38.9
16/08/2021 07:00	459.2	0.0	2.5	91.5	0.6	213.4
16/08/2021 08:00	459.5	0.0	4.6	79.8	0.8	225.7
16/08/2021 09:00	459.6	0.0	8.0	48.5	0.9	170.3
16/08/2021 10:00	459.4	0.0	9.7	36.1	1.2	19.0
16/08/2021 11:00	459.2	0.0	11.2	33.3	1.3	49.7
16/08/2021 12:00	458.7	0.0	11.9	31.6	1.2	17.8
16/08/2021 13:00	458.2	0.0	11.2	34.0	0.9	56.4
16/08/2021 14:00	457.8	0.0	10.6	39.6	1.2	20.6
16/08/2021 15:00	457.5	0.0	10.3	43.5	1.4	27.9
16/08/2021 16:00	457.7	0.0	9.3	52.5	1.5	36.0
16/08/2021 17:00	458.0	0.0	7.0	61.2	1.3	41.7
16/08/2021 18:00	458.4	0.0	5.8	69.3	1.1	34.6
16/08/2021 19:00	458.8	0.0	5.1	75.5	0.9	35.5
16/08/2021 20:00	459.3	0.0	4.6	82.0	0.8	34.4
16/08/2021 21:00	459.6	0.0	4.5	85.3	0.8	37.5
16/08/2021 22:00	459.7	0.0	3.9	92.6	0.8	11.3
16/08/2021 23:00	459.4	0.0	3.5	91.6	0.3	23.9
17/08/2021 00:00	459.4	0.0	2.5	97.3	0.4	36.7
17/08/2021 01:00	459.0	0.0	1.9	99.3	0.7	338.3
17/08/2021 02:00	458.8	0.0	2.1	97.7	0.5	202.1
17/08/2021 03:00	458.7	0.0	1.9	99.0	0.5	197.4
17/08/2021 04:00	458.7	0.0	1.1	99.3	0.5	207.8
17/08/2021 05:00	458.8	0.0	0.0	99.3	0.5	210.2
17/08/2021 06:00	459.0	0.0	-0.5	99.4	0.6	236.2
17/08/2021 07:00	459.5	0.0	-1.1	99.4	0.8	219.4
17/08/2021 08:00	459.9	0.0	0.3	99.4	1.0	224.9
17/08/2021 09:00	460.1	0.0	3.3	91.2	1.5	214.2
17/08/2021 10:00	460.0	0.0	6.7	68.1	1.3	227.0
17/08/2021 11:00	459.6	0.0	9.5	52.4	1.2	226.4
17/08/2021 12:00	459.2	0.0	11.9	30.1	1.7	12.1
17/08/2021 13:00	458.8	0.0	12.8	29.8	2.5	6.1
17/08/2021 14:00	458.3	0.0	11.6	34.2	1.8	12.9
17/08/2021 15:00	458.4	0.0	10.1	46.0	2.6	2.7
17/08/2021 16:00	458.5	0.0	7.8	57.6	2.7	7.3
17/08/2021 17:00	458.7	0.0	6.0	68.1	2.4	355.2
17/08/2021 18:00	459.0	0.0	5.0	72.8	1.4	350.9
17/08/2021 19:00	459.2	0.0	5.2	74.5	0.6	349.1
17/08/2021 20:00	459.6	0.0	4.4	78.5	0.5	234.6
17/08/2021 21:00	460.1	0.0	4.2	82.2	0.5	43.9
17/08/2021 22:00	460.3	0.0	3.5	85.4	0.5	44.5
17/08/2021 23:00	460.2	0.0	2.4	87.3	0.3	233.2
18/08/2021 00:00	460.1	0.0	1.7	89.3	0.1	217.5
18/08/2021 01:00	459.8	0.0	0.6	95.5	0.5	209.9
18/08/2021 02:00	459.5	0.0	0.2	97.8	0.3	208.4
18/08/2021 03:00	459.6	0.0	0.4	98.6	0.2	201.8
18/08/2021 04:00	459.6	0.0	0.6	98.6	0.3	199.7
18/08/2021 05:00	459.8	0.0	-0.6	98.3	0.3	230.5
18/08/2021 06:00	460.0	0.0	-0.4	99.3	0.4	191.1
18/08/2021 07:00	460.5	0.0	-0.8	99.3	0.7	202.9
18/08/2021 08:00	460.8	0.0	1.1	96.8	1.2	209.2
18/08/2021 09:00	460.9	0.0	3.6	80.5	1.4	218.9
18/08/2021 10:00	460.9	0.0	7.9	49.5	1.1	77.2

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18	18/08/2021 11:00	460.8	0.0	9.5	30.8	1.5	129.0
	18/08/2021 12:00	460.5	0.0	10.9	26.5	1.3	117.7
	18/08/2021 13:00	460.1	0.0	11.3	27.8	1.3	104.0
	18/08/2021 14:00	459.7	0.0	11.2	26.6	1.5	96.9
	18/08/2021 15:00	459.3	0.0	10.8	21.9	1.4	126.2
	18/08/2021 16:00	459.2	0.0	10.3	29.1	1.2	111.8
	18/08/2021 17:00	459.4	0.0	8.4	36.9	0.5	138.1
	18/08/2021 18:00	459.6	0.0	6.5	35.2	0.5	28.5
	18/08/2021 19:00	459.9	0.0	5.0	52.4	0.2	84.0
	18/08/2021 20:00	460.2	0.0	4.1	62.3	0.5	37.8
	18/08/2021 21:00	460.4	0.0	3.3	69.2	0.4	28.6
	18/08/2021 22:00	460.5	0.0	2.7	74.6	0.4	22.3
	18/08/2021 23:00	460.5	0.0	1.8	76.3	0.2	229.7
	19/08/2021 00:00	460.3	0.0	0.9	74.3	0.4	204.1
19	19/08/2021 01:00	460.0	0.0	0.5	78.8	0.1	197.8
	19/08/2021 02:00	459.6	0.0	0.2	86.1	0.1	217.0
	19/08/2021 03:00	459.3	0.0	-1.5	88.6	0.5	185.3
	19/08/2021 04:00	459.3	0.0	-2.0	92.2	0.2	209.1
	19/08/2021 05:00	459.4	0.0	-2.2	97.8	0.6	205.6
	19/08/2021 06:00	459.5	0.0	-2.8	99.3	0.5	223.7
	19/08/2021 07:00	459.9	0.0	-2.3	99.4	0.7	259.7
	19/08/2021 08:00	460.3	0.0	-0.1	98.3	1.5	217.9
	19/08/2021 09:00	460.4	0.0	3.4	78.8	1.8	218.4
	19/08/2021 10:00	460.2	0.0	7.6	45.0	1.7	198.2
	19/08/2021 11:00	459.8	0.0	10.7	27.2	1.3	131.3
	19/08/2021 12:00	459.3	0.0	12.5	16.6	1.7	43.9
	19/08/2021 13:00	458.8	0.0	13.2	13.5	1.2	128.2
	19/08/2021 14:00	458.3	0.0	13.3	14.2	1.5	54.3
20	19/08/2021 15:00	457.9	0.0	12.8	18.6	1.4	37.3
	19/08/2021 16:00	457.7	0.0	11.6	36.4	2.1	7.1
	19/08/2021 17:00	457.9	0.0	8.0	55.1	2.6	4.9
	19/08/2021 18:00	458.3	0.0	6.0	70.2	1.5	16.2
	19/08/2021 19:00	458.8	0.0	5.2	80.2	1.1	11.5
	19/08/2021 20:00	459.3	0.0	5.0	78.2	0.6	37.7
	19/08/2021 21:00	459.5	0.0	4.6	78.7	0.2	86.1
	19/08/2021 22:00	459.5	0.0	4.8	77.3	0.8	161.1
	19/08/2021 23:00	459.3	0.0	4.3	80.5	0.7	204.1
	20/08/2021 00:00	459.0	0.0	3.4	86.0	0.6	205.7
	20/08/2021 01:00	458.6	0.0	3.1	89.9	0.4	217.9
	20/08/2021 02:00	458.3	0.0	2.5	92.1	0.4	201.1
	20/08/2021 03:00	457.9	0.0	1.8	94.8	0.2	214.4
	20/08/2021 04:00	457.8	0.0	1.4	97.6	0.1	220.7
20/08/2021 05:00	457.9	0.0	0.9	99.1	0.2	226.3	
21	20/08/2021 06:00	458.2	0.0	0.9	99.3	0.5	208.4
	20/08/2021 07:00	458.5	0.0	0.7	99.3	0.6	206.1
	20/08/2021 08:00	459.0	0.0	2.6	94.7	0.9	213.2
	20/08/2021 09:00	459.0	0.0	7.2	64.0	1.0	219.5
	20/08/2021 10:00	458.8	0.0	8.5	47.9	0.9	202.4
	20/08/2021 11:00	458.5	0.0	9.7	39.2	0.7	63.8
	20/08/2021 12:00	458.0	0.0	11.1	33.9	1.0	55.3
	20/08/2021 13:00	457.6	0.0	11.4	30.6	1.2	145.9
	20/08/2021 14:00	457.3	0.0	9.8	42.9	1.8	353.5
	20/08/2021 15:00	457.2	0.0	6.1	69.9	3.3	335.4
	20/08/2021 16:00	457.3	0.0	6.0	69.3	2.2	339.4
	20/08/2021 17:00	457.5	0.0	6.8	59.8	1.5	5.7
	20/08/2021 18:00	457.8	0.0	6.1	61.2	1.2	41.6
	20/08/2021 19:00	458.2	0.0	4.8	67.9	0.8	38.2
20/08/2021 20:00	458.7	0.0	3.8	76.0	0.5	347.6	
21/08/2021 00:00	458.9	0.0	3.3	85.1	0.2	62.6	
21/08/2021 01:00	459.0	0.0	2.6	88.6	0.2	203.1	
21/08/2021 02:00	459.0	0.0	1.8	90.0	0.1	225.1	
21/08/2021 03:00	458.9	0.0	0.3	96.3	0.3	192.1	
21/08/2021 04:00	458.5	0.0	-1.2	99.3	0.1	193.0	
21/08/2021 05:00	458.1	0.0	-1.1	99.3	0.0	0.0	
21/08/2021 06:00	457.9	0.0	-1.3	98.4	0.0	0.0	
21/08/2021 07:00	457.8	0.0	-1.3	98.2	0.0	184.5	
21/08/2021 08:00	458.1	0.0	-1.8	98.2	0.0	157.7	
21/08/2021 09:00	458.4	0.0	-3.0	99.2	0.2	170.6	
21/08/2021 10:00	458.9	0.0	-2.0	99.1	0.7	176.3	
21/08/2021 11:00	459.2	0.0	-0.2	99.1	1.2	184.6	
21/08/2021 12:00	459.4	0.0	3.5	83.3	1.2	208.6	
21/08/2021 13:00	459.3	0.0	6.9	57.2	1.1	151.7	
21/08/2021 14:00	459.0	0.0	8.9	45.9	1.1	62.0	
21/08/2021 15:00	458.8	0.0	8.2	51.0	1.2	40.7	
21/08/2021 16:00	458.4	0.0	7.8	57.2	1.3	50.5	
21/08/2021 17:00	458.1	0.0	7.0	66.4	1.8	47.0	
21/08/2021 18:00	457.9	0.0	7.0	67.5	1.0	53.7	
21/08/2021 19:00	457.9	0.0	6.6	66.2	1.2	52.6	
21/08/2021 20:00	458.0	0.0	6.1	70.4	0.7	59.5	
21/08/2021 21:00	458.1	0.0	4.4	85.8	0.8	20.9	
21/08/2021 22:00	458.3	0.0	4.0	81.4	0.4	35.1	
21/08/2021 23:00	458.6	0.0	3.4	86.2	0.7	41.7	
22/08/2021 00:00	459.0	0.0	2.9	84.4	0.3	14.8	
22/08/2021 01:00	459.1	0.0	2.1	90.0	0.2	207.1	
22/08/2021 02:00	459.2	0.0	1.6	90.4	0.1	25.9	
22/08/2021 03:00	459.1	0.0	1.0	89.0	0.1	18.4	
22/08/2021 04:00	458.8	0.0	0.1	90.8	0.2	204.4	
22/08/2021 05:00	458.4	0.0	-2.9	97.7	0.3	197.3	
22/08/2021 06:00	458.3	0.0	-1.8	99.3	0.1	169.2	

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22/08/2021 04:00	458.2	0.0	-0.3	99.3	0.4	250.2
22/08/2021 05:00	458.3	0.0	-1.0	99.3	0.3	233.3
22/08/2021 06:00	458.6	0.0	-2.0	99.4	0.4	205.2
22/08/2021 07:00	459.2	0.0	-1.9	99.4	0.6	193.7
22/08/2021 08:00	459.6	0.0	-0.5	99.4	0.7	223.5
22/08/2021 09:00	459.7	0.0	2.2	95.4	1.2	205.1
22/08/2021 10:00	459.6	0.0	6.6	65.2	1.1	182.8
22/08/2021 11:00	459.2	0.0	10.4	39.4	1.3	13.2
22/08/2021 12:00	458.7	0.0	12.1	34.4	1.5	6.7
22/08/2021 13:00	458.2	0.0	13.3	31.9	1.4	40.1
22/08/2021 14:00	457.6	0.0	13.2	34.6	1.9	22.3
22/08/2021 15:00	457.3	0.0	11.8	38.0	2.5	0.4
22/08/2021 16:00	457.5	0.0	9.6	48.8	1.9	114.1
22/08/2021 17:00	457.7	0.0	7.7	57.0	1.1	146.7
22/08/2021 18:00	457.9	0.0	7.3	56.7	0.4	68.2
22/08/2021 19:00	458.1	0.0	6.1	60.0	0.4	6.7
22/08/2021 20:00	458.6	0.0	4.7	81.1	0.6	226.0
22/08/2021 21:00	458.8	0.0	4.2	82.5	0.1	225.8
22/08/2021 22:00	458.8	0.0	3.9	79.3	0.2	59.3
22/08/2021 23:00	458.7	0.0	3.1	90.0	0.2	42.1
23/08/2021 00:00	458.5	0.0	2.5	91.8	0.0	70.0
23/08/2021 01:00	458.3	0.0	1.4	98.9	0.2	309.0
23/08/2021 02:00	457.9	0.0	0.5	99.4	0.6	331.7
23/08/2021 03:00	457.8	0.0	-0.1	99.4	0.3	321.6
23/08/2021 04:00	457.8	0.0	-0.3	99.4	0.1	341.2
23/08/2021 05:00	457.9	0.0	-0.3	99.4	0.2	283.9
23/08/2021 06:00	458.2	0.0	0.1	99.4	0.5	201.0
23/08/2021 07:00	458.5	0.0	0.3	99.4	1.1	219.4
23/08/2021 08:00	458.8	0.0	1.2	99.4	1.1	218.9
23/08/2021 09:00	458.9	0.0	5.3	84.6	1.0	220.8
23/08/2021 10:00	458.8	0.0	9.6	46.2	1.3	199.5
23/08/2021 11:00	458.4	0.0	12.0	28.0	1.1	92.1
23/08/2021 12:00	457.8	0.0	13.8	21.9	1.7	359.0
23/08/2021 13:00	457.3	0.0	14.2	17.7	2.5	353.7
23/08/2021 14:00	456.9	0.0	13.6	22.3	2.4	357.7
23/08/2021 15:00	456.6	0.0	13.8	27.2	1.9	23.4
23/08/2021 16:00	456.6	0.0	11.3	43.3	1.6	51.0
23/08/2021 17:00	456.7	0.0	8.9	49.4	2.1	48.8
23/08/2021 18:00	457.1	0.0	7.2	63.3	1.7	37.8
23/08/2021 19:00	457.6	0.0	5.6	86.5	2.0	359.6
23/08/2021 20:00	458.1	0.0	4.9	92.0	1.3	349.8
23/08/2021 21:00	458.4	0.0	4.9	92.3	0.9	26.6
23/08/2021 22:00	458.5	0.0	4.7	90.5	0.8	350.5
23/08/2021 23:00	458.4	0.0	3.9	96.0	0.6	358.6
24/08/2021 00:00	458.2	0.0	2.9	99.3	0.6	331.2
24/08/2021 01:00	457.8	0.0	2.9	98.9	0.8	353.8
24/08/2021 02:00	457.4	0.0	3.3	96.2	0.5	340.9
24/08/2021 03:00	457.2	0.0	2.9	96.8	0.8	0.5
24/08/2021 04:00	457.1	0.0	2.9	96.8	0.7	331.2
24/08/2021 05:00	457.4	0.0	2.7	96.3	0.4	261.8
24/08/2021 06:00	457.7	0.0	2.7	94.3	0.6	3.1
24/08/2021 07:00	458.1	0.0	3.8	87.0	0.7	343.0
24/08/2021 08:00	458.4	0.0	5.2	76.7	0.6	265.7
24/08/2021 09:00	458.6	0.0	7.8	60.0	0.8	264.0
24/08/2021 10:00	458.4	0.0	9.4	41.3	1.1	281.5
24/08/2021 11:00	458.0	0.0	10.9	31.3	1.0	209.0
24/08/2021 12:00	457.5	0.0	12.8	28.4	1.3	326.2
24/08/2021 13:00	457.0	0.0	13.3	29.4	1.5	17.3
24/08/2021 14:00	456.4	0.0	13.8	31.1	1.8	3.0
24/08/2021 15:00	456.1	0.0	13.3	33.4	2.1	359.9
24/08/2021 16:00	456.4	0.0	9.5	60.8	2.3	9.7
24/08/2021 17:00	456.8	0.3	6.8	79.1	1.7	4.4
24/08/2021 18:00	457.3	0.0	5.1	93.0	1.0	17.3
24/08/2021 19:00	457.7	0.0	3.6	98.6	0.8	15.1
24/08/2021 20:00	458.0	0.0	3.6	99.2	0.9	16.6
24/08/2021 21:00	458.3	0.0	3.2	99.0	0.6	49.9
24/08/2021 22:00	458.5	0.0	2.4	99.3	0.6	36.2
24/08/2021 23:00	458.5	0.0	2.0	99.4	0.1	46.2
25/08/2021 00:00	458.2	0.0	1.6	99.4	0.3	201.0
25/08/2021 01:00	457.9	0.0	1.0	99.4	0.3	194.8
25/08/2021 02:00	457.5	0.0	0.1	99.4	0.3	204.4
25/08/2021 03:00	457.4	0.0	-0.4	99.4	0.5	183.0
25/08/2021 04:00	457.6	0.0	-0.6	99.4	0.5	193.3
25/08/2021 05:00	457.7	0.0	-1.3	99.4	0.8	185.1
25/08/2021 06:00	458.1	0.0	-2.0	99.4	0.7	199.1
25/08/2021 07:00	458.4	0.0	-1.4	99.4	0.4	245.9
25/08/2021 08:00	458.7	0.0	0.7	99.4	0.5	208.8
25/08/2021 09:00	458.8	0.0	5.8	72.1	0.8	202.7
25/08/2021 10:00	458.8	0.0	9.0	32.0	0.9	204.9
25/08/2021 11:00	458.6	0.0	10.7	32.4	1.4	85.7
25/08/2021 12:00	458.2	0.0	12.3	32.2	1.3	22.9
25/08/2021 13:00	457.7	0.0	12.7	33.7	1.9	15.3
25/08/2021 14:00	457.1	0.0	12.9	33.6	1.9	0.6
25/08/2021 15:00	456.6	0.0	12.8	36.6	2.2	4.7
25/08/2021 16:00	456.5	0.0	12.3	36.8	2.1	5.8
25/08/2021 17:00	456.8	0.0	9.7	50.5	2.3	3.6
25/08/2021 18:00	457.1	0.0	7.4	78.8	2.2	9.4
25/08/2021 19:00	457.5	0.0	6.4	91.8	1.9	6.3
25/08/2021 20:00	458.1	0.0	5.7	96.5	1.8	5.9

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25/08/2021 21:00	458.3	0.0	5.6	96.8	1.3	16.6
25/08/2021 22:00	458.4	0.0	5.0	99.1	1.4	15.4
25/08/2021 23:00	458.4	0.0	4.6	98.1	1.4	12.7
26/08/2021 00:00	458.2	0.0	4.5	97.4	0.9	18.2
26/08/2021 01:00	457.8	0.0	4.2	99.2	1.3	355.3
26/08/2021 02:00	457.5	0.0	3.8	99.3	1.1	6.7
26/08/2021 03:00	457.6	0.0	4.0	97.0	0.6	38.0
26/08/2021 04:00	457.5	0.0	3.8	99.0	1.1	4.9
26/08/2021 05:00	457.8	0.0	3.6	95.9	1.0	9.1
26/08/2021 06:00	458.0	0.0	3.5	92.9	1.1	14.6
26/08/2021 07:00	458.3	0.0	4.7	84.0	1.2	9.3
26/08/2021 08:00	458.8	0.0	5.8	80.4	1.2	23.1
26/08/2021 09:00	458.9	0.0	6.7	74.4	1.5	14.1
26/08/2021 10:00	459.1	0.0	7.6	66.7	1.4	13.5
26/08/2021 11:00	458.9	0.0	7.3	72.4	2.3	353.3
26/08/2021 12:00	458.7	0.3	5.6	90.7	1.9	353.4
26/08/2021 13:00	458.4	0.0	4.7	98.7	1.2	14.7
26/08/2021 14:00	457.8	0.0	7.7	83.6	1.7	16.8
26/08/2021 15:00	457.4	0.0	9.2	65.5	2.3	357.2
26/08/2021 16:00	457.2	0.0	9.5	55.5	2.0	1.6
26/08/2021 17:00	457.3	0.0	8.0	53.3	1.7	357.3
26/08/2021 18:00	457.5	0.0	6.3	61.5	1.2	356.6
26/08/2021 19:00	458.0	0.0	5.0	71.6	0.7	6.0
26/08/2021 20:00	458.5	0.0	4.2	88.5	0.9	23.5
26/08/2021 21:00	458.7	0.0	4.1	96.5	0.8	36.4
26/08/2021 22:00	458.9	0.0	3.8	99.3	0.8	16.5
26/08/2021 23:00	458.9	0.0	3.9	98.8	0.9	347.6
27/08/2021 00:00	458.5	0.0	3.8	92.7	0.8	356.9
27/08/2021 01:00	458.4	0.0	3.5	97.0	0.8	9.1
27/08/2021 02:00	458.3	0.0	3.0	95.8	0.7	23.1
27/08/2021 03:00	458.0	0.0	2.1	97.0	0.3	23.2
27/08/2021 04:00	457.9	0.0	1.8	94.1	0.0	331.0
27/08/2021 05:00	458.0	0.0	1.3	96.4	0.1	299.6
27/08/2021 06:00	458.3	0.0	0.3	98.6	0.7	216.5
27/08/2021 07:00	458.7	0.0	0.6	99.4	0.3	177.9
27/08/2021 08:00	459.0	0.0	3.1	96.9	0.7	163.3
27/08/2021 09:00	459.2	0.0	7.6	60.5	1.0	29.7
27/08/2021 10:00	459.1	0.0	9.5	45.5	1.0	53.9
27/08/2021 11:00	458.9	0.0	10.4	43.5	1.5	14.4
27/08/2021 12:00	458.6	0.0	11.7	39.0	2.0	9.3
27/08/2021 13:00	458.1	0.0	11.8	37.5	2.2	3.0
27/08/2021 14:00	457.7	0.0	12.3	36.4	1.9	0.8
27/08/2021 15:00	457.3	0.0	12.1	37.3	2.2	3.3
27/08/2021 16:00	457.1	0.0	11.6	38.5	1.8	9.1
27/08/2021 17:00	457.2	0.0	10.0	43.1	1.6	1.0
27/08/2021 18:00	457.5	0.0	7.4	62.0	2.2	2.4
27/08/2021 19:00	458.1	0.0	5.8	86.6	1.4	8.6
27/08/2021 20:00	458.6	0.0	5.5	94.2	1.0	358.2
27/08/2021 21:00	458.9	0.0	5.3	95.0	1.3	0.7
27/08/2021 22:00	459.0	0.0	5.0	96.7	1.2	10.1
27/08/2021 23:00	459.1	0.0	4.6	96.8	1.5	359.0
28/08/2021 00:00	459.0	0.0	4.2	97.4	0.8	3.6
28/08/2021 01:00	458.7	0.0	4.3	96.8	0.7	1.9
28/08/2021 02:00	458.4	0.0	4.1	97.5	0.7	351.8
28/08/2021 03:00	458.3	0.0	4.1	92.0	0.3	9.5
28/08/2021 04:00	458.3	0.0	4.1	91.9	0.5	350.2
28/08/2021 05:00	458.5	0.0	3.4	97.7	0.4	312.6
28/08/2021 06:00	458.7	0.0	3.2	97.6	0.4	191.8
28/08/2021 07:00	ND	ND	ND	ND	ND	ND
28/08/2021 08:00	ID	ID	ID	ID	ID	ID
28/08/2021 09:00	459.6	0.0	8.9	56.7	0.8	157.5
28/08/2021 10:00	459.4	0.0	10.0	49.2	1.2	313.3
28/08/2021 11:00	459.0	0.0	10.9	42.8	1.0	346.9
28/08/2021 12:00	458.7	0.0	10.9	43.8	1.2	15.5
28/08/2021 13:00	458.4	0.0	10.5	48.4	1.7	6.9
28/08/2021 14:00	458.0	0.0	11.4	49.0	1.8	27.0
28/08/2021 15:00	457.8	0.0	11.0	55.7	2.2	46.3
28/08/2021 16:00	458.2	0.0	7.0	77.7	1.6	45.9
28/08/2021 17:00	459.0	0.0	3.7	93.8	1.4	188.6
28/08/2021 18:00	459.4	3.3	1.9	99.3	0.4	153.3
28/08/2021 19:00	459.6	0.9	2.2	99.3	0.5	206.0
28/08/2021 20:00	460.0	0.0	3.0	98.9	0.3	215.5
28/08/2021 21:00	460.1	0.3	3.0	99.3	0.6	321.7
28/08/2021 22:00	460.1	0.0	3.2	99.3	0.6	231.3
28/08/2021 23:00	460.1	0.0	3.2	99.1	0.5	203.6
29/08/2021 00:00	459.8	0.0	3.5	97.1	0.5	236.2
29/08/2021 01:00	459.5	0.3	3.4	99.0	0.4	245.7
29/08/2021 02:00	459.2	0.6	3.1	99.3	0.3	178.1
29/08/2021 03:00	459.1	0.0	3.1	99.3	0.5	176.5
29/08/2021 04:00	459.0	0.0	3.2	99.3	0.7	205.1
29/08/2021 05:00	459.2	0.0	3.1	99.2	0.9	201.5
29/08/2021 06:00	459.6	0.0	2.6	99.3	0.8	218.0
29/08/2021 07:00	459.9	0.0	3.7	98.1	0.4	161.6
29/08/2021 08:00	460.2	0.3	4.8	93.8	0.5	100.1
29/08/2021 09:00	460.3	0.0	6.1	81.9	0.5	88.7
29/08/2021 10:00	460.2	0.0	7.0	74.0	0.8	61.6
29/08/2021 11:00	459.9	0.0	7.7	71.8	1.2	126.0
29/08/2021 12:00	459.4	0.0	7.8	78.3	1.7	16.0
29/08/2021 13:00	458.9	0.0	8.7	73.5	1.8	30.9

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29/08/2021 14:00	458.5	0.0	8.8	71.2	0.9	77.9
29/08/2021 15:00	458.4	0.0	8.4	67.5	1.5	44.2
29/08/2021 16:00	458.5	0.0	7.1	79.0	1.2	48.7
29/08/2021 17:00	458.8	0.0	5.5	93.3	1.1	31.5
29/08/2021 18:00	459.2	0.0	4.7	92.6	1.1	40.6
29/08/2021 19:00	459.5	0.0	4.0	94.1	1.0	19.9
29/08/2021 20:00	459.8	0.0	3.6	98.0	0.7	4.7
29/08/2021 21:00	460.1	0.0	3.7	98.0	0.6	20.8
29/08/2021 22:00	460.1	0.0	3.7	97.2	0.6	10.2
29/08/2021 23:00	460.0	0.0	3.8	97.0	0.6	349.6
30/08/2021 00:00	459.6	0.0	3.4	99.0	1.0	334.4
30/08/2021 01:00	459.3	0.0	3.4	99.3	0.7	348.4
30/08/2021 02:00	459.0	0.0	3.1	99.1	0.6	322.6
30/08/2021 03:00	458.9	0.0	3.0	99.0	0.5	342.9
30/08/2021 04:00	458.9	0.0	2.7	99.3	0.7	333.7
30/08/2021 05:00	459.1	0.0	2.8	99.3	0.7	357.7
30/08/2021 06:00	459.4	0.0	2.2	99.3	1.1	7.7
30/08/2021 07:00	459.6	0.0	3.0	96.0	0.6	34.0
30/08/2021 08:00	459.9	0.0	4.7	85.4	1.0	21.0
30/08/2021 09:00	460.1	0.0	5.6	80.6	1.5	2.1
30/08/2021 10:00	460.1	0.0	6.6	72.2	1.3	31.3
30/08/2021 11:00	459.6	0.0	8.7	61.4	1.6	23.2
30/08/2021 12:00	459.0	0.0	10.3	58.5	1.9	7.1
30/08/2021 13:00	458.6	0.0	8.0	68.3	1.4	290.4
30/08/2021 14:00	458.4	0.0	4.4	91.0	1.2	268.0
30/08/2021 15:00	458.3	0.0	3.6	96.1	1.4	321.6
30/08/2021 16:00	458.3	0.3	2.9	98.8	1.3	335.0
30/08/2021 17:00	458.6	0.0	4.0	95.4	1.0	350.5
30/08/2021 18:00	458.9	0.0	3.4	98.6	1.3	41.8
30/08/2021 19:00	459.2	0.0	3.1	99.3	1.0	36.3
30/08/2021 20:00	459.3	0.0	2.8	99.3	0.8	357.4
30/08/2021 21:00	459.4	0.0	3.1	99.0	0.7	174.3
30/08/2021 22:00	459.4	0.0	3.0	98.1	0.4	201.5
30/08/2021 23:00	459.4	0.0	3.1	90.8	0.6	187.4
31/08/2021 00:00	459.1	0.0	2.4	96.2	0.3	223.8
31/08/2021 01:00	458.9	0.0	1.7	99.3	0.1	316.2
31/08/2021 02:00	458.7	0.0	1.7	98.4	0.2	324.8
31/08/2021 03:00	458.5	0.0	1.1	97.8	0.1	332.7
31/08/2021 04:00	458.6	0.0	0.8	99.0	0.0	0.0
31/08/2021 05:00	459.0	0.0	0.8	99.3	0.1	147.7
31/08/2021 06:00	459.3	0.0	1.5	99.2	0.2	319.4
31/08/2021 07:00	459.6	0.0	2.3	95.5	0.6	211.3
31/08/2021 08:00	459.9	0.0	3.0	91.5	0.8	210.3
31/08/2021 09:00	460.1	0.0	5.3	73.6	0.9	77.3
31/08/2021 10:00	460.1	0.0	7.2	60.9	0.8	96.7
31/08/2021 11:00	459.8	0.0	9.0	49.6	1.2	62.9
31/08/2021 12:00	459.5	0.0	9.1	52.5	1.4	27.1
31/08/2021 13:00	459.1	0.0	9.4	51.8	1.1	36.5
31/08/2021 14:00	458.7	0.0	9.1	53.9	1.5	28.5
31/08/2021 15:00	458.6	1.1	5.2	82.1	2.3	346.6
31/08/2021 16:00	458.8	1.3	5.3	84.4	1.8	16.3
31/08/2021 17:00	459.0	0.8	3.9	91.0	1.4	9.8
31/08/2021 18:00	459.1	0.0	3.9	92.0	1.0	48.3
31/08/2021 19:00	459.3	0.0	3.3	89.9	0.7	41.9
31/08/2021 20:00	459.6	0.0	3.0	86.6	0.2	23.9
31/08/2021 21:00	459.8	0.0	2.2	91.2	0.1	39.5
31/08/2021 22:00	460.1	0.0	1.7	92.4	0.3	24.3
31/08/2021 23:00	460.2	0.0	1.0	98.6	0.1	30.5

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ID: Insuficiencia de datos por no cumplir con la mínima suficiencia de datos para calcular el promedio de 1 hora (45 minutos)

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en agosto de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01      **CÓDIGO DE ACCIÓN:** 0002-8-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:** Estación meteorológica      **MARCA:** Campbell

**MODELO:** CR1000      **SERIE:** 30825

DIA 1 - AGOSTO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
23/08/2021 17:00	456.7	8.9	49	2.1
23/08/2021 18:00	457.1	7.2	63	1.7
23/08/2021 19:00	457.6	5.6	87	2.0
23/08/2021 20:00	458.1	4.9	92	1.3
23/08/2021 21:00	458.4	4.9	92	0.9
23/08/2021 22:00	458.5	4.7	91	0.8
23/08/2021 23:00	458.4	3.9	96	0.6
24/08/2021 00:00	458.2	2.9	99	0.6
24/08/2021 01:00	457.8	2.9	99	0.8
24/08/2021 02:00	457.4	3.3	96	0.5
24/08/2021 03:00	457.2	2.9	97	0.8
24/08/2021 04:00	457.1	2.9	97	0.7
24/08/2021 05:00	457.4	2.7	96	0.4
24/08/2021 06:00	457.7	2.7	94	0.6
24/08/2021 07:00	458.1	3.8	87	0.7
24/08/2021 08:00	458.4	5.2	77	0.6
24/08/2021 09:00	458.6	7.8	60	0.8
24/08/2021 10:00	458.4	9.4	41	1.1
24/08/2021 11:00	458.0	10.9	31	1.0
24/08/2021 12:00	457.5	12.8	28	1.3
24/08/2021 13:00	457.0	13.3	29	1.5
24/08/2021 14:00	456.4	13.8	31	1.8
24/08/2021 15:00	456.1	13.3	33	2.1
<b>Promedio DIA 1</b>	<b>457.7</b>	<b>6.6</b>	<b>72.5</b>	<b>1.1</b>

DIA 2 - AGOSTO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
24/08/2021 17:00	456.8	6.8	79	1.7
24/08/2021 18:00	457.3	5.1	93	1.0
24/08/2021 19:00	457.7	3.6	99	0.8
24/08/2021 20:00	458.0	3.6	99	0.9
24/08/2021 21:00	458.3	3.2	99	0.6
24/08/2021 22:00	458.5	2.4	99	0.6
24/08/2021 23:00	458.5	2.0	99	0.1
25/08/2021 00:00	458.2	1.6	99	0.3
25/08/2021 01:00	457.9	1.0	99	0.3
25/08/2021 02:00	457.5	0.1	99	0.3
25/08/2021 03:00	457.4	-0.4	99	0.5
25/08/2021 04:00	457.6	-0.6	99	0.5
25/08/2021 05:00	457.7	-1.3	99	0.8
25/08/2021 06:00	458.1	-2.0	99	0.7
25/08/2021 07:00	458.4	-1.4	99	0.4
25/08/2021 08:00	458.7	0.7	99	0.5
25/08/2021 09:00	458.8	5.8	72	0.8
25/08/2021 10:00	458.8	9.0	32	0.9
25/08/2021 11:00	458.6	10.7	32	1.4
25/08/2021 12:00	458.2	12.3	32	1.3
25/08/2021 13:00	457.7	12.7	34	1.9
25/08/2021 14:00	457.1	12.9	34	1.9
25/08/2021 15:00	456.6	12.8	37	2.2
<b>Promedio DIA 2</b>	<b>457.9</b>	<b>4.4</b>	<b>79.8</b>	<b>0.9</b>

DIA 3 - AGOSTO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
25/08/2021 17:00	456.8	9.7	51	2.3
25/08/2021 18:00	457.1	7.4	79	2.2
25/08/2021 19:00	457.5	6.4	92	1.9
25/08/2021 20:00	458.1	5.7	97	1.8
25/08/2021 21:00	458.3	5.6	97	1.3
25/08/2021 22:00	458.4	5.0	99	1.4
25/08/2021 23:00	458.4	4.6	98	1.4
26/08/2021 00:00	458.2	4.5	97	0.9
26/08/2021 01:00	457.8	4.2	99	1.3
26/08/2021 02:00	457.5	3.8	99	1.1
26/08/2021 03:00	457.6	4.0	97	0.6
26/08/2021 04:00	457.5	3.8	99	1.1
26/08/2021 05:00	457.8	3.6	96	1.0
26/08/2021 06:00	458.0	3.5	93	1.1
26/08/2021 07:00	458.3	4.7	84	1.2
26/08/2021 08:00	458.8	5.8	80	1.2
26/08/2021 09:00	458.9	6.7	74	1.5
26/08/2021 10:00	459.1	7.6	67	1.4
26/08/2021 11:00	458.9	7.3	72	2.3
26/08/2021 12:00	458.7	5.6	91	1.9
26/08/2021 13:00	458.4	4.7	99	1.2
26/08/2021 14:00	457.8	7.7	84	1.7
26/08/2021 15:00	457.4	9.2	66	2.3
26/08/2021 16:00	457.2	9.5	56	2.0
<b>Promedio DIA 3</b>	<b>458.0</b>	<b>5.9</b>	<b>86.0</b>	<b>1.5</b>

DIA 4 - AGOSTO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
26/08/2021 17:00	457.3	8.0	53	1.7
26/08/2021 18:00	457.5	6.3	62	1.2
26/08/2021 19:00	458.0	5.0	72	0.7
26/08/2021 20:00	458.5	4.2	89	0.9
26/08/2021 21:00	458.7	4.1	97	0.8
26/08/2021 22:00	458.9	3.8	99	0.8
26/08/2021 23:00	458.9	3.9	99	0.9
27/08/2021 00:00	458.5	3.8	93	0.8
27/08/2021 01:00	458.4	3.5	97	0.8
27/08/2021 02:00	458.3	3.0	96	0.7
27/08/2021 03:00	458.0	2.1	97	0.3
27/08/2021 04:00	457.9	1.8	94	0.0
27/08/2021 05:00	458.0	1.3	96	0.1
27/08/2021 06:00	458.3	0.3	99	0.7
27/08/2021 07:00	458.7	0.6	99	0.3
27/08/2021 08:00	459.0	3.1	97	0.7
27/08/2021 09:00	459.2	7.6	61	1.0
27/08/2021 10:00	459.1	9.5	46	1.0
27/08/2021 11:00	458.9	10.4	44	1.5
27/08/2021 12:00	458.6	11.7	39	2.0
27/08/2021 13:00	458.1	11.8	38	2.2
27/08/2021 14:00	457.7	12.3	36	1.9
27/08/2021 15:00	457.3	12.1	37	2.2
27/08/2021 16:00	457.1	11.6	39	1.8
<b>Promedio DIA 4</b>	<b>458.3</b>	<b>5.9</b>	<b>74.0</b>	<b>1.0</b>

DIA 5 - AGOSTO 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
27/08/2021 18:00	457.5	7.4	62	2.2
27/08/2021 19:00	458.1	5.8	87	1.4
27/08/2021 20:00	458.6	5.5	94	1.0
27/08/2021 21:00	458.9	5.3	95	1.3
27/08/2021 22:00	459.0	5.0	97	1.2
27/08/2021 23:00	459.1	4.6	97	1.5
28/08/2021 00:00	459.0	4.2	97	0.8
28/08/2021 01:00	458.7	4.3	97	0.7
28/08/2021 02:00	458.4	4.1	98	0.7
28/08/2021 03:00	458.3	4.1	92	0.3
28/08/2021 04:00	458.3	4.1	92	0.5
28/08/2021 05:00	458.5	3.4	98	0.4
28/08/2021 06:00	458.7	3.2	98	0.4
28/08/2021 07:00	ND	ND	ND	ND
28/08/2021 08:00	ID	ID	ID	ID
28/08/2021 09:00	459.6	8.9	57	0.8
28/08/2021 10:00	459.4	10.0	49	1.2
28/08/2021 11:00	459.0	10.9	43	1.0
28/08/2021 12:00	458.7	10.9	44	1.2
28/08/2021 13:00	458.4	10.5	48	1.7
28/08/2021 14:00	458.0	11.4	49	1.8
28/08/2021 15:00	457.8	11.0	56	2.2
28/08/2021 16:00	458.2	7.0	78	1.6
28/08/2021 17:00	459.0	3.7	94	1.4
<b>Promedio DIA 5</b>	<b>458.6</b>	<b>6.6</b>	<b>78.2</b>	<b>1.2</b>



**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en agosto de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0002-8-2021-412

**MEDICIONES PROMEDIO (DATOS DIARIOS)**

**DÍA 1** **INICIO:** 23/08/2021 16:42 **FINAL:** 24/08/2021 16:26 **PERIODO :** 23:44 horas **1424 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 6.6 **Presión (mm Hg):** 457.7

**DÍA 2** **INICIO:** 24/08/2021 16:37 **FINAL:** 25/08/2021 16:37 **PERIODO :** 24:00 horas **1440 min**

**Datos horarios registrados:** 24 horas

**Temperatura (°C):** 4.4 **Presión (mm Hg):** 457.9

**DÍA 3** **INICIO:** 25/08/2021 16:50 **FINAL:** 26/08/2021 16:50 **PERIODO :** 24:00 horas **1440 min**

**Datos horarios registrados:** 24 horas

**Temperatura (°C):** 5.9 **Presión (mm Hg):** 458.0

**DÍA 4** **INICIO:** 26/08/2021 17:19 **FINAL:** 27/08/2021 17:19 **PERIODO :** 24:00 horas **1440 min**

**Datos horarios registrados:** 24 horas

**Temperatura (°C):** 5.9 **Presión (mm Hg):** 458.3

**DÍA 5** **INICIO:** 27/08/2021 18:18 **FINAL:** 28/08/2021 17:49 **PERIODO :** 23:31 horas **1411 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 6.6 **Presión (mm Hg):** 458.6

**OBSERVACIONES:**

DATOS GENERALES

TÍTULO DEL ESTUDIO: Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en agosto de 2021

ESTACIÓN DE MONITOREO: CA-SB-01

CÓDIGO DE ACCIÓN: 0002-8-2021-412

DATOS DE LOS EQUIPOS

Barómetro	MARCA:	-	MODELO:	-	SERIE:	-
Venturi PM-10	MARCA:	THERMO SCIENTIFIC				
	MODELO:	HI VOL				
	SERIE:	P9327X				

CÁLCULOS

PM-10

DÍA 1 Fecha Inicio: 23/08/2021 16:42 Fecha Final: 24/08/2021 16:26

Presión inicial: 13.5 pulg H2O Presión final: 13.7 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.6	25.4	457.7	0.945	6.6	1.129	1.133	1.130

DÍA 2 Fecha Inicio: 24/08/2021 16:37 Fecha Final: 25/08/2021 16:37

Presión inicial: 13.3 pulg H2O Presión final: 13.7 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.5	25.2	457.9	0.945	4.4	1.126	1.129	1.127

DÍA 3 Fecha Inicio: 25/08/2021 16:50 Fecha Final: 26/08/2021 16:50

Presión inicial: 13.8 pulg H2O Presión final: 14.1 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
14.0	26.0	458.0	0.943	5.9	1.123	1.127	1.127

DÍA 4 Fecha Inicio: 26/08/2021 17:19 Fecha Final: 27/08/2021 17:19

Presión inicial: 13.4 pulg H2O Presión final: 13.4 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.4	25.0	458.3	0.945	5.9	1.126	1.129	1.129

DÍA 5 Fecha Inicio: 27/08/2021 18:18 Fecha Final: 28/08/2021 17:49

Presión inicial: 13.6 pulg H2O Presión final: 13.7 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.7	25.5	458.6	0.944	6.6	1.128	1.132	1.129

OBSERVACIONES:

"-": No aplica.

Tabla 3.6. Concentración de PM<sub>10</sub> y el volumen muestreado de metales - alto volumen

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en agosto de 2021

**PUNTO DE MONITOREO:** CA-SB-01

**CÓDIGO DE ACCIÓN:** 0002-8-2021-412

N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Tiempo o periodo de muestreo en minutos (t)	Flujo de muestreo, en m³/min (Qa)	Volumen de muestreo en m³ (Va)*	ΔPeso (µg) **	Concentración de partículas (µg/m³)
1	PM <sub>10</sub>	1-212492	23/08/2021 16:42	24/08/2021 16:26	1424	1.130	1609.27	33000	20.5
2		1-212493	24/08/2021 16:37	25/08/2021 16:37	1440	1.127	1622.25	23000	14.2
3		1-212522	25/08/2021 16:50	26/08/2021 16:50	1440	1.127	1622.47	33000	20.3
4		1-212523	26/08/2021 17:19	27/08/2021 17:19	1440	1.129	1625.56	24000	14.8
5		1-202602	27/08/2021 18:18	28/08/2021 17:49	1411	1.129	1593.31	35000	22.0

33  
23  
33  
24  
35

**OBSERVACIONES:**

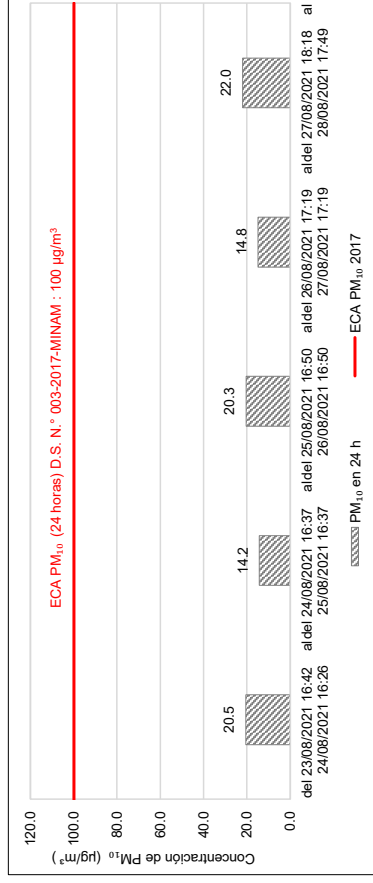
(\*) En el caso del material particulado y las sustancias que deben analizarse en la fase de partículas (metales, iones, carbonáceas, otros), el **volumen de muestreo** se debe expresar en las condiciones ambientales (volumen actual) en términos de temperatura ambiental y presión atmosférica promedio, medidas durante el periodo de muestreo, (Sección L.1.3 Cálculo de concentraciones señalada en el Protocolo de Monitoreo de la Calidad del aire del MINAM - D.S. N° 010-2019-MINAM).

(\*\*) Fuente: Informe de Ensayo MA2126479

“.” : No aplica.

PM <sub>10</sub> en 24 h	ECA PM <sub>10</sub> 2017
0	100
1	100

Fecha inicio Fecha final  
del 23/08/2021 16:42 al 24/08/2021 16:26  
del 24/08/2021 16:37 al 25/08/2021 16:37  
del 25/08/2021 16:50 al 26/08/2021 16:50  
del 26/08/2021 17:19 al 27/08/2021 17:19  
del 27/08/2021 18:18 al 28/08/2021 17:49



**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en agosto de 2021

**PUNTO DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0002-8-2021-412

RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		23/08/2021	24/08/2021	25/08/2021	26/08/2021	27/08/2021	
Aluminio	Al	µg/mtra	99.141	50.956	341.998	77.936	105.283
Antimonio	Sb	µg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	µg/mtra	1.254	<1,237	<1,237	<1,237	1.622
Bario	Ba	µg/mtra	2.714	1.909	2.024	1.840	2.553
Berilio	Be	µg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	µg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	µg/mtra	3.749	3.059	8.855	2.622	3.910
Cadmio	Cd	µg/mtra	<1,457	<1,457	<1,457	<1,457	<1,457
Calcio	Ca	µg/mtra	563.856	409.940	277.851	439.702	718.072
Cobalto	Co	µg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	µg/mtra	14.410	23.172	9.902	11.166	15.192
Cromo	Cr	µg/mtra	<1,586	<1,586	<1,586	<1,586	<1,586
Estaño	Sn	µg/mtra	<0,967	<0,967	<0,967	<0,967	<0,967
Estroncio	Sr	µg/mtra	1.725	1.863	<0,725	1.380	2.714
Fósforo	P	µg/mtra	13.87	<8,70	10.86	14.44	21.02
Hierro	Fe	µg/mtra	294.96	131.99	174.67	172.88	395.80
Litio	Li	µg/mtra	<0,449	<0,449	<0,449	<0,449	<0,449
Magnesio	Mg	µg/mtra	109.12	57.03	63.58	58.80	143.99
Manganeso	Mn	µg/mtra	25.979	15.743	13.720	15.169	38.950
Mercurio	Hg	µg/mtra	0.8740	<0,4960	<0,4960	<0,4960	<0,4960
Molibdeno	Mo	µg/mtra	<1,264	<1,264	<1,264	<1,264	<1,264
Níquel	Ni	µg/mtra	<1,411	<1,411	<1,411	<1,411	<1,411
Plata	Ag	µg/mtra	<0,576	<0,576	<0,576	<0,576	<0,576
Plomo	Pb	µg/mtra	14.893	10.040	9.258	7.464	20.275
Potasio	K	µg/mtra	106.28	63.55	146.30	56.37	104.12
Selenio	Se	µg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	µg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	µg/mtra	<4,6	10.9	6.9	26.9	17.0
Talio	Tl	µg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	µg/mtra	2.254	<1,138	2.001	1.173	2.116
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	µg/mtra	52.16	17.66	15.46	19.80	44.05

<: Debajo del límite de detección

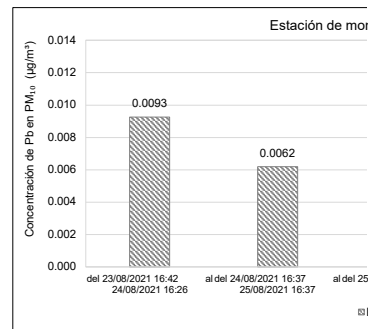
-: Sin dato

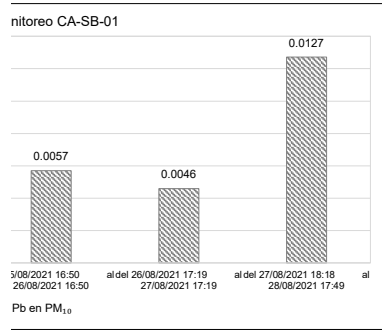
Fuente: Informe de Ensayo N° MA2126479 del laboratorio SGS del Perú S.A.C

CONCENTRACIÓN DE METALES							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		23/08/2021	24/08/2021	25/08/2021	26/08/2021	27/08/2021	
<b>Volumen de muestreo, en m<sup>3</sup> (Va)</b>		<b>1609.27</b>	<b>1622.25</b>	<b>1622.47</b>	<b>1625.56</b>	<b>1593.31</b>	
Aluminio	Al	µg/m <sup>3</sup>	0.0616	0.0314	0.2108	0.0479	0.0661
Antimonio	Sb	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Arsénico	As	µg/m <sup>3</sup>	0.0008	<LC	<LC	<LC	0.0010
Bario	Ba	µg/m <sup>3</sup>	0.0017	0.0012	0.0012	0.0011	0.0016
Berilio	Be	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Bismuto	Bi	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Boro	B	µg/m <sup>3</sup>	0.0023	0.0019	0.0055	0.0016	0.0025
Cadmio	Cd	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Calcio	Ca	µg/m <sup>3</sup>	0.3504	0.2527	0.1713	0.2705	0.4507
Cobalto	Co	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Cobre	Cu	µg/m <sup>3</sup>	0.0090	0.0143	0.0061	0.0069	0.0095
Cromo	Cr	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Estaño	Sn	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Estroncio	Sr	µg/m <sup>3</sup>	0.0011	0.0011	<LC	0.0008	0.0017
Fósforo	P	µg/m <sup>3</sup>	0.0086	<LC	0.0067	0.0089	0.0132
Hierro	Fe	µg/m <sup>3</sup>	0.1833	0.0814	0.1077	0.1064	0.2484
Litio	Li	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Magnesio	Mg	µg/m <sup>3</sup>	0.0678	0.0352	0.0392	0.0362	0.0904
Manganeso	Mn	µg/m <sup>3</sup>	0.0161	0.0097	0.0085	0.0093	0.0244
Mercurio	Hg	µg/m <sup>3</sup>	0.0005	<LC	<LC	<LC	<LC
Molibdeno	Mo	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Níquel	Ni	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Plata	Ag	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Plomo	Pb	µg/m <sup>3</sup>	0.0093	0.0062	0.0057	0.0046	0.0127
Potasio	K	µg/m <sup>3</sup>	0.0660	0.0392	0.0902	0.0347	0.0653
Selenio	Se	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Silicio	Si	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Sodio	Na	µg/m <sup>3</sup>	<LC	0.0067	0.0043	0.0165	0.0107
Talio	Tl	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Titanio	Ti	µg/m <sup>3</sup>	0.0014	<LC	0.0012	0.0007	0.0013
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Zinc	Zn	µg/m <sup>3</sup>	0.0324	0.0109	0.0095	0.0122	0.0276

< LD: Menor al límite de detección

CONCENTRACIÓN DE PLOMO MENSUAL (µg/m <sup>3</sup> )						
FECHA	23/08/2021	24/08/2021	25/08/2021	26/08/2021	27/08/2021	Promedio mensual (µg/m <sup>3</sup> )
Volumen de muestreo (m <sup>3</sup> )	1609.27	1622.25	1622.47	1625.56	1593.31	
Agosto 2021	0.0093	0.0062	0.0057	0.0046	0.0127	0.0077





**Tabla 3.8. Volumen muestreado para metales en PM<sub>10</sub> a temperatura de 10°C**

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en agosto de 2021

**PUNTO DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0002-8-2021-412

N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Periodo (minutos)	Temperatura ambiental (°C)	Presión ambiental (mm Hg)	Flujo de muestreo (m <sup>3</sup> /min)	Volumen de muestreo en m <sup>3</sup> (Va)	Volumen de muestreo a 10°C en m <sup>3</sup> (Va <sub>10°C</sub> )*
1	Metales en PM <sub>10</sub>	1-212492	23/08/2021 16:42	24/08/2021 16:26	1424	6.6	457.7	1.130	1609.27	981.01
2		1-212493	24/08/2021 16:37	25/08/2021 16:37	1440	4.4	457.9	1.127	1622.25	997.28
3		1-212522	25/08/2021 16:50	26/08/2021 16:50	1440	5.9	458.0	1.127	1622.47	992.31
4		1-212523	26/08/2021 17:19	27/08/2021 17:19	1440	5.9	458.3	1.129	1625.56	994.60
5		1-202602	27/08/2021 18:18	28/08/2021 17:49	1411	6.6	458.6	1.129	1593.31	973.11

**OBSERVACIONES:**

(\*) El cálculo de volumen muestreado para metales en PM<sub>10</sub>, se realizó en base a las condiciones de temperatura de 10°C (283,15 °K) y presión estándar (760 mmHg ó 1013,25 mBar), establecidas en la Norma referencial ONTARIO'S AMBIENT AIR QUALITY CRITERIA.  
 " " : No aplica.

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en agosto de 2021

**PUNTO DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0002-8-2021-412

RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		23/08/2021	24/08/2021	25/08/2021	26/08/2021	27/08/2021	
Aluminio	Al	μg/mtra	99.141	50.956	341.998	77.936	105.283
Antimonio	Sb	μg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	μg/mtra	1.254	<1,237	<1,237	<1,237	1.622
Bario	Ba	μg/mtra	2.714	1.909	2.024	1.84	2.553
Berilio	Be	μg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	μg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	μg/mtra	3.749	3.059	8.855	2.622	3.91
Cadmio	Cd	μg/mtra	<1,457	<1,457	<1,457	<1,457	<1,457
Calcio	Ca	μg/mtra	563.856	409.94	277.851	439.702	718.072
Cobalto	Co	μg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	μg/mtra	14.41	23.172	9.902	11.166	15.192
Cromo	Cr	μg/mtra	<1,586	<1,586	<1,586	<1,586	<1,586
Estaño	Sn	μg/mtra	<0,967	<0,967	<0,967	<0,967	<0,967
Estroncio	Sr	μg/mtra	1.725	1.863	<0,725	1.38	2.714
Fósforo	P	μg/mtra	13.87	<8,70	10.86	14.44	21.02
Hierro	Fe	μg/mtra	294.96	131.99	174.67	172.88	395.8
Litio	Li	μg/mtra	<0,449	<0,449	<0,449	<0,449	<0,449
Magnesio	Mg	μg/mtra	109.12	57.03	63.58	58.8	143.99
Manganeso	Mn	μg/mtra	25.979	15.743	13.72	15.169	38.95
Mercurio	Hg	μg/mtra	0.874	<0,4960	<0,4960	<0,4960	<0,4960
Molibdeno	Mo	μg/mtra	<1,264	<1,264	<1,264	<1,264	<1,264
Níquel	Ni	μg/mtra	<1,411	<1,411	<1,411	<1,411	<1,411
Plata	Ag	μg/mtra	<0,576	<0,576	<0,576	<0,576	<0,576
Plomo	Pb	μg/mtra	14.893	10.04	9.258	7.464	20.275
Potasio	K	μg/mtra	106.28	63.55	146.3	56.37	104.12
Selenio	Se	μg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	μg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	μg/mtra	<4,6	10.9	6.9	26.9	17
Talio	Tl	μg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	μg/mtra	2.254	<1,138	2.001	1.173	2.116
Urano	U	μg/mtra	-	-	-	-	-
Vanadio	V	μg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	μg/mtra	52.16	17.66	15.46	19.8	44.05

<: Debajo del límite de cuantificación

-: Sin dato

Fuente: Informe de Ensayo N° MA2126479 del laboratorio SGS del Perú S.A.C

CONCENTRACIÓN DE METALES								
Metal medido en PM <sub>10</sub>	Unidad	Fecha					AAQC- Ontario	
		23/08/2021	24/08/2021	25/08/2021	26/08/2021	27/08/2021	Valor (μg/m³)	CASRN
Volumen de muestreo a 10°C en m³ (V <sub>10°C</sub> )		981.01	997.28	992.31	994.60	973.11		
Aluminio	Al	μg/m³	0.1011	0.0511	0.3446	0.0784	0.1082	-
Antimonio	Sb	μg/m³	<LC	<LC	<LC	<LC	<LC	25 7440-36-0
Arsénico	As	μg/m³	0.0013	<LC	<LC	<LC	0.0017	0.3 7440-38-2
Bario	Ba	μg/m³	0.0028	0.0019	0.0020	0.0018	0.0026	-
Berilio	Be	μg/m³	<LC	<LC	<LC	<LC	<LC	0.01 7440-41-7
Bismuto	Bi	μg/m³	<LC	<LC	<LC	<LC	<LC	-
Boro	B	μg/m³	0.0038	0.0031	0.0089	0.0026	0.0040	120 7440-42-8
Cadmio	Cd	μg/m³	<LC	<LC	<LC	<LC	<LC	0.025 7440-43-9
Calcio	Ca	μg/m³	0.5748	0.4111	0.2800	0.4421	0.7379	-
Cobalto	Co	μg/m³	<LC	<LC	<LC	<LC	<LC	0.1 7440-48-4
Cobre	Cu	μg/m³	0.0147	0.0232	0.0100	0.0112	0.0156	50 7440-50-8
Cromo	Cr	μg/m³	<LC	<LC	<LC	<LC	<LC	0.5 7440-47-3
Estaño	Sn	μg/m³	<LC	<LC	<LC	<LC	<LC	10 7440-31-5
Estroncio	Sr	μg/m³	0.0018	0.0019	<LC	0.0014	0.0028	120 7440-24-6
Fósforo	P	μg/m³	0.0141	<LC	0.0109	0.0145	0.0216	-
Hierro	Fe	μg/m³	0.3007	0.1323	0.1760	0.1738	0.4067	4 15438-31-0
Litio	Li	μg/m³	<LC	<LC	<LC	<LC	<LC	-
Magnesio	Mg	μg/m³	0.1112	0.0572	0.0641	0.0591	0.1480	-
Manganeso	Mn	μg/m³	0.0265	0.0158	0.0138	0.0153	0.0400	0.2 7439-96-5
Mercurio	Hg	μg/m³	0.0009	<LC	<LC	<LC	<LC	2 7439-97-6
Molibdeno	Mo	μg/m³	<LC	<LC	<LC	<LC	<LC	120 7439-98-7
Níquel	Ni	μg/m³	<LC	<LC	<LC	<LC	<LC	0.1 7440-02-0
Plata	Ag	μg/m³	<LC	<LC	<LC	<LC	<LC	1 7440-22-4
Plomo	Pb	μg/m³	0.0152	0.0101	0.0093	0.0075	0.0208	0.5 7439-92-1
Potasio	K	μg/m³	0.1083	0.0637	0.1474	0.0567	0.1070	-
Selenio	Se	μg/m³	<LC	<LC	<LC	<LC	<LC	10 7782-49-2
Silicio	Si	μg/m³	<LC	<LC	<LC	<LC	<LC	-
Sodio	Na	μg/m³	<LC	0.0109	0.0070	0.0270	0.0175	-
Talio	Tl	μg/m³	<LC	<LC	<LC	<LC	<LC	-
Titanio	Ti	μg/m³	0.0023	<LC	0.0020	0.0012	0.0022	120 7440-32-6
Urano	U	μg/m³	-	-	-	-	-	0.15 7440-61-1
Vanadio	V	μg/m³	<LC	<LC	<LC	<LC	<LC	2 7440-62-2
Zinc	Zn	μg/m³	0.0532	0.0177	0.0156	0.0199	0.0453	120 7440-66-6

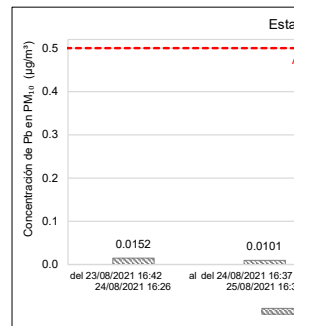
< LC: Menor al límite de cuantificación

-: Sin dato

Pb en PM <sub>10</sub>	AAQC Pb
0	0.5
1	0.5

Fecha inicio del 23/08/2021 16:42 del 24/08/2021 16:37 del 25/08/2021 16:50 del 26/08/2021 17:19 del 27/08/2021 18:18

Fecha inicio del 24/08/2021 16:37 al 25/08/2021 16:50 al 26/08/2021 17:19 al 27/08/2021 18:18



cha final  
37/2021 16:26  
37/2021 16:37  
37/2021 16:50  
37/2021 17:19  
37/2021 17:49

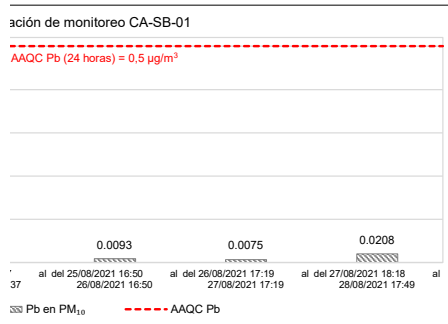






Tabla 3.1. Concentraciones horarias y 24 horas de PM<sub>10</sub>

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en setiembre de 2021

**ESTACIÓN DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0002-9-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:**

Monitor automático de partículas

**MARCA:**

Thermo Scientific

**MODELO:**

TEOM 1405

1405A208321003

Hora/Día	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
00:00	11.4	19.8	33.1	47.3	49.3	3.9	45.9	4.2	11.0	23.2	8.9	ID	8.0	15.2	13.9	13.8	2.3	20.4	IE	IE	3.3	20.5	9.3	23.5	26.0	47.0	44.4	59.9	26.9	7.3
01:00	5.1	15.4	33.5	36.3	43.2	5.8	37.0	10.4	6.4	20.3	6.6	ID	4.4	7.0	14.4	7.0	3.7	16.2	IE	IE	9.3	16.2	7.1	19.0	14.5	21.1	35.6	53.2	28.5	5.1
02:00	ID	11.2	49.3	39.2	36.6	8.3	30.1	11.8	3.5	21.2	4.7	16.6	8.2	10.0	8.1	3.1	3.1	21.9	IE	IE	5.7	10.3	8.0	19.0	19.4	18.9	38.1	40.6	35.6	7.2
03:00	12.6	18.4	27.6	28.5	48.6	10.7	28.1	7.4	6.4	14.1	6.0	11.6	9.4	11.0	9.8	4.1	1.7	35.3	IE	IE	7.8	11.3	7.2	15.9	15.5	26.2	40.9	39.7	15.8	9.6
04:00	14.4	13.4	11.9	26.8	49.0	14.0	19.8	8.7	3.0	20.7	5.8	7.2	6.3	24.6	21.9	13.0	6.8	25.2	IE	IE	14.3	6.7	6.5	16.2	19.1	30.2	39.8	43.1	22.2	11.8
05:00	8.7	23.6	16.6	31.0	24.0	14.1	18.3	10.1	5.6	17.9	9.5	8.1	15.6	25.2	19.0	14.4	7.4	14.6	IE	IE	18.0	17.1	10.4	17.2	41.2	26.3	35.6	45.7	21.1	15.4
06:00	8.9	28.7	21.4	29.1	19.9	19.4	22.4	10.2	12.1	36.2	7.7	9.3	32.9	26.7	20.2	21.0	18.8	12.9	IE	IE	19.0	26.3	7.2	22.0	34.4	27.1	42.0	53.1	24.8	33.0
07:00	9.2	33.5	22.7	30.6	18.6	20.7	44.2	14.6	18.9	44.7	18.1	26.2	49.8	24.1	27.4	21.6	6.4	39.6	IE	IE	51.5	32.6	16.7	29.7	30.2	28.6	66.6	59.4	36.3	30.3
08:00	17.9	46.9	38.5	45.6	43.2	25.3	78.7	21.4	31.0	36.5	42.8	55.5	49.9	38.0	42.5	36.9	8.6	58.2	IE	IE	33.2	22.7	25.4	29.3	27.1	26.0	62.1	69.6	38.5	23.3
09:00	39.2	61.4	71.1	61.0	51.4	35.0	42.1	34.0	16.1	45.9	22.6	31.6	33.5	23.0	45.0	44.9	30.6	70.6	IE	IE	16.2	15.9	30.1	27.5	34.7	27.2	35.0	33.8	21.5	19.9
10:00	61.5	47.5	57.6	36.3	35.4	30.7	25.2	31.3	15.5	25.5	15.7	14.2	13.5	33.5	27.6	40.5	20.5	IE	IE	IE	MA	14.2	20.8	24.4	31.6	39.2	38.0	33.6	34.9	21.8
11:00	35.4	44.6	33.2	33.4	28.8	29.0	24.9	25.2	14.9	21.1	14.4	13.4	19.9	37.5	26.6	29.0	30.2	IE	IE	IE	MA	21.3	25.3	26.9	23.0	28.4	46.8	55.7	36.9	21.8
12:00	18.3	37.1	19.6	32.8	27.8	22.7	19.9	16.7	11.0	19.9	14.0	17.7	23.0	33.4	17.0	32.8	22.0	IE	IE	IE	MA	20.3	37.1	26.9	41.3	23.9	66.5	52.5	18.4	22.2
13:00	20.0	27.8	24.4	31.0	36.5	11.8	29.3	14.4	7.3	29.9	7.9	21.4	36.4	29.9	23.5	39.9	16.6	IE	IE	IE	MA	19.0	38.0	19.5	33.2	21.0	40.8	46.2	25.2	25.4
14:00	21.1	21.9	30.0	27.7	40.8	23.1	15.9	13.4	13.8	21.3	12.9	19.1	16.3	39.1	8.7	30.8	12.1	IE	IE	IE	MA	24.4	29.8	30.3	27.0	21.5	30.3	45.7	26.5	25.0
15:00	23.1	23.1	38.3	41.2	32.5	23.2	20.1	26.1	32.8	32.6	12.7	14.8	23.5	36.3	14.3	31.2	28.9	IE	IE	IE	MA	23.2	37.5	34.4	31.3	30.2	25.7	43.9	22.5	23.3
16:00	22.9	27.8	46.8	55.6	48.9	21.2	36.0	32.0	19.4	39.4	24.8	16.5	28.4	23.7	29.2	38.2	39.5	IE	IE	IE	MA	30.2	32.8	45.4	20.0	62.0	32.3	74.8	34.3	29.0
17:00	32.8	32.1	71.0	51.3	34.4	30.7	35.8	34.8	19.7	30.5	13.5	16.9	29.2	24.4	42.5	40.1	48.7	IE	IE	IE	MA	34.7	33.2	44.3	50.8	52.9	47.4	105.7	50.8	23.8
18:00	59.9	50.0	70.1	70.2	47.4	34.2	26.5	38.4	11.8	19.5	11.6	22.3	27.3	29.5	32.9	37.0	53.7	IE	IE	IE	ID	37.3	36.1	35.4	53.8	52.4	64.4	20.6	14.4	30.0
19:00	64.1	57.0	64.4	86.7	41.9	35.6	14.4	37.2	11.8	11.4	19.4	27.2	39.7	43.9	48.7	24.6	34.4	IE	IE	IE	103.5	27.1	42.1	20.9	60.5	47.6	63.4	23.1	5.4	28.4
20:00	60.0	61.4	63.6	61.5	25.7	40.7	9.4	22.9	12.3	2.9	18.7	27.3	33.2	24.0	42.8	24.6	28.7	IE	IE	IE	153.7	8.9	36.8	22.2	85.7	46.1	83.3	33.5	11.4	34.4
21:00	48.4	43.7	63.7	61.7	22.6	20.7	2.6	9.0	14.3	ID	19.3	18.5	28.8	21.5	36.3	18.5	13.3	IE	IE	39.8	38.7	13.2	39.2	32.9	79.4	41.5	90.9	22.8	16.7	31.1
22:00	25.7	30.6	50.3	50.7	21.2	27.1	ID	5.1	10.6	3.6	14.3	26.9	20.1	11.3	27.9	22.0	25.1	IE	IE	17.7	30.6	14.9	31.8	23.3	66.0	41.4	85.1	24.0	18.1	33.2
23:00	25.9	26.0	40.0	37.8	11.8	48.9	3.5	10.8	23.3	5.4	21.9	19.6	23.5	12.3	13.8	12.9	12.2	IE	IE	10.0	25.7	7.8	34.2	20.8	80.6	48.7	68.6	41.4	9.8	42.5
Promedio de PM <sub>10</sub> en 24 h	28.1	33.5	41.6	43.9	35.0	23.2	27.4	18.8	13.9	23.6	14.7	20.1	24.2	25.2	25.6	25.1	19.8	ID	IE	ID	ID	19.8	25.1	26.1	39.4	34.7	51.0	46.7	24.9	23.1
<b>ECA aire de PM<sub>10</sub></b>	<b>100 µg/m³ en periodo de 24 horas</b>																													

ID: Insuficiencia de datos por no cumplir con la mínima suficiencia de datos para calcular el promedio de 1 o 24 horas (45 minutos o 18 horas)

IE: Sin datos por interrupción eléctrica de la estación de monitoreo

MA: Dato no registrado por mantenimiento del equipo

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en setiembre de 2021

**ESTACIÓN DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0002-9-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:**

Estación meteorológica

**MARCA:**

Campbell

**MODELO:**

CR1000

**SERIE:**

30825

FECHA Y HORA	Presión atmosférica (mmHg)	Precipitación (mm)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)	Dirección de Viento (°)
1/09/2021 00:00	460.0	0.0	0.6	99.3	0.2	215.5
1/09/2021 01:00	459.5	0.0	-0.6	99.3	0.5	207.3
1/09/2021 02:00	459.3	0.0	-1.4	99.4	0.1	275.5
1/09/2021 03:00	459.2	0.0	-1.7	99.4	0.0	354.2
1/09/2021 04:00	459.2	0.0	-2.0	99.4	0.0	30.0
1/09/2021 05:00	459.4	0.0	-2.4	99.4	0.1	224.9
1/09/2021 06:00	459.7	0.0	-1.8	99.4	0.6	212.0
1/09/2021 07:00	460.1	0.0	-1.4	99.4	0.7	191.0
1/09/2021 08:00	460.5	0.3	-0.6	99.4	0.7	213.0
1/09/2021 09:00	460.8	0.0	0.8	99.4	1.1	209.7
1/09/2021 10:00	460.7	0.0	3.2	99.4	1.0	229.9
1/09/2021 11:00	460.3	0.0	7.7	70.7	1.2	290.0
1/09/2021 12:00	459.9	0.0	11.3	34.9	1.4	18.9
1/09/2021 13:00	459.4	0.0	12.0	35.5	1.3	40.3
1/09/2021 14:00	458.9	0.0	12.5	35.7	1.8	10.0
1/09/2021 15:00	458.6	0.0	11.4	38.2	1.6	15.5
1/09/2021 16:00	458.6	0.0	10.1	42.1	1.4	15.4
1/09/2021 17:00	458.6	0.0	9.0	47.1	1.1	39.1
1/09/2021 18:00	458.7	0.0	7.0	63.4	1.2	29.9
1/09/2021 19:00	459.0	0.0	5.5	79.8	1.3	42.1
1/09/2021 20:00	459.5	0.0	4.5	91.0	0.8	28.6
1/09/2021 21:00	459.6	0.0	3.9	92.5	0.9	42.4
1/09/2021 22:00	459.9	0.0	3.3	93.2	0.2	211.6
1/09/2021 23:00	460.0	0.0	3.0	92.8	0.1	356.8
2/09/2021 00:00	459.6	0.0	2.2	94.3	0.0	344.6
2/09/2021 01:00	459.2	0.0	1.5	97.3	0.1	130.7
2/09/2021 02:00	458.8	0.0	0.7	99.3	0.0	50.5
2/09/2021 03:00	458.8	0.0	-0.4	99.3	0.5	290.1
2/09/2021 04:00	458.8	0.0	-0.8	99.4	0.4	340.3
2/09/2021 05:00	459.0	0.0	-0.4	99.4	0.7	295.3
2/09/2021 06:00	459.4	0.0	-0.2	99.4	0.7	163.6
2/09/2021 07:00	459.8	0.0	0.9	98.2	0.4	197.2
2/09/2021 08:00	460.0	0.0	2.8	86.9	0.8	217.2
2/09/2021 09:00	460.4	0.0	3.4	85.1	1.0	211.2
2/09/2021 10:00	460.5	0.0	5.0	74.8	1.0	193.0
2/09/2021 11:00	460.2	0.0	6.6	67.1	1.0	175.5
2/09/2021 12:00	459.8	0.0	8.6	56.0	0.8	42.1
2/09/2021 13:00	459.3	0.0	10.6	45.2	1.3	9.1
2/09/2021 14:00	458.9	0.0	10.4	43.9	1.7	5.4
2/09/2021 15:00	458.5	0.0	10.7	41.2	2.0	9.4
2/09/2021 16:00	458.5	0.0	10.6	42.5	1.6	9.4
2/09/2021 17:00	458.6	0.0	8.4	53.7	2.0	7.6
2/09/2021 18:00	459.0	0.0	6.4	68.2	1.5	0.9
2/09/2021 19:00	459.4	0.0	5.5	77.7	0.8	41.6
2/09/2021 20:00	459.8	0.0	4.4	88.8	0.8	32.9
2/09/2021 21:00	460.1	0.0	3.8	92.4	0.4	41.8
2/09/2021 22:00	460.4	0.0	3.0	95.6	0.5	247.0
2/09/2021 23:00	460.4	0.0	2.1	98.9	0.3	195.5
3/09/2021 00:00	460.0	0.0	1.8	99.3	0.0	0.0
3/09/2021 01:00	459.6	0.0	1.3	99.3	0.4	207.9
3/09/2021 02:00	459.3	0.0	0.7	99.3	0.5	181.2
3/09/2021 03:00	459.0	0.0	-0.8	99.4	0.3	195.6
3/09/2021 04:00	459.0	0.0	-1.4	99.4	0.5	184.6
3/09/2021 05:00	459.1	0.0	-1.6	99.4	0.2	165.1
3/09/2021 06:00	459.5	0.0	-2.1	99.4	0.3	204.7
3/09/2021 07:00	459.9	0.0	-1.7	99.4	0.5	194.7
3/09/2021 08:00	460.3	0.0	0.6	99.4	0.8	185.8
3/09/2021 09:00	460.5	0.0	5.1	89.5	1.3	195.2
3/09/2021 10:00	460.4	0.0	8.7	56.8	1.4	215.0
3/09/2021 11:00	460.0	0.0	11.9	31.6	1.1	96.9
3/09/2021 12:00	459.6	0.0	13.5	18.4	1.3	117.4
3/09/2021 13:00	459.3	0.0	13.8	16.2	1.5	130.3
3/09/2021 14:00	458.6	0.0	14.2	21.1	1.6	60.4

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3/09/2021 15:00	458.3	0.0	12.7	32.2	1.8	34.3
3/09/2021 16:00	458.2	0.0	11.9	37.2	1.4	54.4
3/09/2021 17:00	458.4	0.0	9.3	53.2	1.8	16.7
3/09/2021 18:00	458.7	0.0	7.1	71.6	1.5	9.8
3/09/2021 19:00	459.1	0.0	6.2	71.3	0.7	40.6
3/09/2021 20:00	459.4	0.0	5.5	70.9	0.2	141.4
3/09/2021 21:00	459.6	0.0	4.6	75.1	0.2	104.7
3/09/2021 22:00	459.8	0.0	4.3	72.7	0.2	191.8
3/09/2021 23:00	459.8	0.0	3.3	78.5	0.3	215.7
4/09/2021 00:00	459.5	0.0	2.3	89.8	0.4	206.3
4/09/2021 01:00	459.1	0.0	1.4	95.9	0.5	218.5
4/09/2021 02:00	458.9	0.0	1.1	98.8	0.8	211.8
4/09/2021 03:00	458.6	0.0	0.9	99.4	0.8	207.3
4/09/2021 04:00	458.5	0.0	0.9	99.4	0.8	183.4
4/09/2021 05:00	458.6	0.0	0.5	99.4	0.6	211.2
4/09/2021 06:00	458.9	0.0	0.3	99.4	0.7	200.1
4/09/2021 07:00	459.5	0.0	0.8	99.4	1.0	160.5
4/09/2021 08:00	459.9	0.0	3.6	99.1	1.1	188.1
4/09/2021 09:00	460.1	0.0	8.0	56.7	0.9	136.0
4/09/2021 10:00	460.1	0.0	8.8	48.9	0.9	80.9
4/09/2021 11:00	459.7	0.0	10.9	38.1	1.3	122.9
4/09/2021 12:00	459.3	0.0	12.8	31.0	1.4	90.1
4/09/2021 13:00	458.8	0.0	14.1	23.4	1.7	46.5
4/09/2021 14:00	458.3	0.0	14.2	17.4	1.3	135.3
4/09/2021 15:00	458.1	0.0	13.2	32.0	1.8	41.9
4/09/2021 16:00	458.0	0.0	11.4	42.2	1.6	3.4
4/09/2021 17:00	458.3	0.0	9.8	49.4	1.6	14.0
4/09/2021 18:00	458.6	0.0	8.1	56.0	1.1	41.9
4/09/2021 19:00	459.0	0.0	6.6	65.9	0.6	46.5
4/09/2021 20:00	459.4	0.0	5.7	74.5	0.2	151.8
4/09/2021 21:00	459.7	0.0	4.9	78.8	0.4	69.7
4/09/2021 22:00	459.9	0.0	4.5	79.3	0.3	76.2
4/09/2021 23:00	459.9	0.0	3.8	80.9	0.3	209.7
5/09/2021 00:00	459.6	0.0	2.3	92.0	0.4	209.8
5/09/2021 01:00	459.2	0.0	2.1	93.9	0.3	214.8
5/09/2021 02:00	459.0	0.0	1.9	93.6	0.4	208.3
5/09/2021 03:00	459.0	0.0	1.7	98.4	0.5	210.8
5/09/2021 04:00	458.9	0.0	2.0	97.0	1.2	175.0
5/09/2021 05:00	459.0	0.0	1.6	99.2	0.5	153.8
5/09/2021 06:00	459.4	0.0	2.2	98.9	0.2	146.7
5/09/2021 07:00	459.7	0.0	3.5	91.9	0.8	188.8
5/09/2021 08:00	460.0	0.0	5.6	76.2	0.9	156.3
5/09/2021 09:00	460.3	0.0	7.0	60.8	1.4	103.2
5/09/2021 10:00	460.3	0.0	8.8	47.9	1.4	147.0
5/09/2021 11:00	460.0	0.0	9.0	47.3	1.9	145.4
5/09/2021 12:00	459.6	0.0	9.5	43.8	1.6	132.6
5/09/2021 13:00	459.5	0.0	7.7	60.9	1.4	113.0
5/09/2021 14:00	458.7	0.0	9.4	54.6	1.1	61.0
5/09/2021 15:00	458.1	0.0	10.9	36.7	1.2	81.3
5/09/2021 16:00	458.1	0.0	10.5	32.8	1.1	93.8
5/09/2021 17:00	458.2	0.0	8.8	39.7	1.3	48.3
5/09/2021 18:00	458.9	0.0	6.8	53.1	0.7	86.6
5/09/2021 19:00	459.6	0.0	4.6	74.8	1.0	156.7
5/09/2021 20:00	459.8	0.0	3.9	77.8	0.6	151.4
5/09/2021 21:00	460.1	0.0	4.1	72.9	0.8	127.5
5/09/2021 22:00	460.2	0.0	3.9	74.9	0.8	146.7
5/09/2021 23:00	460.4	0.0	3.4	73.2	0.7	146.7
6/09/2021 00:00	460.0	0.0	2.9	74.2	0.4	149.5
6/09/2021 01:00	459.5	0.0	2.5	79.0	0.2	141.8
6/09/2021 02:00	459.4	0.0	2.7	79.2	0.5	155.0
6/09/2021 03:00	459.1	0.0	2.7	79.0	0.2	141.9
6/09/2021 04:00	458.9	0.0	2.0	90.4	0.6	154.5
6/09/2021 05:00	459.0	0.0	2.1	89.8	0.3	154.6
6/09/2021 06:00	459.5	0.0	2.0	89.9	0.3	148.6
6/09/2021 07:00	459.8	0.0	2.4	93.8	0.6	159.4
6/09/2021 08:00	460.3	0.0	3.4	84.9	0.7	153.4
6/09/2021 09:00	460.6	0.0	4.7	76.0	0.8	138.9
6/09/2021 10:00	460.7	0.0	5.0	77.0	0.9	128.3
6/09/2021 11:00	460.4	0.0	6.4	69.2	0.6	54.8
6/09/2021 12:00	459.9	0.0	6.9	68.4	0.9	148.4
6/09/2021 13:00	459.5	0.0	8.1	61.1	1.0	34.4
6/09/2021 14:00	459.1	0.0	6.5	74.1	1.4	29.9
6/09/2021 15:00	458.7	0.0	6.1	81.2	1.0	44.1
6/09/2021 16:00	458.6	0.0	6.1	77.9	1.3	45.2
6/09/2021 17:00	458.6	0.0	5.2	80.0	1.3	42.4
6/09/2021 18:00	459.0	0.0	4.1	84.2	0.9	49.9
6/09/2021 19:00	459.3	0.0	3.5	85.4	0.4	43.9
6/09/2021 20:00	459.6	0.0	2.9	91.4	0.2	61.5
6/09/2021 21:00	459.8	0.0	2.5	95.6	0.2	57.5
6/09/2021 22:00	459.9	0.0	2.9	90.2	0.0	344.0
6/09/2021 23:00	459.7	0.0	3.1	87.8	0.0	0.0
7/09/2021 00:00	459.4	0.0	2.2	91.5	0.1	281.5
7/09/2021 01:00	459.1	0.0	2.0	95.7	0.3	215.6
7/09/2021 02:00	458.8	0.0	2.2	95.8	0.4	214.6
7/09/2021 03:00	458.7	0.0	2.2	96.1	0.4	228.9
7/09/2021 04:00	458.7	0.0	2.1	95.9	0.1	197.9
7/09/2021 05:00	459.0	0.0	1.2	98.3	0.4	215.4
7/09/2021 06:00	459.1	0.0	2.0	97.7	0.1	252.9
7/09/2021 07:00	459.5	0.0	4.8	79.0	0.3	200.1

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7/09/2021 08:00	459.9	0.0	6.0	71.6	0.8	150.7
7/09/2021 09:00	460.2	0.0	7.8	63.1	1.1	24.9
7/09/2021 10:00	460.1	0.0	8.4	59.4	1.0	13.4
7/09/2021 11:00	459.9	0.0	8.2	60.1	1.2	354.3
7/09/2021 12:00	459.5	0.0	8.5	58.5	0.8	34.9
7/09/2021 13:00	459.0	0.0	8.0	67.5	1.7	345.1
7/09/2021 14:00	458.5	0.0	7.5	67.1	1.6	356.5
7/09/2021 15:00	458.0	0.0	8.9	63.0	1.6	41.8
7/09/2021 16:00	458.0	0.0	8.6	63.2	1.6	47.9
7/09/2021 17:00	458.3	0.0	6.3	73.4	1.5	1.4
7/09/2021 18:00	458.9	0.0	4.4	84.3	1.4	327.3
7/09/2021 19:00	459.2	1.2	3.9	90.7	0.7	183.1
7/09/2021 20:00	459.5	0.9	1.8	99.3	1.2	173.7
7/09/2021 21:00	459.6	0.3	1.7	99.3	0.3	205.5
7/09/2021 22:00	459.7	0.0	2.5	99.3	0.2	31.0
7/09/2021 23:00	459.7	0.0	2.6	99.3	0.2	23.9
8/09/2021 00:00	459.3	0.0	2.4	99.3	0.5	324.4
8/09/2021 01:00	458.8	0.0	1.7	99.3	0.4	309.7
8/09/2021 02:00	458.4	0.0	1.6	99.3	0.4	314.5
8/09/2021 03:00	458.2	0.0	1.6	99.4	0.7	196.5
8/09/2021 04:00	458.1	0.0	1.6	99.3	1.1	161.5
8/09/2021 05:00	458.4	0.0	1.5	99.3	0.8	169.8
8/09/2021 06:00	458.8	0.0	1.1	99.3	0.8	169.9
8/09/2021 07:00	459.3	0.0	1.3	99.3	0.8	162.3
8/09/2021 08:00	459.6	0.0	2.2	99.3	0.8	188.2
8/09/2021 09:00	460.0	0.0	4.2	92.6	0.6	190.4
8/09/2021 10:00	459.9	0.0	7.8	73.3	0.7	172.8
8/09/2021 11:00	459.5	0.0	9.0	63.6	0.8	340.8
8/09/2021 12:00	459.1	0.0	10.4	52.1	1.2	20.5
8/09/2021 13:00	458.4	0.0	12.3	44.5	1.7	8.9
8/09/2021 14:00	457.9	0.0	11.6	49.9	2.1	349.5
8/09/2021 15:00	457.6	0.0	10.3	57.3	2.2	16.4
8/09/2021 16:00	457.7	0.0	8.3	70.7	2.2	7.4
8/09/2021 17:00	457.9	0.0	6.8	78.0	1.8	34.0
8/09/2021 18:00	458.4	0.0	5.3	86.4	0.9	46.0
8/09/2021 19:00	458.6	0.0	5.1	92.7	1.3	20.9
8/09/2021 20:00	459.1	0.0	4.5	94.7	1.3	325.5
8/09/2021 21:00	459.5	0.0	2.8	97.4	0.8	228.4
8/09/2021 22:00	459.6	0.0	2.9	99.3	0.3	279.9
8/09/2021 23:00	459.6	0.0	3.4	98.0	0.2	183.3
9/09/2021 00:00	459.2	0.0	3.8	95.9	0.3	246.3
9/09/2021 01:00	458.9	0.0	3.2	98.1	0.9	328.5
9/09/2021 02:00	458.6	0.0	3.5	97.1	0.3	267.3
9/09/2021 03:00	458.6	0.0	3.2	98.9	0.8	348.6
9/09/2021 04:00	458.5	0.0	3.1	99.3	0.6	4.0
9/09/2021 05:00	458.7	0.0	3.1	99.3	0.5	36.1
9/09/2021 06:00	459.1	0.0	3.2	99.3	0.9	11.0
9/09/2021 07:00	459.5	0.0	4.1	96.8	0.9	33.4
9/09/2021 08:00	459.8	0.0	5.0	90.4	1.1	19.7
9/09/2021 09:00	459.9	0.0	6.7	74.8	1.0	34.8
9/09/2021 10:00	460.0	0.0	6.4	76.7	1.4	346.6
9/09/2021 11:00	459.9	0.3	4.2	93.2	1.3	338.8
9/09/2021 12:00	459.3	0.0	7.9	78.4	1.5	16.9
9/09/2021 13:00	458.6	0.0	9.6	60.4	1.0	28.8
9/09/2021 14:00	458.0	0.0	10.3	60.3	1.4	49.5
9/09/2021 15:00	458.0	0.0	6.2	76.9	1.5	344.9
9/09/2021 16:00	458.1	0.0	4.2	89.5	0.9	49.3
9/09/2021 17:00	458.3	0.0	4.5	89.5	0.6	151.2
9/09/2021 18:00	458.5	0.0	3.7	95.2	0.2	165.2
9/09/2021 19:00	458.8	0.0	4.1	92.2	0.1	273.8
9/09/2021 20:00	459.0	0.0	4.1	94.8	0.3	221.5
9/09/2021 21:00	459.3	0.0	3.6	91.4	0.4	200.2
9/09/2021 22:00	459.6	0.0	3.4	93.4	0.2	225.5
9/09/2021 23:00	459.6	0.0	3.0	97.5	0.0	210.7
10/09/2021 00:00	459.2	0.0	3.4	93.7	0.1	224.2
10/09/2021 01:00	458.8	0.0	3.0	93.4	0.4	261.7
10/09/2021 02:00	458.4	0.0	1.9	98.4	0.3	201.1
10/09/2021 03:00	458.5	0.0	2.5	97.1	0.1	147.1
10/09/2021 04:00	458.5	0.0	3.0	94.4	0.3	228.3
10/09/2021 05:00	458.4	0.0	2.0	97.8	0.2	244.6
10/09/2021 06:00	458.7	0.0	1.9	99.3	0.1	234.1
10/09/2021 07:00	459.2	0.0	3.4	94.3	0.4	186.9
10/09/2021 08:00	459.5	0.0	5.3	83.3	0.6	63.3
10/09/2021 09:00	459.6	0.0	7.7	70.2	0.6	111.6
10/09/2021 10:00	459.6	0.0	7.3	71.3	1.2	209.4
10/09/2021 11:00	459.5	0.0	7.7	68.0	0.7	218.3
10/09/2021 12:00	459.0	0.0	9.5	60.6	0.8	33.5
10/09/2021 13:00	458.5	0.0	11.0	56.2	1.2	36.0
10/09/2021 14:00	457.8	0.0	11.6	54.3	1.5	32.9
10/09/2021 15:00	457.5	0.0	10.5	61.5	2.2	22.5
10/09/2021 16:00	457.6	0.0	8.2	74.9	1.4	61.1
10/09/2021 17:00	458.0	0.0	6.2	78.1	1.0	47.4
10/09/2021 18:00	458.6	0.0	4.7	84.8	1.8	166.3
10/09/2021 19:00	459.1	0.0	2.0	99.3	2.2	168.9
10/09/2021 20:00	459.2	0.0	2.6	98.8	0.7	53.8
10/09/2021 21:00	459.5	0.0	2.5	99.3	0.8	64.3
10/09/2021 22:00	459.7	0.0	2.8	99.1	0.2	31.8
10/09/2021 23:00	459.7	0.0	3.0	98.1	0.2	33.7
11/09/2021 00:00	459.4	0.0	3.0	98.6	0.2	95.4

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11/09/2021 01:00	459.0	0.0	3.2	95.2	0.3	332.8
11/09/2021 02:00	458.8	0.0	3.1	96.8	0.6	204.2
11/09/2021 03:00	458.7	0.0	2.8	99.3	0.6	214.1
11/09/2021 04:00	458.6	0.0	2.6	99.3	0.4	224.4
11/09/2021 05:00	458.7	0.0	2.5	99.3	0.3	198.8
11/09/2021 06:00	459.0	0.0	2.8	99.1	0.1	203.4
11/09/2021 07:00	459.4	0.0	4.2	91.5	0.4	149.6
11/09/2021 08:00	459.7	0.0	5.5	83.3	0.7	51.8
11/09/2021 09:00	460.0	0.0	6.2	83.2	1.1	41.1
11/09/2021 10:00	460.1	0.0	5.3	92.7	0.8	41.3
11/09/2021 11:00	460.0	0.0	6.0	90.0	1.3	21.7
11/09/2021 12:00	459.7	0.0	6.3	90.0	1.0	86.8
11/09/2021 13:00	459.2	0.0	8.8	71.9	1.7	21.9
11/09/2021 14:00	458.9	0.0	8.7	70.0	2.1	1.8
11/09/2021 15:00	458.7	0.0	8.5	73.1	1.5	35.8
11/09/2021 16:00	458.8	0.0	5.8	91.0	0.8	127.9
11/09/2021 17:00	458.9	0.0	5.8	87.7	1.1	36.5
11/09/2021 18:00	459.3	0.0	5.0	90.4	1.2	7.7
11/09/2021 19:00	459.7	0.0	4.7	92.4	0.8	32.9
11/09/2021 20:00	459.9	0.0	4.1	97.6	0.6	3.6
11/09/2021 21:00	460.2	0.0	3.6	99.3	0.1	96.2
11/09/2021 22:00	460.2	0.0	3.2	99.3	0.1	336.4
11/09/2021 23:00	460.1	0.0	2.5	99.3	0.2	274.4

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12/09/2021 00:00	459.8	0.0	2.0	99.3	0.1	330.8
12/09/2021 01:00	459.7	0.0	1.7	99.3	0.0	308.4
12/09/2021 02:00	459.4	0.0	1.8	99.3	0.3	37.2
12/09/2021 03:00	459.4	0.0	1.8	99.4	0.5	352.0
12/09/2021 04:00	459.4	0.0	1.7	99.4	0.1	198.9
12/09/2021 05:00	459.5	0.0	1.0	99.4	0.3	184.0
12/09/2021 06:00	459.8	0.0	0.5	99.4	0.1	163.2
12/09/2021 07:00	460.2	0.0	1.6	99.4	0.1	128.5
12/09/2021 08:00	460.4	0.0	4.6	93.5	0.5	109.7
12/09/2021 09:00	460.7	0.0	7.4	72.7	1.4	15.1
12/09/2021 10:00	460.8	0.0	8.1	64.8	1.5	9.1
12/09/2021 11:00	460.5	0.0	8.9	59.3	1.6	8.9
12/09/2021 12:00	460.2	0.0	9.4	57.0	1.3	27.4
12/09/2021 13:00	459.8	0.0	9.4	58.5	1.1	22.7
12/09/2021 14:00	459.5	0.0	8.2	67.8	2.0	41.8
12/09/2021 15:00	459.3	0.0	8.6	63.8	1.3	42.3
12/09/2021 16:00	459.1	0.0	8.4	65.6	1.7	11.3
12/09/2021 17:00	459.3	0.0	7.8	74.9	1.9	347.5
12/09/2021 18:00	459.5	0.0	5.6	88.4	1.6	0.6
12/09/2021 19:00	459.7	0.0	4.7	91.1	0.6	3.3
12/09/2021 20:00	460.1	0.0	4.7	92.2	0.7	350.5
12/09/2021 21:00	460.2	0.0	4.4	93.6	0.8	4.6
12/09/2021 22:00	460.3	0.0	4.0	96.7	0.5	7.1
12/09/2021 23:00	460.3	0.0	3.7	99.3	0.8	17.9

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13/09/2021 00:00	460.1	0.0	3.3	99.3	0.7	5.9
13/09/2021 01:00	459.7	0.0	3.6	99.3	0.4	6.5
13/09/2021 02:00	459.4	0.0	3.5	99.1	0.4	37.4
13/09/2021 03:00	459.2	0.0	3.3	95.9	0.3	29.1
13/09/2021 04:00	459.2	0.0	2.5	97.7	0.1	345.6
13/09/2021 05:00	459.4	0.0	2.1	96.3	0.2	321.7
13/09/2021 06:00	459.7	0.0	1.5	98.8	0.1	324.0
13/09/2021 07:00	460.2	0.0	4.9	84.0	0.3	179.7
13/09/2021 08:00	460.5	0.0	6.7	68.7	0.9	194.0
13/09/2021 09:00	460.8	0.0	8.4	54.2	1.0	37.5
13/09/2021 10:00	460.6	0.0	9.6	48.1	1.3	23.6
13/09/2021 11:00	460.3	0.0	10.0	44.4	2.5	0.4
13/09/2021 12:00	459.8	0.0	11.0	43.1	2.8	349.7
13/09/2021 13:00	459.3	0.0	11.8	42.2	2.4	358.2
13/09/2021 14:00	458.8	0.0	12.3	40.7	2.6	351.3
13/09/2021 15:00	458.5	0.0	11.1	46.9	2.1	8.1
13/09/2021 16:00	458.4	0.0	11.2	49.7	2.2	1.2
13/09/2021 17:00	458.6	0.0	9.2	58.4	2.6	3.5
13/09/2021 18:00	458.6	0.0	6.9	71.8	1.8	4.1
13/09/2021 19:00	459.0	0.0	5.6	83.0	1.3	8.4
13/09/2021 20:00	459.2	0.0	4.7	93.7	1.3	351.9
13/09/2021 21:00	459.5	0.0	4.0	98.8	0.7	13.0
13/09/2021 22:00	459.6	0.0	4.8	93.8	0.4	353.0
13/09/2021 23:00	459.4	0.0	4.5	94.2	0.5	308.0

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14/09/2021 00:00	459.0	0.0	3.7	97.5	0.2	320.6
14/09/2021 01:00	458.6	0.0	2.9	99.3	0.2	267.3
14/09/2021 02:00	458.2	0.0	1.7	99.3	0.4	206.5
14/09/2021 03:00	458.3	0.0	1.8	99.4	0.3	38.6
14/09/2021 04:00	458.4	0.0	1.6	99.4	0.4	204.8
14/09/2021 05:00	458.7	0.0	1.8	99.4	0.3	232.0
14/09/2021 06:00	459.1	0.0	2.4	99.2	0.7	228.5
14/09/2021 07:00	459.5	0.0	2.7	95.2	0.6	224.7
14/09/2021 08:00	459.8	0.0	5.6	73.3	1.0	202.5
14/09/2021 09:00	460.0	0.0	6.9	63.2	0.7	200.0
14/09/2021 10:00	459.9	0.0	8.4	57.5	0.5	93.0
14/09/2021 11:00	459.5	0.0	8.6	56.9	0.8	187.9
14/09/2021 12:00	459.2	0.0	9.0	59.9	1.1	349.5
14/09/2021 13:00	459.0	0.0	8.8	65.5	1.3	9.8
14/09/2021 14:00	458.6	0.0	9.8	64.5	1.7	21.0
14/09/2021 15:00	458.4	0.0	9.4	66.2	1.9	9.0
14/09/2021 16:00	458.3	0.0	8.7	69.5	2.1	3.8
14/09/2021 17:00	458.5	0.0	6.6	79.8	2.3	8.4

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14/09/2021 18:00	458.8	0.0	5.0	92.8	1.6	12.5
14/09/2021 19:00	459.1	0.0	4.6	93.2	0.7	351.3
14/09/2021 20:00	459.3	0.0	4.3	96.4	0.7	20.9
14/09/2021 21:00	459.4	0.0	4.1	97.2	0.4	340.8
14/09/2021 22:00	459.6	0.0	4.3	94.1	0.5	344.8
14/09/2021 23:00	459.5	0.0	4.0	93.0	0.6	348.2
15/09/2021 00:00	459.3	0.0	3.7	92.9	0.4	6.1
15/09/2021 01:00	459.0	0.0	2.8	95.1	0.4	39.9
15/09/2021 02:00	458.7	0.0	1.3	98.2	0.4	203.4
15/09/2021 03:00	458.7	0.0	1.0	99.3	0.1	157.9
15/09/2021 04:00	458.7	0.0	2.1	99.3	0.4	347.3
15/09/2021 05:00	458.8	0.0	2.6	99.2	0.3	40.7
15/09/2021 06:00	459.2	0.0	2.7	98.7	0.4	10.7
15/09/2021 07:00	459.5	0.0	4.1	92.0	0.7	16.6
15/09/2021 08:00	459.9	0.0	4.9	84.3	1.0	14.9
15/09/2021 09:00	460.4	0.0	4.9	87.4	0.9	23.9
15/09/2021 10:00	460.6	0.0	5.3	85.1	1.1	43.5
15/09/2021 11:00	460.4	0.0	7.4	75.2	1.8	11.0
15/09/2021 12:00	459.9	0.0	8.4	72.1	2.2	0.9
15/09/2021 13:00	459.6	0.0	9.0	68.2	2.4	6.9
15/09/2021 14:00	459.1	0.0	10.2	56.6	2.6	353.8
15/09/2021 15:00	458.9	0.0	9.2	57.3	1.9	11.6
15/09/2021 16:00	458.8	0.0	8.2	65.7	1.2	51.2
15/09/2021 17:00	458.7	0.0	6.8	75.2	1.4	45.9
15/09/2021 18:00	458.9	0.0	6.0	75.2	0.8	37.3
15/09/2021 19:00	459.2	0.0	5.0	86.1	0.9	18.0
15/09/2021 20:00	459.7	0.0	4.7	93.6	1.1	48.2
15/09/2021 21:00	460.1	0.0	4.3	91.8	1.1	52.0
15/09/2021 22:00	460.2	0.0	3.6	92.3	0.7	24.5
15/09/2021 23:00	460.2	0.0	3.4	98.3	0.8	41.5
16/09/2021 00:00	460.0	0.0	2.9	99.3	1.0	3.3
16/09/2021 01:00	459.6	0.0	2.4	99.3	0.7	22.8
16/09/2021 02:00	459.3	0.0	1.8	99.3	0.2	54.8
16/09/2021 03:00	459.3	0.0	2.2	98.0	0.2	66.6
16/09/2021 04:00	459.3	0.0	2.5	90.6	0.1	141.3
16/09/2021 05:00	459.6	0.0	2.7	83.1	0.3	149.1
16/09/2021 06:00	459.9	0.0	2.7	84.9	0.2	166.6
16/09/2021 07:00	460.0	0.0	3.3	78.8	0.6	151.5
16/09/2021 08:00	460.5	0.0	4.1	75.4	0.9	132.2
16/09/2021 09:00	460.9	0.0	4.3	78.8	0.7	54.7
16/09/2021 10:00	461.0	0.0	4.2	80.1	0.8	91.0
16/09/2021 11:00	460.8	0.0	4.7	77.9	0.5	144.9
16/09/2021 12:00	460.3	0.0	6.6	70.1	0.9	36.4
16/09/2021 13:00	459.9	0.0	6.7	71.3	1.2	51.5
16/09/2021 14:00	459.5	0.0	7.0	70.8	1.5	51.3
16/09/2021 15:00	459.3	0.0	6.7	73.1	1.4	41.1
16/09/2021 16:00	459.2	0.0	6.1	74.3	1.2	91.1
16/09/2021 17:00	459.6	0.0	4.8	80.5	0.8	82.2
16/09/2021 18:00	459.7	0.0	4.1	85.5	0.7	65.5
16/09/2021 19:00	460.0	0.0	4.0	85.2	0.7	111.1
16/09/2021 20:00	460.4	0.0	4.0	86.0	0.7	164.3
16/09/2021 21:00	460.6	0.0	3.9	88.1	0.3	100.9
16/09/2021 22:00	460.8	0.0	3.8	91.5	0.4	72.4
16/09/2021 23:00	460.7	0.0	3.2	98.8	0.3	135.6
17/09/2021 00:00	460.4	0.0	3.1	99.3	0.2	140.5
17/09/2021 01:00	460.0	0.0	3.2	99.3	0.4	64.2
17/09/2021 02:00	459.8	0.0	3.0	99.3	0.8	44.3
17/09/2021 03:00	459.7	0.0	3.0	99.2	0.4	51.6
17/09/2021 04:00	459.7	0.0	3.0	96.4	0.4	147.0
17/09/2021 05:00	459.8	0.6	3.0	96.3	0.3	123.6
17/09/2021 06:00	460.2	0.6	2.0	99.3	0.7	35.7
17/09/2021 07:00	460.6	0.6	2.2	99.3	0.5	53.0
17/09/2021 08:00	460.9	0.0	3.8	95.4	1.0	58.1
17/09/2021 09:00	461.2	0.0	5.2	84.1	1.1	82.6
17/09/2021 10:00	461.2	0.0	7.0	75.4	1.2	151.4
17/09/2021 11:00	460.9	0.0	7.9	67.4	1.0	118.8
17/09/2021 12:00	460.6	0.0	6.7	77.1	1.3	142.5
17/09/2021 13:00	460.0	0.0	8.8	56.1	1.3	125.8
17/09/2021 14:00	459.4	0.0	9.8	51.8	1.3	124.4
17/09/2021 15:00	459.1	0.0	9.0	59.1	1.1	111.5
17/09/2021 16:00	459.2	0.0	7.0	70.1	0.8	119.3
17/09/2021 17:00	459.3	0.0	5.7	75.3	0.9	51.7
17/09/2021 18:00	459.5	0.0	4.4	83.1	0.7	68.2
17/09/2021 19:00	459.8	0.0	3.3	88.4	0.5	20.0
17/09/2021 20:00	460.0	0.0	3.0	85.0	0.3	1.3
17/09/2021 21:00	460.3	0.0	2.6	87.6	0.1	1.5
17/09/2021 22:00	460.3	0.0	2.1	91.2	0.1	243.9
17/09/2021 23:00	460.1	0.0	1.6	91.2	0.1	245.5
18/09/2021 00:00	459.9	0.0	1.1	97.1	0.1	232.7
18/09/2021 01:00	459.4	0.0	0.9	97.1	0.1	230.1
18/09/2021 02:00	459.1	0.0	0.8	98.2	0.0	216.0
18/09/2021 03:00	459.0	0.0	1.4	97.0	0.2	185.7
18/09/2021 04:00	459.0	0.0	-0.1	99.3	0.4	212.6
18/09/2021 05:00	459.3	0.0	-0.1	99.3	0.2	204.5
18/09/2021 06:00	459.6	0.0	0.6	99.3	0.0	324.0
18/09/2021 07:00	460.0	0.0	3.5	87.8	0.5	184.5
18/09/2021 08:00	460.3	0.0	5.1	75.9	0.9	165.6
18/09/2021 09:00	460.5	0.0	6.1	72.8	1.0	146.9
18/09/2021 10:00	IE	IE	IE	IE	IE	IE

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18/09/2021 11:00	IE	IE	IE	IE	IE	IE	IE
18/09/2021 12:00	IE	IE	IE	IE	IE	IE	IE
18/09/2021 13:00	IE	IE	IE	IE	IE	IE	IE
18/09/2021 14:00	IE	IE	IE	IE	IE	IE	IE
18/09/2021 15:00	IE	IE	IE	IE	IE	IE	IE
18/09/2021 16:00	IE	IE	IE	IE	IE	IE	IE
18/09/2021 17:00	IE	IE	IE	IE	IE	IE	IE
18/09/2021 18:00	IE	IE	IE	IE	IE	IE	IE
18/09/2021 19:00	IE	IE	IE	IE	IE	IE	IE
18/09/2021 20:00	IE	IE	IE	IE	IE	IE	IE
18/09/2021 21:00	IE	IE	IE	IE	IE	IE	IE
18/09/2021 22:00	IE	IE	IE	IE	IE	IE	IE
18/09/2021 23:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 00:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 01:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 02:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 03:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 04:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 05:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 06:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 07:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 08:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 09:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 10:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 11:00	IE	IE	IE	IE	IE	IE	IE

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19/09/2021 12:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 13:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 14:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 15:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 16:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 17:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 18:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 19:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 20:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 21:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 22:00	IE	IE	IE	IE	IE	IE	IE
19/09/2021 23:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 00:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 01:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 02:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 03:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 04:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 05:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 06:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 07:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 08:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 09:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 10:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 11:00	IE	IE	IE	IE	IE	IE	IE

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20/09/2021 12:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 13:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 14:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 15:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 16:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 17:00	IE	IE	IE	IE	IE	IE	IE
20/09/2021 18:00	458.5	0.3	4.8	82.1	1.0	26.1	
20/09/2021 19:00	458.8	0.0	4.6	83.9	0.8	32.6	
20/09/2021 20:00	459.2	0.0	4.1	85.7	0.3	39.4	
20/09/2021 21:00	459.6	0.0	3.6	87.9	0.1	33.3	
20/09/2021 22:00	459.9	0.0	3.3	91.6	0.5	1.7	
20/09/2021 23:00	459.9	0.0	3.2	96.9	1.2	344.4	
21/09/2021 00:00	459.8	0.0	3.4	91.7	0.8	8.8	
21/09/2021 01:00	459.5	0.0	3.1	95.7	0.5	356.6	
21/09/2021 02:00	459.2	0.0	2.5	95.9	0.2	193.3	
21/09/2021 03:00	459.0	0.0	2.1	94.5	0.2	215.6	
21/09/2021 04:00	459.0	0.0	1.4	90.9	0.1	223.2	
21/09/2021 05:00	459.3	0.0	1.2	90.9	0.3	200.6	
21/09/2021 06:00	459.5	0.0	0.4	95.5	0.7	224.9	
21/09/2021 07:00	460.0	0.0	2.7	87.1	0.4	168.8	
21/09/2021 08:00	460.3	0.0	5.4	64.3	0.8	162.3	
21/09/2021 09:00	460.4	0.0	7.5	53.2	1.0	124.7	
21/09/2021 10:00	460.3	0.0	9.9	43.2	1.2	39.2	
21/09/2021 11:00	460.2	0.0	9.4	44.3	1.4	84.5	
21/09/2021 12:00	459.9	0.0	9.0	50.3	1.2	83.2	

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21/09/2021 13:00	MA	MA	MA	MA	MA	MA	
21/09/2021 14:00	459.1	0.0	8.3	53.9	1.8	34.6	
21/09/2021 15:00	458.7	0.0	7.9	66.3	1.4	48.2	
21/09/2021 16:00	458.4	0.0	17.4	28.0	1.4	314.5	
21/09/2021 17:00	458.6	0.0	8.4	53.1	0.8	50.5	
21/09/2021 18:00	458.8	0.0	5.7	64.5	0.5	58.7	
21/09/2021 19:00	459.4	0.0	4.4	77.3	0.9	55.5	
21/09/2021 20:00	459.9	0.0	3.9	81.1	0.8	54.2	
21/09/2021 21:00	460.2	0.0	4.0	77.2	0.9	73.2	
21/09/2021 22:00	460.3	0.0	3.9	76.6	1.3	56.8	
21/09/2021 23:00	460.3	0.0	3.4	78.4	1.4	64.7	
22/09/2021 00:00	460.2	0.0	3.0	79.0	0.6	82.2	
22/09/2021 01:00	460.0	0.0	2.9	80.7	0.3	155.6	
22/09/2021 02:00	459.6	0.0	2.8	78.4	0.1	136.5	
22/09/2021 03:00	459.2	0.0	2.6	79.9	0.6	191.4	

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22/09/2021 04:00	459.1	0.0	2.5	81.2	0.9	198.8
22/09/2021 05:00	459.4	0.0	2.2	88.0	0.7	206.7
22/09/2021 06:00	459.6	0.0	2.6	90.6	0.4	56.8
22/09/2021 07:00	460.1	0.0	3.1	90.0	0.5	50.6
22/09/2021 08:00	460.4	0.0	3.7	87.0	0.5	150.4
22/09/2021 09:00	460.6	0.0	4.9	81.5	0.8	103.2
22/09/2021 10:00	460.5	0.0	6.8	68.7	0.7	116.2
22/09/2021 11:00	460.1	0.0	8.3	55.2	0.8	81.2
22/09/2021 12:00	459.5	0.0	8.8	54.4	0.8	36.3
22/09/2021 13:00	458.8	0.0	8.7	55.5	1.1	29.3
22/09/2021 14:00	458.3	0.0	10.0	53.2	1.3	25.1
22/09/2021 15:00	457.8	0.0	9.7	53.3	1.2	34.4
22/09/2021 16:00	457.8	0.0	8.7	59.9	1.4	22.1
22/09/2021 17:00	458.2	0.0	6.7	74.6	2.2	17.2
22/09/2021 18:00	458.6	0.0	5.1	86.1	1.7	52.1
22/09/2021 19:00	459.1	0.0	3.7	92.6	1.0	58.2
22/09/2021 20:00	459.4	0.0	2.6	95.3	1.4	51.6
22/09/2021 21:00	459.9	0.0	2.5	95.9	1.2	60.0
22/09/2021 22:00	460.1	0.0	2.6	94.0	0.3	93.0
22/09/2021 23:00	459.9	0.0	2.7	92.2	0.3	32.0
23/09/2021 00:00	459.6	0.0	2.7	91.8	0.5	222.7
23/09/2021 01:00	459.2	0.0	2.2	98.1	0.9	217.9
23/09/2021 02:00	458.9	0.0	1.8	99.3	0.8	212.5
23/09/2021 03:00	458.8	0.0	2.2	99.3	0.2	195.4
23/09/2021 04:00	458.8	0.0	2.3	99.0	0.5	55.1
23/09/2021 05:00	459.1	0.0	2.1	99.3	0.7	50.9
23/09/2021 06:00	459.5	0.0	2.3	97.6	0.5	48.9
23/09/2021 07:00	459.9	0.0	3.4	88.8	0.9	46.8
23/09/2021 08:00	460.3	0.0	3.8	85.2	1.2	58.5
23/09/2021 09:00	460.4	0.0	4.0	85.8	1.4	56.1
23/09/2021 10:00	460.4	0.0	3.9	89.7	1.6	61.1
23/09/2021 11:00	460.2	0.0	5.6	74.5	1.1	69.8
23/09/2021 12:00	459.9	0.0	5.2	72.7	1.1	52.7
23/09/2021 13:00	459.6	0.0	5.1	74.2	1.1	56.1
23/09/2021 14:00	459.4	0.0	4.9	76.6	1.3	47.2
23/09/2021 15:00	459.1	0.0	5.2	75.7	1.1	52.2
23/09/2021 16:00	459.0	0.0	4.7	76.8	1.1	75.5
23/09/2021 17:00	459.1	0.0	3.6	85.6	0.7	40.2
23/09/2021 18:00	459.3	0.0	3.7	80.2	0.2	143.4
23/09/2021 19:00	459.5	0.0	2.6	86.0	0.3	45.8
23/09/2021 20:00	459.9	0.0	2.2	87.6	0.3	59.4
23/09/2021 21:00	460.1	0.0	1.7	91.4	0.6	43.4
23/09/2021 22:00	460.4	0.0	2.0	88.7	0.6	63.8
23/09/2021 23:00	460.5	0.0	1.8	89.6	0.3	45.6
24/09/2021 00:00	460.2	0.0	2.1	89.6	0.3	70.7
24/09/2021 01:00	459.9	0.0	2.3	87.0	0.2	51.9
24/09/2021 02:00	459.6	0.0	2.3	85.4	0.2	146.3
24/09/2021 03:00	459.5	0.0	2.0	86.8	0.3	56.1
24/09/2021 04:00	459.6	0.0	2.1	84.3	0.2	145.4
24/09/2021 05:00	459.9	0.0	2.2	81.1	0.3	156.9
24/09/2021 06:00	460.3	0.0	2.2	79.6	0.4	158.0
24/09/2021 07:00	460.7	0.0	4.7	62.9	0.4	141.6
24/09/2021 08:00	461.0	0.0	5.6	52.7	0.8	134.5
24/09/2021 09:00	461.1	0.0	6.7	49.8	1.1	147.0
24/09/2021 10:00	460.9	0.0	8.6	43.7	1.3	51.3
24/09/2021 11:00	460.6	0.0	10.3	39.0	1.1	87.9
24/09/2021 12:00	460.2	0.0	10.6	39.2	1.2	82.7
24/09/2021 13:00	459.7	0.0	10.4	42.9	1.3	76.6
24/09/2021 14:00	459.5	0.0	8.1	56.8	0.8	74.5
24/09/2021 15:00	459.3	0.0	6.9	66.2	1.4	52.7
24/09/2021 16:00	459.4	0.0	6.1	74.2	1.3	53.8
24/09/2021 17:00	459.5	0.0	5.0	78.4	1.3	67.7
24/09/2021 18:00	459.7	0.0	4.0	86.7	0.9	54.5
24/09/2021 19:00	459.9	0.0	4.0	83.6	0.4	145.1
24/09/2021 20:00	460.3	0.0	3.8	86.0	0.4	78.1
24/09/2021 21:00	460.6	0.0	3.4	93.4	0.8	49.8
24/09/2021 22:00	460.8	0.0	3.3	93.1	0.6	55.5
24/09/2021 23:00	460.9	0.0	3.3	90.0	0.4	75.3
25/09/2021 00:00	460.7	0.0	3.3	86.7	0.3	55.8
25/09/2021 01:00	460.3	0.0	2.9	90.9	0.8	49.7
25/09/2021 02:00	459.7	0.0	2.7	92.7	0.7	171.3
25/09/2021 03:00	459.8	0.0	2.4	92.4	0.4	73.6
25/09/2021 04:00	459.9	0.0	2.6	89.8	0.6	53.2
25/09/2021 05:00	460.2	0.0	2.6	90.2	0.2	110.7
25/09/2021 06:00	460.5	0.0	3.0	86.4	0.1	149.6
25/09/2021 07:00	460.8	0.0	5.2	69.5	0.3	166.5
25/09/2021 08:00	460.9	0.0	7.2	52.0	1.1	130.1
25/09/2021 09:00	461.2	0.0	6.8	64.8	1.8	50.8
25/09/2021 10:00	461.1	0.0	8.3	51.2	1.4	153.5
25/09/2021 11:00	461.0	0.0	7.9	55.4	1.0	146.5
25/09/2021 12:00	460.7	0.0	9.4	50.1	1.2	106.0
25/09/2021 13:00	460.4	0.0	9.6	49.0	1.7	57.4
25/09/2021 14:00	459.9	0.0	9.1	53.2	1.5	77.5
25/09/2021 15:00	459.7	0.0	8.4	63.3	1.0	82.7
25/09/2021 16:00	459.5	0.0	9.3	55.8	0.8	98.1
25/09/2021 17:00	459.7	0.0	6.9	66.8	1.4	53.0
25/09/2021 18:00	460.0	0.0	5.6	68.7	1.2	54.7
25/09/2021 19:00	460.3	0.0	4.7	72.9	1.2	48.8
25/09/2021 20:00	460.7	0.0	4.1	79.4	0.8	51.5

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25/09/2021 21:00	460.8	0.0	3.4	86.6	0.6	61.1
25/09/2021 22:00	460.7	0.0	3.1	88.6	0.8	59.0
25/09/2021 23:00	460.6	0.0	2.8	90.0	0.2	45.4
26/09/2021 00:00	460.3	0.0	3.1	86.3	0.6	56.3
26/09/2021 01:00	460.0	0.0	3.0	85.7	0.3	8.8
26/09/2021 02:00	459.6	0.0	2.5	88.5	0.2	357.5
26/09/2021 03:00	459.5	0.0	1.8	91.2	0.1	226.9
26/09/2021 04:00	459.4	0.0	1.9	89.4	0.0	357.0
26/09/2021 05:00	459.5	0.0	2.3	83.9	0.4	175.4
26/09/2021 06:00	459.9	0.0	2.6	79.6	0.4	175.9
26/09/2021 07:00	460.3	0.0	3.9	71.6	0.7	172.3
26/09/2021 08:00	460.7	0.0	5.4	63.8	0.8	53.5
26/09/2021 09:00	460.8	0.0	7.4	53.1	1.2	129.2
26/09/2021 10:00	460.8	0.0	9.7	43.4	1.1	117.1
26/09/2021 11:00	460.6	0.0	11.1	36.9	1.3	152.9
26/09/2021 12:00	460.2	0.0	11.8	33.3	1.4	100.8
26/09/2021 13:00	459.8	0.0	13.0	31.4	1.3	56.4
26/09/2021 14:00	459.5	0.0	12.1	32.6	1.4	34.8
26/09/2021 15:00	459.4	0.0	11.2	34.8	1.3	40.1
26/09/2021 16:00	459.4	0.0	9.4	46.6	1.8	41.4
26/09/2021 17:00	459.5	0.0	7.9	51.9	1.4	51.1
26/09/2021 18:00	459.8	0.0	6.2	63.2	1.1	45.7
26/09/2021 19:00	460.0	0.0	5.0	76.7	0.8	41.6
26/09/2021 20:00	460.3	0.0	4.2	73.4	0.5	196.6
26/09/2021 21:00	460.7	0.0	3.9	75.0	0.4	61.2
26/09/2021 22:00	460.8	0.0	3.4	77.9	0.2	31.5
26/09/2021 23:00	460.6	0.0	2.2	83.0	0.3	248.8
27/09/2021 00:00	460.3	0.0	1.5	87.8	0.2	218.6
27/09/2021 01:00	460.0	0.0	1.2	89.9	0.0	227.7
27/09/2021 02:00	459.9	0.0	0.8	90.4	0.0	0.0
27/09/2021 03:00	459.9	0.0	0.6	92.1	0.2	226.9
27/09/2021 04:00	460.0	0.0	-0.1	93.2	0.2	215.2
27/09/2021 05:00	460.2	0.0	-0.8	97.2	0.3	220.7
27/09/2021 06:00	460.4	0.0	-0.1	95.8	0.3	191.8
27/09/2021 07:00	460.8	0.0	3.2	80.9	0.4	188.3
27/09/2021 08:00	461.1	0.0	6.4	61.3	0.9	150.0
27/09/2021 09:00	461.2	0.0	8.4	47.2	1.2	125.1
27/09/2021 10:00	461.1	0.0	9.9	38.4	1.5	93.0
27/09/2021 11:00	460.8	0.0	11.6	30.1	1.7	72.4
27/09/2021 12:00	460.3	0.0	12.2	27.9	1.5	134.1
27/09/2021 13:00	459.9	0.0	11.9	30.1	1.8	76.7
27/09/2021 14:00	459.6	0.0	11.3	33.2	1.7	48.8
27/09/2021 15:00	459.3	0.0	10.7	36.8	1.2	65.3
27/09/2021 16:00	459.2	0.0	10.1	39.4	1.0	120.5
27/09/2021 17:00	459.3	0.0	8.7	46.6	1.0	70.2
27/09/2021 18:00	459.4	0.0	6.8	62.2	0.3	66.4
27/09/2021 19:00	459.7	0.0	5.5	67.6	0.4	28.5
27/09/2021 20:00	459.9	0.0	4.9	68.3	0.2	227.8
27/09/2021 21:00	460.2	0.0	3.5	75.4	0.3	239.1
27/09/2021 22:00	460.3	0.0	2.3	82.2	0.6	213.6
27/09/2021 23:00	460.2	0.0	1.8	86.5	0.4	220.3
28/09/2021 00:00	459.9	0.0	1.4	86.5	0.4	218.8
28/09/2021 01:00	459.4	0.0	0.5	90.5	0.3	224.8
28/09/2021 02:00	459.3	0.0	0.3	93.5	0.1	248.3
28/09/2021 03:00	459.3	0.0	1.2	95.2	0.1	257.0
28/09/2021 04:00	459.3	0.0	1.0	95.8	0.3	215.8
28/09/2021 05:00	459.4	0.0	1.1	94.6	0.1	198.3
28/09/2021 06:00	459.6	0.0	1.4	91.6	0.5	218.3
28/09/2021 07:00	460.0	0.0	3.6	83.7	0.8	218.6
28/09/2021 08:00	460.2	0.0	7.5	56.6	1.0	177.6
28/09/2021 09:00	460.2	0.0	10.1	43.6	0.9	126.2
28/09/2021 10:00	460.1	0.0	10.5	42.8	1.4	130.4
28/09/2021 11:00	460.0	0.0	11.3	37.4	1.7	112.7
28/09/2021 12:00	459.6	0.0	12.7	31.4	1.6	117.5
28/09/2021 13:00	459.1	0.0	12.5	31.4	1.6	84.3
28/09/2021 14:00	458.7	0.0	12.9	29.4	1.5	73.8
28/09/2021 15:00	458.3	0.0	12.5	32.1	1.7	54.0
28/09/2021 16:00	458.3	0.0	10.6	39.8	1.1	118.8
28/09/2021 17:00	459.2	0.3	4.0	88.1	1.2	121.8
28/09/2021 18:00	458.9	0.0	4.5	82.5	0.9	89.4
28/09/2021 19:00	459.2	0.0	4.1	84.6	0.6	12.4
28/09/2021 20:00	459.4	0.0	3.4	87.7	0.4	237.5
28/09/2021 21:00	459.6	0.0	2.5	91.8	0.7	213.0
28/09/2021 22:00	459.8	0.0	2.5	91.6	0.2	261.8
28/09/2021 23:00	459.6	0.0	2.4	90.7	0.3	289.7
29/09/2021 00:00	459.3	0.0	1.6	94.2	0.5	215.0
29/09/2021 01:00	459.0	0.0	0.8	99.1	0.3	227.5
29/09/2021 02:00	458.6	0.0	0.8	99.3	0.1	219.7
29/09/2021 03:00	458.4	0.0	0.7	99.3	0.1	213.8
29/09/2021 04:00	458.5	0.0	1.0	99.3	0.1	193.8
29/09/2021 05:00	458.8	0.0	0.2	99.3	0.4	212.8
29/09/2021 06:00	459.1	0.0	0.5	99.3	0.2	228.2
29/09/2021 07:00	459.4	0.0	2.3	97.9	0.1	201.7
29/09/2021 08:00	459.9	0.0	5.0	86.4	0.6	159.7
29/09/2021 09:00	460.2	0.0	6.6	73.5	0.9	92.8
29/09/2021 10:00	460.1	0.0	7.4	65.8	1.8	53.3
29/09/2021 11:00	460.0	0.6	5.1	86.9	1.6	146.2
29/09/2021 12:00	459.3	0.0	8.7	62.6	1.6	101.9
29/09/2021 13:00	458.6	0.0	10.4	47.6	1.2	131.6

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29/09/2021 14:00	458.0	0.0	10.2	45.9	0.9	156.2
29/09/2021 15:00	457.4	0.0	11.3	39.5	1.1	139.3
29/09/2021 16:00	457.6	0.0	9.0	51.5	0.9	149.8
29/09/2021 17:00	458.2	0.3	3.7	92.0	1.9	56.3
29/09/2021 18:00	458.7	0.0	2.7	97.7	1.4	67.9
29/09/2021 19:00	459.2	0.0	2.6	94.1	1.3	67.0
29/09/2021 20:00	459.5	0.0	2.6	94.1	0.3	141.4
29/09/2021 21:00	459.6	0.0	2.6	93.3	0.4	97.8
29/09/2021 22:00	459.9	0.0	2.6	93.2	0.3	158.2
29/09/2021 23:00	459.8	0.0	2.6	91.4	0.2	160.0
30/09/2021 00:00	459.4	0.0	2.3	92.2	0.2	18.6
30/09/2021 01:00	459.0	0.0	2.5	89.8	0.2	156.1
30/09/2021 02:00	458.5	0.0	2.4	86.7	0.2	150.3
30/09/2021 03:00	458.3	0.0	2.4	86.1	0.6	160.9
30/09/2021 04:00	458.4	0.0	2.2	89.8	0.6	174.2
30/09/2021 05:00	458.6	0.0	1.9	90.0	0.3	178.3
30/09/2021 06:00	459.0	0.0	2.0	90.6	0.4	220.7
30/09/2021 07:00	459.3	0.0	3.4	82.9	1.1	196.7
30/09/2021 08:00	459.8	0.0	5.5	66.8	1.1	180.6
30/09/2021 09:00	460.1	0.0	8.1	49.1	1.0	144.1
30/09/2021 10:00	460.0	0.0	9.6	45.0	1.4	70.1
30/09/2021 11:00	459.6	0.0	9.6	46.3	1.2	64.9
30/09/2021 12:00	459.1	0.0	10.1	47.9	1.2	54.5
30/09/2021 13:00	458.7	0.0	9.3	51.8	1.7	62.2
30/09/2021 14:00	458.2	0.0	10.4	49.9	1.8	31.4
30/09/2021 15:00	458.0	0.0	9.0	58.6	2.1	9.5
30/09/2021 16:00	458.0	0.0	7.8	65.0	2.0	10.9
30/09/2021 17:00	458.2	0.0	6.3	74.2	1.8	1.5
30/09/2021 18:00	458.5	0.0	5.0	84.4	1.1	4.4
30/09/2021 19:00	458.7	0.0	4.5	89.5	0.7	356.9
30/09/2021 20:00	459.1	0.0	4.1	91.2	0.2	337.0
30/09/2021 21:00	459.4	0.0	3.6	94.2	0.0	36.9
30/09/2021 22:00	459.6	0.0	3.3	95.2	0.0	101.8
30/09/2021 23:00	459.6	0.0	3.2	97.4	0.2	99.2

IE: Sin datos por interrupcion electrica de la estacion de monitoreo

MA: Sin datos por mantenimiento de estacion meteorologica

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en setiembre de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01      **CÓDIGO DE ACCIÓN:** 0002-9-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:** Estación meteorológica      **MARCA:** Campbell

**MODELO:** CR1000      **SERIE:** 30825

DIA 1 - SETIEMBRE 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
20/09/2021 18:00	458.5	4.8	82	1.0
20/09/2021 19:00	458.8	4.6	84	0.8
20/09/2021 20:00	459.2	4.1	86	0.3
20/09/2021 21:00	459.6	3.6	88	0.1
20/09/2021 22:00	459.9	3.3	92	0.5
20/09/2021 23:00	459.9	3.2	97	1.2
21/09/2021 00:00	459.8	3.4	92	0.8
21/09/2021 01:00	459.5	3.1	96	0.5
21/09/2021 02:00	459.2	2.5	96	0.2
21/09/2021 03:00	459.0	2.1	95	0.2
21/09/2021 04:00	459.0	1.4	91	0.1
21/09/2021 05:00	459.3	1.2	91	0.3
21/09/2021 06:00	459.5	0.4	96	0.7
21/09/2021 07:00	460.0	2.7	87	0.4
21/09/2021 08:00	460.3	5.4	64	0.8
21/09/2021 09:00	460.4	7.5	53	1.0
21/09/2021 10:00	460.3	9.9	43	1.2
21/09/2021 11:00	460.2	9.4	44	1.4
21/09/2021 12:00	459.9	9.0	50	1.2
21/09/2021 13:00	MA	MA	MA	MA
21/09/2021 14:00	459.1	8.3	54	1.8
21/09/2021 15:00	458.7	7.9	66	1.4
<b>Promedio DIA 1</b>	<b>459.5</b>	<b>4.7</b>	<b>78.4</b>	<b>0.8</b>

MA: Sin datos por mantenimiento de estación meteorológica

DIA 2 - SETIEMBRE 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
21/09/2021 17:00	458.6	8.4	53	0.8
21/09/2021 18:00	458.8	5.7	65	0.5
21/09/2021 19:00	459.4	4.4	77	0.9
21/09/2021 20:00	459.9	3.9	81	0.8
21/09/2021 21:00	460.2	4.0	77	0.9
21/09/2021 22:00	460.3	3.9	77	1.3
21/09/2021 23:00	460.3	3.4	78	1.4
22/09/2021 00:00	460.2	3.0	79	0.6
22/09/2021 01:00	460.0	2.9	81	0.3
22/09/2021 02:00	459.6	2.8	78	0.1
22/09/2021 03:00	459.2	2.6	80	0.6
22/09/2021 04:00	459.1	2.5	81	0.9
22/09/2021 05:00	459.4	2.2	88	0.7
22/09/2021 06:00	459.6	2.6	91	0.4
22/09/2021 07:00	460.1	3.1	90	0.5
22/09/2021 08:00	460.4	3.7	87	0.5
22/09/2021 09:00	460.6	4.9	82	0.8
22/09/2021 10:00	460.5	6.8	69	0.7
22/09/2021 11:00	460.1	8.3	55	0.8
22/09/2021 12:00	459.5	8.8	54	0.8
22/09/2021 13:00	458.8	8.7	56	1.1
22/09/2021 14:00	458.3	10.0	53	1.3
22/09/2021 15:00	457.8	9.7	53	1.2
22/09/2021 16:00	457.8	8.7	60	1.4
<b>Promedio DIA 2</b>	<b>459.5</b>	<b>5.2</b>	<b>72.7</b>	<b>0.8</b>

DIA 3 - SETIEMBRE 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
22/09/2021 17:00	458.2	6.7	75	2.2
22/09/2021 18:00	458.6	5.1	86	1.7
22/09/2021 19:00	459.1	3.7	93	1.0
22/09/2021 20:00	459.4	2.6	95	1.4
22/09/2021 21:00	459.9	2.5	96	1.2
22/09/2021 22:00	460.1	2.6	94	0.3
22/09/2021 23:00	459.9	2.7	92	0.3
23/09/2021 00:00	459.6	2.7	92	0.5
23/09/2021 01:00	459.2	2.2	98	0.9
23/09/2021 02:00	458.9	1.8	99	0.8
23/09/2021 03:00	458.8	2.2	99	0.2
23/09/2021 04:00	458.8	2.3	99	0.5
23/09/2021 05:00	459.1	2.1	99	0.7
23/09/2021 06:00	459.5	2.3	98	0.5
23/09/2021 07:00	459.9	3.4	89	0.9
23/09/2021 08:00	460.3	3.8	85	1.2
23/09/2021 09:00	460.4	4.0	86	1.4
23/09/2021 10:00	460.4	3.9	90	1.6
23/09/2021 11:00	460.2	5.6	75	1.1
23/09/2021 12:00	459.9	5.2	73	1.1
23/09/2021 13:00	459.6	5.1	74	1.1
23/09/2021 14:00	459.4	4.9	77	1.3
23/09/2021 15:00	459.1	5.2	76	1.1
23/09/2021 16:00	459.0	4.7	77	1.1
<b>Promedio DIA 3</b>	<b>459.5</b>	<b>3.6</b>	<b>88.1</b>	<b>1.0</b>

DIA 4 - SETIEMBRE 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
23/09/2021 17:00	459.1	3.6	86	0.7
23/09/2021 18:00	459.3	3.7	80	0.2
23/09/2021 19:00	459.5	2.6	86	0.3
23/09/2021 20:00	459.9	2.2	88	0.3
23/09/2021 21:00	460.1	1.7	91	0.6
23/09/2021 22:00	460.4	2.0	89	0.6
23/09/2021 23:00	460.5	1.8	90	0.3
24/09/2021 00:00	460.2	2.1	90	0.3
24/09/2021 01:00	459.9	2.3	87	0.2
24/09/2021 02:00	459.6	2.3	85	0.2
24/09/2021 03:00	459.5	2.0	87	0.3
24/09/2021 04:00	459.6	2.1	84	0.2
24/09/2021 05:00	459.9	2.2	81	0.3
24/09/2021 06:00	460.3	2.2	80	0.4
24/09/2021 07:00	460.7	4.7	63	0.4
24/09/2021 08:00	461.0	5.6	53	0.8
24/09/2021 09:00	461.1	6.7	50	1.1
24/09/2021 10:00	460.9	8.6	44	1.3
24/09/2021 11:00	460.6	10.3	39	1.1
24/09/2021 12:00	460.2	10.6	39	1.2
24/09/2021 13:00	459.7	10.4	43	1.3
24/09/2021 14:00	459.5	8.1	57	0.8
24/09/2021 15:00	459.3	6.9	66	1.4
24/09/2021 16:00	459.4	6.1	74	1.3
<b>Promedio DIA 4</b>	<b>460.0</b>	<b>4.6</b>	<b>72.1</b>	<b>0.7</b>

DIA 5 - SETIEMBRE 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
24/09/2021 17:00	459.5	5.0	78	1.3
24/09/2021 18:00	459.7	4.0	87	0.9
24/09/2021 19:00	459.9	4.0	84	0.4
24/09/2021 20:00	460.3	3.8	86	0.4
24/09/2021 21:00	460.6	3.4	93	0.8
24/09/2021 22:00	460.8	3.3	93	0.6
24/09/2021 23:00	460.9	3.3	90	0.4
25/09/2021 00:00	460.7	3.3	87	0.3
25/09/2021 01:00	460.3	2.9	91	0.8
25/09/2021 02:00	459.7	2.7	93	0.7
25/09/2021 03:00	459.8	2.4	92	0.4
25/09/2021 04:00	459.9	2.6	90	0.6
25/09/2021 05:00	460.2	2.6	90	0.2
25/09/2021 06:00	460.5	3.0	86	0.1
25/09/2021 07:00	460.8	5.2	70	0.3
25/09/2021 08:00	460.9	7.2	52	1.1
25/09/2021 09:00	461.2	6.8	65	1.8
25/09/2021 10:00	461.1	8.3	51	1.4
25/09/2021 11:00	461.0	7.9	55	1.0
25/09/2021 12:00	460.7	9.4	50	1.2
25/09/2021 13:00	460.4	9.6	49	1.7
25/09/2021 14:00	459.9	9.1	53	1.5
25/09/2021 15:00	459.7	8.4	63	1.0
25/09/2021 16:00	459.5	9.3	56	0.8
<b>Promedio DIA 5</b>	<b>460.3</b>	<b>5.3</b>	<b>75.2</b>	<b>0.8</b>

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en setiembre de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0002-9-2021-412

**MEDICIONES PROMEDIO (DATOS DIARIOS)**

**DÍA 1** **INICIO:** 20/09/2021 18:00 **FINAL:** 21/09/2021 16:30 **PERIODO :** 22:30 horas **1350 min**

**Datos horarios registrados:** 22 horas

**Temperatura (°C):** 4.7 **Presión (mm Hg):** 459.5

**DÍA 2** **INICIO:** 21/09/2021 17:10 **FINAL:** 22/09/2021 17:01 **PERIODO :** 23:51 horas **1431 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 5.2 **Presión (mm Hg):** 459.5

**DÍA 3** **INICIO:** 22/09/2021 17:20 **FINAL:** 23/09/2021 17:12 **PERIODO :** 23:52 horas **1432 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 3.6 **Presión (mm Hg):** 459.5

**DÍA 4** **INICIO:** 23/09/2021 17:25 **FINAL:** 24/09/2021 17:08 **PERIODO :** 23:43 horas **1423 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 4.6 **Presión (mm Hg):** 460.0

**DÍA 5** **INICIO:** 24/09/2021 17:16 **FINAL:** 25/09/2021 16:26 **PERIODO :** 23:10 horas **1390 min**

**Datos horarios registrados:** 23 horas

**Temperatura (°C):** 5.3 **Presión (mm Hg):** 460.3

**OBSERVACIONES:**

DATOS GENERALES

TÍTULO DEL ESTUDIO: Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en setiembre de 2021

ESTACIÓN DE MONITOREO: CA-SB-01

CÓDIGO DE ACCIÓN: 0002-9-2021-412

DATOS DE LOS EQUIPOS

Barómetro	MARCA:	-	MODELO:	-	SERIE:	-
Venturi PM-10	MARCA:	THERMO SCIENTIFIC				
	MODELO:	HI VOL				
	SERIE:	P9327X				

CÁLCULOS

PM-10

DÍA 1 Fecha Inicio: 20/09/2021 18:00 Fecha Final: 21/09/2021 16:30

Presión inicial: 9.1 pulg H2O Presión final: 11.6 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
10.4	19.3	459.5	0.958	4.7	1.142	1.146	1.143

DÍA 2 Fecha Inicio: 21/09/2021 17:10 Fecha Final: 22/09/2021 17:01

Presión inicial: 12.6 pulg H2O Presión final: 13.4 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.0	24.3	459.5	0.947	5.2	1.128	1.132	1.130

DÍA 3 Fecha Inicio: 22/09/2021 17:20 Fecha Final: 23/09/2021 17:12

Presión inicial: 13.5 pulg H2O Presión final: 13.6 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.6	25.3	459.5	0.945	3.6	1.122	1.126	1.125

DÍA 4 Fecha Inicio: 23/09/2021 17:25 Fecha Final: 24/09/2021 17:08

Presión inicial: 13.2 pulg H2O Presión final: 13.6 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.4	25.0	460.0	0.946	4.6	1.127	1.131	1.128

DÍA 5 Fecha Inicio: 24/09/2021 17:16 Fecha Final: 25/09/2021 16:26

Presión inicial: 13.3 pulg H2O Presión final: 13.8 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.6	25.3	460.3	0.945	5.3	1.126	1.129	1.128

OBSERVACIONES:

"-": No aplica.

**Tabla 3.6. Concentración de PM<sub>10</sub> y el volumen muestreado de metales - alto volumen**

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en setiembre de 2021

**PUNTO DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0002-9-2021-412

N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Tiempo o periodo de muestreo en minutos (t)	Flujo de muestreo, en m³/min (Qa)	Volumen de muestreo en m³ (Va)*	ΔPeso (µg) **	Concentración de partículas (µg/m³)
1	PM <sub>10</sub>	1-213350	20/09/2021 18:00	21/09/2021 16:30	1350	1.143	1543.47	17000	11.0
2		1-213351	21/09/2021 17:10	22/09/2021 17:01	1431	1.130	1617.63	25000	15.5
3		1-213352	22/09/2021 17:20	23/09/2021 17:12	1432	1.125	1611.39	14000	8.7
4		1-213353	23/09/2021 17:25	24/09/2021 17:08	1423	1.128	1605.48	26000	16.2
5		1-213354	24/09/2021 17:16	25/09/2021 16:26	1390	1.128	1567.88	21000	13.4

17  
25  
14  
26  
21

**OBSERVACIONES:**

(\*) En el caso del material particulado y las sustancias que deben analizarse en la fase de partículas (metales, iones, carbonáceas, otros), el **volumen de muestreo** se debe expresar en las condiciones ambientales (volumen actual) en términos de temperatura ambiental y presión atmosférica promedio, medidas durante el periodo de muestreo, (Sección L.1.3 Cálculo de concentraciones señalada en el Protocolo de Monitoreo de la Calidad del aire del MINAM - D.S. N° 010-2019-MINAM).

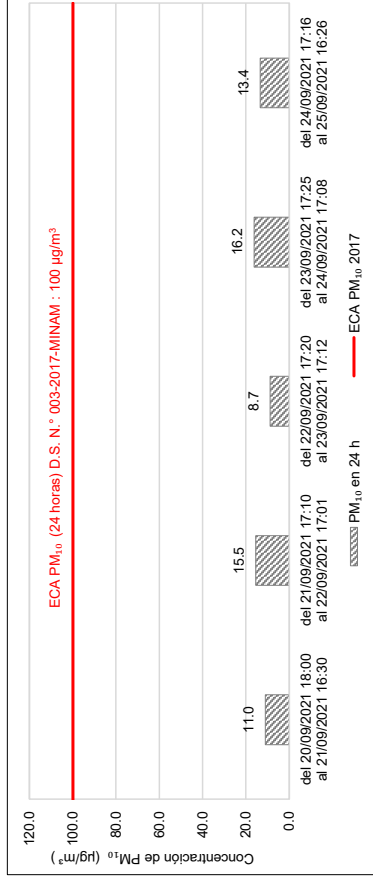
(\*\*) Fuente: Informe de Ensayo MA2130556

\*. : No aplica.

PM <sub>10</sub> en 24 h	ECA PM <sub>10</sub> 2017
0	100
1	100

Fecha inicio  
del 20/09/2021 18:00  
del 21/09/2021 17:10  
del 22/09/2021 17:20  
del 23/09/2021 17:25  
del 24/09/2021 17:16

Fecha final  
al 21/09/2021 16:30  
al 22/09/2021 17:01  
al 23/09/2021 17:12  
al 24/09/2021 17:08  
al 25/09/2021 16:26





**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en setiembre de 2021

**PUNTO DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0002-9-2021-412

RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		20/09/2021	21/09/2021	22/09/2021	23/09/2021	24/09/2021	
Aluminio	Al	µg/mtra	48.185	69.368	47.656	63.503	57.937
Antimonio	Sb	µg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	µg/mtra	1.909	3.381	2.254	2.760	2.760
Bario	Ba	µg/mtra	2.783	3.220	3.335	3.220	3.174
Berilio	Be	µg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	µg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	µg/mtra	2.714	2.162	3.864	5.359	4.209
Cadmio	Cd	µg/mtra	<1,457	<1,457	<1,457	<1,457	<1,457
Calcio	Ca	µg/mtra	783.817	1083.714	671.439	833.888	762.128
Cobalto	Co	µg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	µg/mtra	19.953	33.706	33.160	69.195	58.340
Cromo	Cr	µg/mtra	<1,586	<1,586	<1,586	<1,586	<1,586
Estaño	Sn	µg/mtra	<0,967	<0,967	<0,967	<0,967	<0,967
Estroncio	Sr	µg/mtra	1.656	2.530	1.794	2.070	2.415
Fósforo	P	µg/mtra	<8,70	12.21	<8,70	10.01	9.09
Hierro	Fe	µg/mtra	316.26	1069.03	456.61	697.23	597.76
Litio	Li	µg/mtra	1.139	1.208	1.599	1.392	1.921
Magnesio	Mg	µg/mtra	104.86	273.1	136.39	219.26	188.60
Manganeso	Mn	µg/mtra	39.468	159.965	58.213	103.431	84.341
Mercurio	Hg	µg/mtra	<0,4960	<0,4960	<0,4960	<0,4960	<0,4960
Molibdeno	Mo	µg/mtra	<1,264	1.461	1.277	2.496	2.059
Níquel	Ni	µg/mtra	<1,411	<1,411	<1,411	<1,411	<1,411
Plata	Ag	µg/mtra	<0,576	<0,576	<0,576	<0,576	<0,576
Plomo	Pb	µg/mtra	20.642	49.163	25.473	42.493	40.767
Potasio	K	µg/mtra	65.34	67.09	64.33	105.87	89.15
Selenio	Se	µg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	µg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	µg/mtra	68.6	61.5	109.6	88.3	109.1
Talio	Tl	µg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	µg/mtra	1.254	1.415	1.231	1.507	1.323
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	µg/mtra	41.32	109.74	48.04	86.22	89.39

<: Debajo del límite de detección

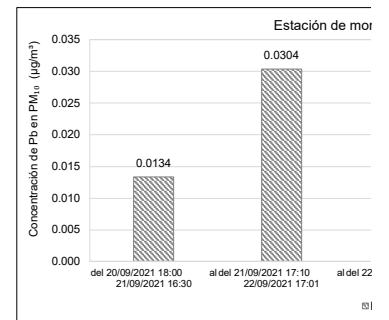
-: Sin dato

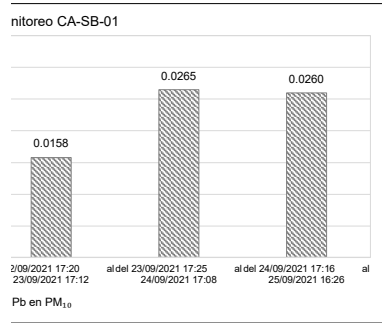
Fuente: Informe de Ensayo N° MA2130556 del laboratorio SGS del Perú S.A.C

CONCENTRACIÓN DE METALES							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		20/09/2021	21/09/2021	22/09/2021	23/09/2021	24/09/2021	
<b>Volumen de muestreo, en m<sup>3</sup> (Va)</b>			<b>1543.47</b>	<b>1617.63</b>	<b>1611.39</b>	<b>1605.48</b>	<b>1567.88</b>
Aluminio	Al	µg/m <sup>3</sup>	0.0312	0.0429	0.0296	0.0396	0.0370
Antimonio	Sb	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Arsénico	As	µg/m <sup>3</sup>	0.0012	0.0021	0.0014	0.0017	0.0018
Bario	Ba	µg/m <sup>3</sup>	0.0018	0.0020	0.0021	0.0020	0.0020
Berilio	Be	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Bismuto	Bi	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Boro	B	µg/m <sup>3</sup>	0.0018	0.0013	0.0024	0.0033	0.0027
Cadmio	Cd	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Calcio	Ca	µg/m <sup>3</sup>	0.5078	0.6699	0.4167	0.5194	0.4861
Cobalto	Co	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Cobre	Cu	µg/m <sup>3</sup>	0.0129	0.0208	0.0206	0.0431	0.0372
Cromo	Cr	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Estaño	Sn	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Estroncio	Sr	µg/m <sup>3</sup>	0.0011	0.0016	0.0011	0.0013	0.0015
Fósforo	P	µg/m <sup>3</sup>	<LC	0.0075	<LC	0.0062	0.0058
Hierro	Fe	µg/m <sup>3</sup>	0.2049	0.6609	0.2834	0.4343	0.3813
Litio	Li	µg/m <sup>3</sup>	0.0007	0.0007	0.0010	0.0009	0.0012
Magnesio	Mg	µg/m <sup>3</sup>	0.0679	0.1688	0.0846	0.1366	0.1203
Manganeso	Mn	µg/m <sup>3</sup>	0.0256	0.0989	0.0361	0.0644	0.0538
Mercurio	Hg	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Molibdeno	Mo	µg/m <sup>3</sup>	<LC	0.0009	0.0008	0.0016	0.0013
Níquel	Ni	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Plata	Ag	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Plomo	Pb	µg/m <sup>3</sup>	0.0134	0.0304	0.0158	0.0265	0.0260
Potasio	K	µg/m <sup>3</sup>	0.0423	0.0415	0.0399	0.0659	0.0569
Selenio	Se	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Silicio	Si	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Sodio	Na	µg/m <sup>3</sup>	0.0444	0.0380	0.0680	0.0550	0.0696
Talio	Tl	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Titanio	Ti	µg/m <sup>3</sup>	0.0008	0.0009	0.0008	0.0009	0.0008
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Zinc	Zn	µg/m <sup>3</sup>	0.0268	0.0678	0.0298	0.0537	0.0570

< LD: Menor al límite de detección

CONCENTRACIÓN DE PLOMO MENSUAL (µg/m <sup>3</sup> )						
FECHA	20/09/2021	21/09/2021	22/09/2021	23/09/2021	24/09/2021	Promedio mensual (µg/m <sup>3</sup> )
Volumen de muestreo (m <sup>3</sup> )	1543.47	1617.63	1611.39	1605.48	1567.88	
Setiembre 2021	0.0134	0.0304	0.0158	0.0265	0.0260	0.0224





**Tabla 3.8. Volumen muestreado para metales en PM<sub>10</sub> a temperatura de 10°C**

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en setiembre de 2021

**PUNTO DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0002-9-2021-412

N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Periodo (minutos)	Temperatura ambiental (°C)	Presión ambiental (mm Hg)	Flujo de muestreo (m <sup>3</sup> /min)	Volumen de muestreo en m <sup>3</sup> (Va)	Volumen de muestreo a 10°C en m <sup>3</sup> (Va <sub>10°C</sub> )*
1	Metales en PM <sub>10</sub>	1-213350	20/09/2021 18:00	21/09/2021 16:30	1350	4.7	459.5	1.143	1543.47	951.20
2		1-213351	21/09/2021 17:10	22/09/2021 17:01	1431	5.2	459.5	1.130	1617.63	994.91
3		1-213352	22/09/2021 17:20	23/09/2021 17:12	1432	3.6	459.5	1.125	1611.39	996.59
4		1-213353	23/09/2021 17:25	24/09/2021 17:08	1423	4.6	460.0	1.128	1605.48	990.59
5		1-213354	24/09/2021 17:16	25/09/2021 16:26	1390	5.3	460.3	1.128	1567.88	965.65

**OBSERVACIONES:**

(\*) El cálculo de volumen muestreado para metales en PM<sub>10</sub>, se realizó en base a las condiciones de temperatura de 10°C (283,15 °K) y presión estándar (760 mmHg ó 1013,25 mBar), establecidas en la Norma referencial ONTARIO'S AMBIENT AIR QUALITY CRITERIA.  
 " " : No aplica.



cha final  
/2021 16:30  
/2021 17:01  
/2021 17:12  
/2021 17:08  
/2021 16:26

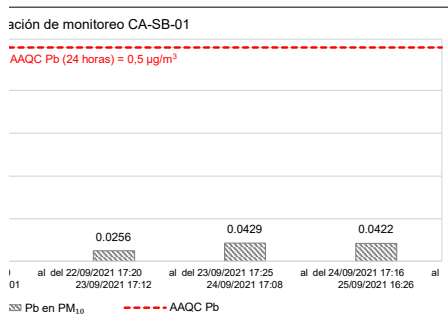


Tabla 3-1. Concentraciones horarias y 24 horas de PM<sub>10</sub>

TÍTULO DEL ESTUDIO:

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragshta, distrito Simón Bolívar, provincia y departamento Pasco, en octubre de 2021

ESTACIÓN DE MONITOREO:

CA-SB-01

CÓDIGO DE ACCIÓN:

0003-10-2021-412

DATOS DEL EQUIPO

EQUIPO: Monitor automático de partículas

MARCA: Thermo Scientific

MODELO: TEOM 1405

SERIE: 1405A208321003

Hora/Día	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
00:00	41.1	25.2	9.5	14.6	7.0	9.5	ID	13.6	8.7	8.8	17.8	14.1	34.2	8.3	11.8	9.9	6.0	11.6	12.8	2.0	24.1	42.1	13.6	42.7	28.1	16.9	26.0	15.4	12.3	5.3	10.2		
01:00	15.0	25.4	13.7	10.2	8.8	5.2	0.4	11.3	4.6	7.2	7.8	8.6	54.2	15.7	10.3	11.6	12.1	26.9	20.6	10.8	24.1	32.1	13.3	31.2	26.9	11.4	26.6	8.0	13.6	3.7	13.2		
02:00	29.5	20.6	17.5	17.4	3.6	13.4	1.8	10.9	5.4	12.9	11.2	8.7	42.1	14.9	37.6	5.2	18.7	19.0	15.9	25.5	26.9	21.3	24.2	32.5	18.4	29.6	5.8	13.8	5.1	14.0	15.7		
03:00	38.9	17.7	16.8	9.3	2.0	11.9	1.9	11.4	2.4	15.8	13.7	10.7	29.2	18.9	32.4	11.4	17.5	4.6	16.9	20.6	30.0	17.6	11.9	37.0	27.9	26.2	7.9	16.2	7.8	13.2	21.5		
04:00	33.8	16.0	23.8	13.0	2.7	10.6	6.2	4.0	2.0	11.4	16.5	23.8	19.7	21.0	30.9	20.4	17.5	15.4	26.6	18.8	18.7	11.8	20.9	31.0	21.8	19.0	15.6	31.4	26.5	14.5	13.5	18.7	37.1
05:00	27.6	13.2	41.9	18.3	5.4	6.6	14.9	15.2	2.7	16.8	15.5	25.0	18.0	31.8	37.4	25.8	18.2	20.8	41.0	16.0	20.8	12.1	26.7	27.9	19.0	15.6	31.4	26.5	17.8	23.0	30.0	30.0	
06:00	30.0	11.4	35.5	24.9	4.3	15.1	26.7	19.5	5.8	32.5	42.3	17.0	27.8	38.9	25.5	31.0	14.6	65.1	34.5	10.4	50.7	15.6	19.1	35.6	42.8	22.8	42.5	29.9	27.6	21.8	36.7	30.0	
07:00	40.9	16.9	28.3	22.2	7.2	8.4	28.4	13.0	13.9	42.0	47.6	37.5	45.7	40.0	36.1	26.2	18.1	18.2	38.7	10.5	24.1	28.0	36.1	27.4	75.9	28.9	33.6	21.8	27.3	27.4	28.4	26.4	
08:00	28.8	32.4	27.6	18.1	8.6	20.1	16.6	13.9	8.0	12.0	29.1	37.5	59.6	51.0	15.5	27.7	16.2	29.0	34.1	15.6	41.2	32.1	40.0	30.3	50.5	24.4	18.0	16.5	24.3	11.6	22.5		
09:00	27.4	44.3	34.0	30.3	6.3	35.0	12.4	21.6	16.4	8.4	20.4	23.0	35.5	39.3	24.2	23.4	23.5	32.2	35.6	21.5	48.8	78.8	58.5	43.4	26.3	39.0	27.0	21.8	35.3	15.9	26.0		
10:00	36.7	54.7	39.2	23.7	13.3	32.6	15.9	30.2	15.5	30.4	27.1	6.0	21.9	24.6	22.1	18.4	38.5	35.3	32.8	23.7	42.0	17.4	18.4	14.7	31.4	32.5	16.4	16.8	24.1	18.6	26.5		
11:00	22.5	41.3	35.3	20.4	23.0	33.0	20.9	13.3	10.0	20.0	19.6	13.9	22.3	43.4	14.9	23.4	24.2	37.9	33.7	28.6	25.1	24.0	10.1	17.8	53.3	23.0	21.5	14.9	22.7	28.2	19.6		
12:00	17.0	29.1	35.7	28.7	22.4	10.1	15.0	17.5	13.2	20.8	20.5	16.4	17.3	17.1	16.4	28.8	23.6	39.3	24.6	24.0	33.4	32.9	20.6	35.1	31.5	16.4	26.0	ID	13.3	9.5	22.0		
13:00	23.0	12.6	32.1	29.8	16.4	21.9	18.6	21.5	13.7	13.9	24.3	18.0	20.0	10.9	21.0	11.0	19.2	20.5	19.2	16.7	22.1	31.0	17.9	23.1	28.4	22.5	41.7	24.5	16.7	18.2	27.1		
14:00	32.4	29.0	22.6	20.0	7.1	12.8	13.3	15.7	17.0	18.4	17.4	17.0	15.4	20.2	23.4	18.4	10.9	33.0	15.7	14.4	22.3	18.6	23.0	37.8	35.7	56.0	46.4	20.4	43.4	19.3	26.4		
15:00	21.0	15.8	11.3	32.8	11.9	19.3	18.5	16.1	7.0	17.6	11.9	17.9	44.0	23.1	38.1	19.8	20.8	25.4	19.2	31.6	28.7	20.1	33.6	40.0	37.6	36.3	45.9	16.1	ID	9.1	27.4		
16:00	35.0	32.0	20.3	17.3	19.5	10.7	17.8	34.1	7.0	23.5	26.7	17.2	37.1	32.2	33.2	13.2	18.8	45.9	20.2	34.6	30.8	31.3	70.8	30.4	43.3	41.3	52.9	26.7	18.1	18.0	13.3		
17:00	37.6	20.6	18.8	29.6	20.6	6.3	26.6	39.9	13.5	15.4	32.5	28.0	44.2	10.4	44.5	13.2	19.8	44.4	38.6	38.0	64.2	21.5	43.3	40.6	41.8	44.5	25.7	33.4	33.4	19.6	35.6		
18:00	37.8	34.0	53.1	39.8	13.4	10.5	24.7	44.0	23.1	14.3	40.8	35.3	49.6	10.5	46.0	14.1	22.3	37.2	31.0	43.1	76.8	58.1	41.9	29.4	31.5	34.7	25.0	49.4	33.4	19.6	35.6		
19:00	11.0	39.6	60.1	28.7	7.8	9.2	24.0	24.2	25.2	10.7	36.8	82.0	22.9	12.4	26.5	22.6	18.1	75.2	24.2	27.0	53.5	67.0	65.2	19.4	37.5	12.9	40.7	39.1	23.0	14.8	69.8		
20:00	9.4	24.3	50.9	28.9	7.2	5.6	18.6	8.3	17.9	32.2	27.9	75.0	13.6	11.7	25.9	10.9	27.1	65.2	24.1	19.5	62.5	69.9	61.1	20.2	37.1	9.8	57.3	35.3	21.0	23.0	41.0		
21:00	5.9	14.5	39.5	25.4	4.5	7.9	4.2	7.2	21.8	39.6	25.4	39.2	12.4	13.2	22.7	12.2	20.9	44.1	39.2	18.0	29.5	41.7	42.0	15.8	32.3	9.8	85.0	29.5	22.6	17.4	31.2		
22:00	43.4	10.3	28.8	15.5	11.8	9.8	4.9	23.0	13.9	22.0	20.0	31.0	5.6	32.2	31.1	21.0	10.3	38.6	18.5	54.2	30.3	34.5	54.0	28.5	31.6	12.0	32.6	21.8	24.9	15.4	20.6		
23:00	57.7	8.9	19.9	7.3	8.9	8.4	18.2	8.9	17.2	12.8	22.1	31.8	5.9	10.3	23.0	8.2	12.9	16.9	ID	43.0	30.9	26.3	32.4	14.6	18.8	12.1	26.7	17.3	9.4	13.2	5.6		
Promedio de PM <sub>10</sub> en 24 h	29.3	24.6	29.8	21.9	10.2	13.9	15.1	18.3	11.9	19.1	24.0	26.4	29.1	23.0	27.1	17.8	18.7	33.4	26.9	23.7	35.9	32.7	33.3	29.4	34.6	24.9	32.5	23.0	21.3	16.8	26.2		
ECA aire de PM <sub>10</sub>	100 µg/m <sup>3</sup> en periodo de 24 horas																																

ID: insuficiencia de datos por no cumplir con la mínima suficiencia de datos para calcular el promedio de 1 o 24 horas (45 minutos o 18 horas)

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en octubre de 2021

**ESTACIÓN DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0003-10-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:**

Estación meteorológica

**MARCA:**

Campbell

**MODELO:**

CR1000

**SERIE:**

30825

FECHA Y HORA	Presión atmosférica (mmHg)	Precipitación (mm)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)	Dirección de Viento (°)
1/10/2021 00:00	459.1	0.0	3.6	96.5	0.1	36.2
1/10/2021 01:00	458.6	0.0	3.4	95.2	0.1	229.2
1/10/2021 02:00	458.3	0.0	2.4	99.1	0.1	229.9
1/10/2021 03:00	458.0	0.0	1.9	99.3	0.4	224.8
1/10/2021 04:00	458.1	0.0	1.7	99.3	0.5	231.2
1/10/2021 05:00	458.4	0.0	1.2	99.3	0.8	221.9
1/10/2021 06:00	458.9	0.0	0.7	99.4	0.4	227.0
1/10/2021 07:00	459.4	0.0	1.6	99.4	0.9	32.6
1/10/2021 08:00	459.8	0.0	2.4	99.2	1.2	352.4
1/10/2021 09:00	460.0	0.0	5.9	80.1	0.5	345.7
1/10/2021 10:00	459.8	0.0	9.5	59.3	1.2	92.0
1/10/2021 11:00	459.4	0.0	9.9	53.7	1.0	96.4
1/10/2021 12:00	458.8	0.0	10.3	51.2	0.7	98.2
1/10/2021 13:00	458.3	0.0	9.1	57.0	2.2	355.3
1/10/2021 14:00	457.9	0.0	10.2	56.0	2.7	12.5
1/10/2021 15:00	457.7	0.0	10.5	52.3	2.1	10.4
1/10/2021 16:00	457.9	0.0	7.1	72.3	1.5	168.9
1/10/2021 17:00	458.1	0.0	6.7	73.8	1.3	183.0
1/10/2021 18:00	458.5	0.0	5.2	86.6	1.1	326.4
1/10/2021 19:00	458.9	0.0	3.9	93.6	1.3	339.6
1/10/2021 20:00	459.1	0.0	3.3	92.5	0.9	323.9
1/10/2021 21:00	459.4	0.0	2.7	95.8	0.2	292.6
1/10/2021 22:00	459.6	0.0	2.7	96.8	0.0	0.0
1/10/2021 23:00	459.4	0.0	2.5	96.7	0.4	213.9
2/10/2021 00:00	459.0	0.0	1.6	99.3	0.6	216.2
2/10/2021 01:00	458.6	0.0	1.1	99.3	0.5	218.0
2/10/2021 02:00	458.4	0.0	0.6	99.3	0.3	206.4
2/10/2021 03:00	458.1	0.0	1.1	99.4	0.4	217.1
2/10/2021 04:00	458.1	0.0	0.8	99.4	0.7	210.2
2/10/2021 05:00	458.2	0.0	0.3	99.4	0.5	218.6
2/10/2021 06:00	458.6	0.0	0.5	99.4	0.6	209.2
2/10/2021 07:00	459.0	0.0	1.2	99.4	0.9	207.6
2/10/2021 08:00	459.4	0.0	3.3	99.4	0.5	266.9
2/10/2021 09:00	459.4	0.0	7.3	81.4	1.1	219.3
2/10/2021 10:00	459.2	0.0	8.3	68.0	0.8	254.0
2/10/2021 11:00	458.9	0.3	7.4	71.3	1.0	148.6
2/10/2021 12:00	458.4	0.0	8.3	73.8	1.3	93.1
2/10/2021 13:00	457.7	0.0	10.3	62.3	1.1	37.4
2/10/2021 14:00	457.1	0.0	9.9	66.3	1.4	59.6
2/10/2021 15:00	456.8	0.0	9.7	67.9	1.4	92.1
2/10/2021 16:00	456.7	0.0	7.0	80.7	0.8	25.7
2/10/2021 17:00	457.0	0.0	6.7	87.8	1.2	44.7
2/10/2021 18:00	457.4	0.0	5.4	97.4	1.1	20.7
2/10/2021 19:00	458.0	0.0	5.0	99.1	0.8	26.3
2/10/2021 20:00	458.4	0.0	4.7	99.2	1.4	10.3
2/10/2021 21:00	458.6	0.0	4.6	99.3	1.1	359.6
2/10/2021 22:00	458.7	0.0	4.6	99.3	0.8	350.2
2/10/2021 23:00	458.5	0.0	4.3	99.3	0.3	286.0
3/10/2021 00:00	458.2	0.0	4.1	99.1	0.6	222.0
3/10/2021 01:00	457.8	0.0	3.8	99.2	0.8	224.7
3/10/2021 02:00	457.4	0.0	3.4	99.3	0.6	224.7
3/10/2021 03:00	457.1	0.0	2.8	99.3	0.3	197.8
3/10/2021 04:00	457.2	0.0	1.9	99.3	0.0	0.0
3/10/2021 05:00	457.5	0.0	2.5	99.1	0.1	223.0
3/10/2021 06:00	457.9	0.0	2.3	99.2	0.6	227.8
3/10/2021 07:00	458.2	0.0	3.8	94.3	0.5	208.1
3/10/2021 08:00	458.6	0.0	6.5	77.0	0.6	126.1
3/10/2021 09:00	458.8	0.0	8.3	64.0	1.4	47.3
3/10/2021 10:00	458.8	0.0	8.5	64.1	1.2	22.6
3/10/2021 11:00	458.6	0.0	10.2	56.6	1.1	56.2
3/10/2021 12:00	458.2	0.0	11.4	53.0	1.3	55.0
3/10/2021 13:00	457.7	0.0	9.6	65.0	2.1	17.8
3/10/2021 14:00	457.3	0.0	9.0	66.9	1.3	22.1

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3/10/2021 15:00	456.9	0.0	10.3	57.5	1.0	63.9
3/10/2021 16:00	456.7	0.0	9.3	62.8	2.5	9.8
3/10/2021 17:00	456.8	0.0	8.1	66.2	1.0	12.4
3/10/2021 18:00	457.2	0.0	7.6	66.4	0.9	45.9
3/10/2021 19:00	457.5	0.0	6.4	78.1	0.6	40.8
3/10/2021 20:00	457.8	0.0	5.4	92.8	0.6	35.5
3/10/2021 21:00	458.2	0.0	4.9	97.5	1.5	52.4
3/10/2021 22:00	458.4	0.0	4.3	94.8	1.0	45.5
3/10/2021 23:00	458.5	0.0	3.7	97.2	0.6	28.0
4/10/2021 00:00	458.2	0.0	4.1	92.5	0.7	59.6
4/10/2021 01:00	457.8	0.0	3.4	91.2	0.6	75.2
4/10/2021 02:00	457.5	0.0	3.5	90.8	0.3	71.9
4/10/2021 03:00	457.4	0.0	3.4	91.1	0.2	182.7
4/10/2021 04:00	457.5	0.0	3.2	92.5	0.4	174.3
4/10/2021 05:00	457.8	0.0	3.4	86.7	0.6	167.4
4/10/2021 06:00	458.0	0.0	3.7	86.1	0.6	172.8
4/10/2021 07:00	458.6	0.0	4.7	81.0	0.7	161.3
4/10/2021 08:00	459.1	0.0	6.3	73.3	0.9	73.0
4/10/2021 09:00	459.3	0.0	7.7	64.9	1.0	98.8
4/10/2021 10:00	459.2	0.0	7.2	66.8	1.1	118.2
4/10/2021 11:00	458.9	0.0	8.5	60.6	1.1	96.3
4/10/2021 12:00	458.5	0.0	9.4	55.7	1.8	56.6
4/10/2021 13:00	457.8	0.0	11.2	48.9	1.4	68.1
4/10/2021 14:00	457.2	0.0	11.5	48.3	0.9	88.0
4/10/2021 15:00	457.1	0.0	7.8	74.0	2.0	49.2
4/10/2021 16:00	456.9	0.0	8.4	63.1	0.8	73.0
4/10/2021 17:00	457.1	0.0	7.3	70.8	0.9	231.4
4/10/2021 18:00	457.6	0.0	6.0	84.2	1.2	343.4
4/10/2021 19:00	458.1	0.0	5.6	90.7	1.0	7.7
4/10/2021 20:00	458.6	0.0	5.6	92.9	0.7	55.6
4/10/2021 21:00	458.9	0.0	4.7	98.4	1.0	39.1
4/10/2021 22:00	459.0	0.0	4.0	98.1	0.3	51.8
4/10/2021 23:00	458.8	0.0	4.1	97.3	0.7	51.8
5/10/2021 00:00	458.4	0.0	3.9	99.3	0.4	36.0
5/10/2021 01:00	458.0	0.0	3.8	99.3	0.4	36.8
5/10/2021 02:00	457.6	0.0	3.3	99.3	0.5	4.6
5/10/2021 03:00	457.4	0.0	2.9	99.3	1.0	345.3
5/10/2021 04:00	457.5	0.0	3.3	99.2	0.6	347.3
5/10/2021 05:00	457.9	0.0	3.1	99.3	0.6	57.9
5/10/2021 06:00	458.2	0.0	1.9	99.3	0.5	62.1
5/10/2021 07:00	458.7	0.0	2.0	99.3	0.4	71.5
5/10/2021 08:00	459.0	0.0	3.9	96.5	0.6	25.3
5/10/2021 09:00	459.0	0.0	5.9	85.3	0.7	177.4
5/10/2021 10:00	458.8	0.0	7.0	80.6	0.7	31.2
5/10/2021 11:00	458.4	0.0	8.9	72.2	1.4	43.9
5/10/2021 12:00	458.0	0.0	8.0	81.5	1.7	23.0
5/10/2021 13:00	457.6	0.0	7.9	86.7	1.8	14.1
5/10/2021 14:00	457.3	0.0	8.2	78.7	2.0	24.3
5/10/2021 15:00	457.0	0.0	9.2	72.1	1.3	30.7
5/10/2021 16:00	457.2	0.0	8.0	75.8	1.9	8.8
5/10/2021 17:00	457.6	0.0	4.4	92.2	1.7	332.6
5/10/2021 18:00	458.0	0.0	3.8	98.5	0.7	250.3
5/10/2021 19:00	458.5	0.0	3.1	99.3	0.8	188.7
5/10/2021 20:00	458.9	0.0	2.3	99.3	0.6	234.6
5/10/2021 21:00	459.3	0.0	1.4	99.3	0.5	184.3
5/10/2021 22:00	459.3	0.0	1.4	99.3	0.4	216.0
5/10/2021 23:00	459.1	0.0	1.2	99.4	0.1	205.6
6/10/2021 00:00	458.8	0.0	1.8	99.3	0.2	336.6
6/10/2021 01:00	458.5	0.0	1.5	99.3	0.0	39.2
6/10/2021 02:00	458.3	0.0	1.5	99.4	0.7	212.3
6/10/2021 03:00	458.2	0.0	1.2	99.4	0.7	224.3
6/10/2021 04:00	458.3	0.0	1.2	99.4	0.5	220.7
6/10/2021 05:00	458.5	0.0	1.2	99.4	0.6	215.4
6/10/2021 06:00	458.8	0.0	1.8	99.4	0.5	216.5
6/10/2021 07:00	459.3	0.0	2.8	99.3	0.6	223.1
6/10/2021 08:00	459.6	0.0	3.9	99.0	0.6	231.3
6/10/2021 09:00	459.7	0.0	4.8	97.3	0.8	214.7
6/10/2021 10:00	459.5	0.0	7.3	82.7	0.8	219.5
6/10/2021 11:00	459.1	0.0	8.2	76.2	0.9	257.6
6/10/2021 12:00	458.6	0.0	10.3	62.0	0.8	17.7
6/10/2021 13:00	458.2	0.0	10.7	63.1	1.4	37.7
6/10/2021 14:00	457.9	0.0	10.1	65.3	1.8	25.3
6/10/2021 15:00	457.9	0.0	6.5	96.4	1.5	47.6
6/10/2021 16:00	457.9	0.0	5.3	96.6	1.4	57.7
6/10/2021 17:00	458.1	0.0	3.9	99.3	0.7	52.2
6/10/2021 18:00	458.4	0.0	4.0	99.3	0.3	200.6
6/10/2021 19:00	458.8	0.0	3.5	99.3	1.0	213.9
6/10/2021 20:00	459.1	0.0	3.1	99.3	0.8	205.8
6/10/2021 21:00	459.3	0.0	3.0	99.3	0.5	211.7
6/10/2021 22:00	459.4	0.0	2.9	99.3	0.5	223.9
6/10/2021 23:00	459.3	0.0	2.3	99.3	0.7	315.1
7/10/2021 00:00	458.9	0.0	1.9	99.3	1.0	343.7
7/10/2021 01:00	458.7	0.0	1.7	99.3	0.9	339.8
7/10/2021 02:00	458.4	0.0	1.8	99.4	0.7	203.5
7/10/2021 03:00	458.3	0.0	1.8	99.3	0.6	206.1
7/10/2021 04:00	458.4	0.0	2.0	99.4	0.2	212.0
7/10/2021 05:00	458.7	0.0	2.0	99.4	0.4	183.9
7/10/2021 06:00	458.9	0.0	2.5	99.3	0.0	0.0
7/10/2021 07:00	459.3	0.0	3.9	99.1	0.1	242.4

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	7/10/2021 08:00	459.5	0.0	6.1	82.9	1.2	2.7
	7/10/2021 09:00	459.8	0.0	7.5	69.8	1.3	27.0
	7/10/2021 10:00	459.6	0.0	9.1	61.2	1.8	17.1
	7/10/2021 11:00	459.4	0.0	8.7	66.8	1.7	10.8
	7/10/2021 12:00	459.0	0.0	9.9	60.9	1.0	34.4
	7/10/2021 13:00	458.5	0.0	11.3	58.2	1.3	43.6
	7/10/2021 14:00	458.0	0.0	11.4	58.9	1.7	27.2
	7/10/2021 15:00	457.7	0.0	10.8	63.8	2.4	19.0
	7/10/2021 16:00	457.7	0.0	7.9	79.5	2.2	19.4
	7/10/2021 17:00	458.0	0.0	6.3	91.0	1.7	23.6
	7/10/2021 18:00	458.3	0.0	5.7	95.6	1.6	10.2
	7/10/2021 19:00	458.7	0.0	5.6	97.2	0.9	15.5
	7/10/2021 20:00	458.9	0.0	5.0	97.4	0.9	185.9
	7/10/2021 21:00	459.0	0.0	3.9	98.2	0.9	203.3
	7/10/2021 22:00	459.1	0.0	4.4	94.5	0.2	148.3
	7/10/2021 23:00	458.9	0.0	5.0	93.6	0.1	257.8
	8/10/2021 00:00	458.7	0.0	4.4	98.4	0.5	208.4
	8/10/2021 01:00	458.4	0.0	4.2	99.3	0.2	292.9
	8/10/2021 02:00	458.3	0.0	4.0	99.3	0.4	212.4
	8/10/2021 03:00	458.2	0.0	4.2	99.3	0.2	112.3
	8/10/2021 04:00	458.2	0.0	4.1	97.0	0.3	191.9
	8/10/2021 05:00	458.2	0.0	3.9	99.3	0.3	203.9
	8/10/2021 06:00	458.4	0.0	4.3	98.6	0.2	199.9
	8/10/2021 07:00	458.7	0.0	5.4	89.0	0.3	222.5
	8/10/2021 08:00	459.0	0.0	7.6	75.8	0.7	116.3
	8/10/2021 09:00	459.1	0.0	9.0	69.0	1.1	16.1
	8/10/2021 10:00	459.1	0.0	8.9	69.8	1.4	25.9
	8/10/2021 11:00	458.9	0.0	10.1	61.3	1.2	30.4
	8/10/2021 12:00	458.4	0.0	10.5	63.4	1.4	26.2
	8/10/2021 13:00	458.0	0.0	12.4	57.2	1.6	34.6
	8/10/2021 14:00	457.8	0.0	10.8	62.4	1.3	44.9
	8/10/2021 15:00	457.4	0.0	11.3	60.7	1.8	54.0
	8/10/2021 16:00	457.3	0.0	9.3	71.0	1.0	45.1
	8/10/2021 17:00	457.5	0.0	9.0	71.0	1.1	23.0
	8/10/2021 18:00	457.9	0.0	7.0	87.8	1.5	28.7
	8/10/2021 19:00	458.4	0.0	5.6	97.2	1.0	50.2
	8/10/2021 20:00	458.5	0.0	5.1	97.1	1.0	46.9
	8/10/2021 21:00	458.9	0.0	5.4	96.9	0.7	50.8
	8/10/2021 22:00	459.1	0.0	5.5	99.3	0.7	54.4
	8/10/2021 23:00	458.8	0.0	5.5	99.3	0.4	47.6
	9/10/2021 00:00	458.6	0.0	5.3	99.3	0.7	49.6
	9/10/2021 01:00	458.2	0.0	5.0	99.3	0.7	28.3
	9/10/2021 02:00	458.1	0.0	4.6	99.3	1.1	19.2
	9/10/2021 03:00	458.1	0.0	4.2	99.3	1.1	18.0
	9/10/2021 04:00	458.0	0.0	4.1	99.3	1.1	354.1
	9/10/2021 05:00	458.2	0.0	4.3	99.3	0.7	22.3
	9/10/2021 06:00	458.5	0.0	4.8	98.6	0.4	29.1
	9/10/2021 07:00	459.0	0.0	5.4	96.7	0.7	36.8
	9/10/2021 08:00	459.3	0.0	6.8	85.4	1.0	16.2
	9/10/2021 09:00	459.6	0.0	8.2	77.9	1.2	28.6
	9/10/2021 10:00	459.5	0.0	8.6	78.0	1.5	26.0
	9/10/2021 11:00	459.2	0.0	9.1	79.0	1.7	16.4
	9/10/2021 12:00	458.9	0.0	9.2	78.8	1.9	21.0
	9/10/2021 13:00	458.5	0.0	10.9	68.4	2.1	23.1
	9/10/2021 14:00	458.2	0.0	10.4	72.0	2.5	6.7
	9/10/2021 15:00	458.0	0.0	8.7	78.1	2.1	0.8
	9/10/2021 16:00	457.9	0.0	8.4	79.4	2.5	358.4
	9/10/2021 17:00	458.0	0.0	7.2	84.8	1.6	15.8
	9/10/2021 18:00	458.4	0.0	6.8	89.1	0.7	18.1
	9/10/2021 19:00	458.8	0.0	6.2	94.4	0.8	15.9
	9/10/2021 20:00	459.0	0.0	5.8	96.3	0.5	35.2
	9/10/2021 21:00	459.3	0.0	5.6	98.9	0.5	25.8
	9/10/2021 22:00	459.6	0.0	5.8	98.1	0.4	43.1
	9/10/2021 23:00	459.7	0.0	5.2	94.8	0.7	52.4
	10/10/2021 00:00	459.4	0.0	4.6	92.5	0.2	219.6
	10/10/2021 01:00	458.8	0.0	4.0	94.5	0.0	227.4
	10/10/2021 02:00	458.6	0.0	3.7	95.6	0.0	216.0
	10/10/2021 03:00	458.5	0.0	4.2	94.9	0.2	174.2
	10/10/2021 04:00	458.8	0.0	4.2	95.7	0.4	218.6
	10/10/2021 05:00	459.0	0.0	3.4	98.7	0.4	255.5
	10/10/2021 06:00	459.5	0.0	3.3	99.2	0.3	163.1
	10/10/2021 07:00	459.9	0.0	5.8	89.0	0.8	206.7
	10/10/2021 08:00	460.0	0.0	7.7	71.2	0.7	146.8
	10/10/2021 09:00	459.9	0.0	9.4	60.8	0.9	89.7
	10/10/2021 10:00	459.9	0.0	10.8	54.6	1.1	82.0
	10/10/2021 11:00	459.6	0.0	11.7	52.2	1.5	43.4
	10/10/2021 12:00	459.4	0.0	10.9	59.3	1.8	63.9
	10/10/2021 13:00	458.9	0.0	13.0	46.4	1.6	74.9
	10/10/2021 14:00	458.6	0.0	11.2	52.0	1.5	128.9
	10/10/2021 15:00	458.2	0.0	11.1	53.6	1.1	68.9
	10/10/2021 16:00	458.3	0.0	9.7	65.7	1.6	23.6
	10/10/2021 17:00	458.7	0.0	6.8	83.8	1.3	51.7
	10/10/2021 18:00	458.9	0.0	5.7	87.3	0.7	154.3
	10/10/2021 19:00	459.2	0.0	5.2	88.0	0.4	148.9
	10/10/2021 20:00	459.4	0.0	4.9	87.7	0.4	42.4
	10/10/2021 21:00	459.8	0.0	4.7	89.6	0.2	78.4
	10/10/2021 22:00	459.9	0.0	4.7	89.7	0.3	136.6
	10/10/2021 23:00	459.7	0.0	4.2	90.6	0.1	42.2
	11/10/2021 00:00	459.5	0.0	4.0	91.5	0.2	204.4

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11/10/2021 01:00	459.0	0.0	3.5	94.4	0.5	209.3
11/10/2021 02:00	458.6	0.0	2.6	98.7	0.4	200.8
11/10/2021 03:00	458.4	0.0	2.0	99.3	0.2	186.3
11/10/2021 04:00	458.5	0.0	1.8	99.3	0.0	196.8
11/10/2021 05:00	458.9	0.0	1.7	99.3	0.1	232.4
11/10/2021 06:00	459.3	0.0	2.7	98.3	0.1	253.3
11/10/2021 07:00	459.8	0.0	4.4	89.9	0.3	164.7
11/10/2021 08:00	460.0	0.0	7.4	69.2	0.9	78.2
11/10/2021 09:00	460.2	0.0	8.8	57.0	1.4	128.5
11/10/2021 10:00	460.2	0.0	11.1	48.2	1.4	68.6
11/10/2021 11:00	460.0	0.0	11.5	46.3	1.2	73.3
11/10/2021 12:00	459.8	0.0	10.5	50.9	0.8	101.4
11/10/2021 13:00	459.5	0.3	8.8	65.1	1.9	10.4
11/10/2021 14:00	459.4	0.0	7.6	74.9	1.1	128.0
11/10/2021 15:00	459.1	0.0	8.7	71.2	1.0	124.9
11/10/2021 16:00	458.9	0.0	9.8	62.4	0.8	131.8
11/10/2021 17:00	459.0	0.0	8.0	65.8	1.0	57.2
11/10/2021 18:00	459.3	0.0	6.5	83.2	1.0	5.2
11/10/2021 19:00	459.7	0.0	5.6	95.7	1.0	5.2
11/10/2021 20:00	460.0	0.0	5.3	93.6	0.6	44.5
11/10/2021 21:00	460.1	0.0	4.8	96.8	0.4	26.0
11/10/2021 22:00	460.2	0.0	4.2	98.9	0.2	221.4
11/10/2021 23:00	460.1	0.0	4.3	95.1	0.2	48.5

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12/10/2021 00:00	460.0	0.0	3.9	96.4	0.5	32.4
12/10/2021 01:00	459.8	0.0	3.4	96.5	0.3	125.1
12/10/2021 02:00	459.6	0.0	2.6	94.6	0.2	88.3
12/10/2021 03:00	459.7	0.0	2.1	93.4	0.1	45.9
12/10/2021 04:00	459.8	0.0	1.2	97.3	0.4	206.6
12/10/2021 05:00	460.0	0.0	0.1	99.3	0.0	184.8
12/10/2021 06:00	460.3	0.0	-0.3	99.4	0.2	192.2
12/10/2021 07:00	460.7	0.0	3.1	96.7	0.4	211.0
12/10/2021 08:00	461.1	0.0	4.9	84.7	1.1	205.1
12/10/2021 09:00	461.1	0.0	8.5	52.4	0.9	166.6
12/10/2021 10:00	461.0	0.0	11.0	31.1	1.1	60.0
12/10/2021 11:00	460.7	0.0	11.9	31.6	1.3	73.2
12/10/2021 12:00	460.3	0.0	12.7	33.0	1.8	21.3
12/10/2021 13:00	459.7	0.0	13.9	30.5	1.4	38.1
12/10/2021 14:00	459.2	0.0	13.2	31.4	1.6	352.6
12/10/2021 15:00	458.8	0.0	14.0	29.5	1.5	11.9
12/10/2021 16:00	458.6	0.0	13.3	30.4	1.7	9.4
12/10/2021 17:00	458.6	0.0	11.9	34.4	1.3	7.6
12/10/2021 18:00	459.0	0.0	9.9	43.0	0.7	18.8
12/10/2021 19:00	459.6	0.0	8.6	55.5	0.9	47.5
12/10/2021 20:00	460.1	0.0	7.2	85.6	1.3	53.0
12/10/2021 21:00	460.6	0.0	6.8	84.7	0.6	112.2
12/10/2021 22:00	460.6	0.0	6.2	87.7	0.2	59.3
12/10/2021 23:00	460.3	0.0	5.4	91.3	0.4	212.6

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13/10/2021 00:00	460.0	0.0	4.9	91.4	0.2	224.6
13/10/2021 01:00	459.8	0.0	4.6	95.7	0.2	209.5
13/10/2021 02:00	459.5	0.0	4.6	98.6	0.2	218.5
13/10/2021 03:00	459.5	0.0	4.2	98.6	1.0	183.7
13/10/2021 04:00	459.5	0.0	3.7	99.3	0.8	213.0
13/10/2021 05:00	459.8	0.0	2.7	99.3	0.7	220.2
13/10/2021 06:00	460.1	0.0	2.7	99.4	0.3	231.0
13/10/2021 07:00	460.3	0.0	4.5	97.7	0.3	226.2
13/10/2021 08:00	460.5	0.0	8.0	74.4	0.9	216.6
13/10/2021 09:00	460.4	0.0	10.6	52.7	1.7	180.2
13/10/2021 10:00	460.1	0.0	12.2	39.9	1.7	166.1
13/10/2021 11:00	459.7	0.0	13.8	34.6	1.3	165.9
13/10/2021 12:00	459.1	0.0	15.7	26.8	1.4	136.4
13/10/2021 13:00	458.5	0.0	16.2	25.0	1.4	86.9
13/10/2021 14:00	458.0	0.0	15.7	26.8	1.3	50.5
13/10/2021 15:00	457.8	0.0	14.3	42.6	1.9	27.5
13/10/2021 16:00	457.8	0.0	12.8	43.1	1.3	42.6
13/10/2021 17:00	458.0	0.0	11.3	49.3	1.4	15.7
13/10/2021 18:00	458.8	0.0	8.6	66.6	1.3	295.4
13/10/2021 19:00	459.4	0.0	6.7	75.1	1.8	207.4
13/10/2021 20:00	459.8	0.0	5.7	80.6	1.4	223.2
13/10/2021 21:00	459.8	0.0	5.3	82.6	1.5	215.9
13/10/2021 22:00	459.7	0.0	5.2	79.1	0.6	219.5
13/10/2021 23:00	459.5	0.0	5.6	75.6	0.1	176.6

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14/10/2021 00:00	459.1	0.0	5.6	76.1	0.4	249.1
14/10/2021 01:00	458.6	0.0	5.0	81.0	0.3	224.1
14/10/2021 02:00	458.2	0.0	4.2	87.4	0.2	201.8
14/10/2021 03:00	458.0	0.0	3.9	88.0	0.2	206.6
14/10/2021 04:00	458.2	0.0	3.3	90.1	0.4	237.1
14/10/2021 05:00	458.4	0.0	3.1	90.9	0.3	237.5
14/10/2021 06:00	458.7	0.0	3.8	88.5	0.4	196.3
14/10/2021 07:00	459.2	0.0	7.0	74.3	0.7	212.7
14/10/2021 08:00	459.4	0.0	10.1	58.9	0.7	210.2
14/10/2021 09:00	459.4	0.0	12.1	49.6	1.1	218.9
14/10/2021 10:00	459.1	0.0	11.9	45.8	0.9	194.2
14/10/2021 11:00	458.9	0.0	9.6	59.2	1.7	9.0
14/10/2021 12:00	458.4	0.0	7.9	61.1	2.3	19.7
14/10/2021 13:00	457.8	0.0	11.5	48.0	1.9	25.6
14/10/2021 14:00	457.6	0.0	11.0	51.2	1.4	20.6
14/10/2021 15:00	457.7	0.0	9.1	55.3	1.6	14.4
14/10/2021 16:00	458.6	0.0	4.6	86.0	1.8	186.9
14/10/2021 17:00	458.7	0.0	1.9	99.3	1.5	159.4

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14/10/2021 18:00	458.4	0.0	2.9	98.2	0.6	145.3
14/10/2021 19:00	458.7	0.0	4.1	92.3	0.8	186.0
14/10/2021 20:00	459.2	0.0	3.7	93.2	0.3	200.3
14/10/2021 21:00	459.5	0.0	3.5	93.5	0.1	40.7
14/10/2021 22:00	459.7	0.0	3.4	92.9	0.2	171.1
14/10/2021 23:00	459.3	0.0	2.9	95.0	0.6	199.2
15/10/2021 00:00	459.1	0.0	2.6	99.0	0.3	197.4
15/10/2021 01:00	458.8	0.0	2.4	98.8	0.3	218.2
15/10/2021 02:00	458.5	0.0	1.7	99.3	0.1	184.6
15/10/2021 03:00	458.3	0.0	2.1	99.3	0.1	184.4
15/10/2021 04:00	458.3	0.0	1.9	99.3	0.3	204.8
15/10/2021 05:00	458.6	0.0	1.3	99.3	0.2	191.1
15/10/2021 06:00	459.0	0.0	1.6	99.3	0.3	186.7
15/10/2021 07:00	459.3	0.0	3.2	98.4	0.6	202.3
15/10/2021 08:00	459.7	0.0	5.9	80.7	1.0	206.5
15/10/2021 09:00	459.8	0.0	8.8	62.9	1.0	149.3
15/10/2021 10:00	459.8	0.0	11.3	47.5	1.3	148.3
15/10/2021 11:00	459.4	0.0	12.8	35.6	1.4	62.3
15/10/2021 12:00	458.9	0.0	13.1	29.7	1.4	73.4
15/10/2021 13:00	458.4	0.0	13.5	34.3	1.5	81.5
15/10/2021 14:00	457.7	0.0	14.6	31.9	1.1	87.2
15/10/2021 15:00	457.5	0.0	11.3	54.9	2.8	18.2
15/10/2021 16:00	457.5	0.0	10.7	57.5	2.1	53.4
15/10/2021 17:00	457.5	0.0	8.9	61.3	1.2	59.0
15/10/2021 18:00	458.1	0.0	7.0	74.6	1.2	337.3
15/10/2021 19:00	459.0	0.0	6.4	76.1	0.8	312.3
15/10/2021 20:00	459.2	0.0	5.7	80.2	0.7	211.4
15/10/2021 21:00	459.6	0.0	5.7	83.7	0.6	56.2
15/10/2021 22:00	459.8	0.0	4.9	93.0	1.0	38.0
15/10/2021 23:00	459.6	0.0	4.4	89.8	0.9	57.1
16/10/2021 00:00	459.3	0.0	4.2	90.1	0.6	41.7
16/10/2021 01:00	459.1	0.0	3.6	94.5	0.5	22.9
16/10/2021 02:00	458.7	0.0	3.4	93.8	0.3	330.4
16/10/2021 03:00	458.6	0.0	3.3	93.8	0.2	179.9
16/10/2021 04:00	458.7	0.0	3.2	97.4	0.3	199.1
16/10/2021 05:00	459.2	0.0	3.2	97.4	0.2	196.9
16/10/2021 06:00	459.8	0.0	4.5	81.6	0.2	174.3
16/10/2021 07:00	460.2	0.0	5.5	77.7	0.6	155.3
16/10/2021 08:00	460.4	0.0	6.8	71.8	0.9	166.0
16/10/2021 09:00	460.5	0.0	7.7	68.1	0.6	151.8
16/10/2021 10:00	460.4	0.0	9.6	57.7	0.9	150.7
16/10/2021 11:00	460.1	0.0	10.9	52.1	1.3	104.3
16/10/2021 12:00	459.9	0.0	9.6	61.4	1.3	69.6
16/10/2021 13:00	459.2	0.0	10.0	54.5	1.1	52.4
16/10/2021 14:00	458.6	0.0	10.0	58.5	1.9	17.9
16/10/2021 15:00	458.3	0.0	7.6	76.4	1.2	2.2
16/10/2021 16:00	458.3	0.0	7.8	79.7	1.2	44.5
16/10/2021 17:00	458.5	0.0	5.6	90.2	1.6	51.8
16/10/2021 18:00	459.0	0.0	5.6	86.6	0.8	144.9
16/10/2021 19:00	459.6	0.0	4.9	94.6	1.3	203.4
16/10/2021 20:00	460.2	0.0	3.4	97.0	1.4	198.4
16/10/2021 21:00	460.3	0.0	2.6	99.3	1.0	227.7
16/10/2021 22:00	460.4	0.0	2.5	99.3	0.5	221.7
16/10/2021 23:00	460.2	0.0	3.0	99.3	0.5	183.4
17/10/2021 00:00	459.7	0.0	3.2	99.3	0.2	187.6
17/10/2021 01:00	459.3	0.0	3.4	99.3	0.0	178.5
17/10/2021 02:00	459.1	0.0	3.5	99.3	0.4	200.3
17/10/2021 03:00	459.0	0.0	3.5	99.3	0.2	196.7
17/10/2021 04:00	459.0	0.0	3.1	99.3	0.8	208.3
17/10/2021 05:00	459.2	0.0	2.8	99.3	0.1	250.6
17/10/2021 06:00	459.5	0.0	3.8	97.0	0.3	197.6
17/10/2021 07:00	459.8	0.0	5.5	83.4	0.2	217.6
17/10/2021 08:00	460.1	0.0	6.1	82.2	0.8	205.4
17/10/2021 09:00	460.4	0.0	5.8	86.0	0.5	231.5
17/10/2021 10:00	460.4	0.0	5.4	89.2	1.2	209.5
17/10/2021 11:00	460.1	0.0	7.2	79.0	1.0	64.9
17/10/2021 12:00	459.7	0.0	8.8	66.0	1.3	54.3
17/10/2021 13:00	459.3	0.0	9.4	61.1	1.3	52.9
17/10/2021 14:00	458.7	0.0	9.6	61.3	0.9	47.4
17/10/2021 15:00	458.4	0.0	9.0	70.4	1.8	9.6
17/10/2021 16:00	458.4	0.0	7.1	84.6	2.2	357.0
17/10/2021 17:00	458.7	0.0	6.0	89.2	1.7	351.8
17/10/2021 18:00	459.1	0.0	5.4	96.5	1.5	355.4
17/10/2021 19:00	459.5	0.0	5.4	96.9	0.8	2.1
17/10/2021 20:00	459.7	0.0	4.9	97.6	0.4	2.1
17/10/2021 21:00	459.9	0.0	4.2	99.3	0.3	260.6
17/10/2021 22:00	459.7	0.0	4.1	99.3	0.1	309.6
17/10/2021 23:00	459.3	0.0	3.6	99.3	0.0	328.0
18/10/2021 00:00	459.0	0.0	3.4	99.3	0.0	216.8
18/10/2021 01:00	458.6	0.0	3.1	99.3	0.1	190.5
18/10/2021 02:00	458.2	0.0	2.9	99.3	0.0	0.0
18/10/2021 03:00	458.0	0.0	2.6	99.3	0.0	202.0
18/10/2021 04:00	458.1	0.0	1.3	99.3	0.1	206.0
18/10/2021 05:00	458.4	0.0	0.7	99.3	0.0	0.0
18/10/2021 06:00	458.7	0.0	2.6	98.7	0.2	178.5
18/10/2021 07:00	459.2	0.0	5.8	84.2	0.5	207.7
18/10/2021 08:00	459.6	0.0	6.0	87.1	0.9	211.0
18/10/2021 09:00	459.7	0.0	8.2	77.1	0.9	11.6
18/10/2021 10:00	459.5	0.0	11.1	55.0	1.3	67.7

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18	18/10/2021 11:00	459.2	0.0	12.2	46.9	1.5	73.2
	18/10/2021 12:00	458.7	0.0	12.2	51.2	1.3	32.9
	18/10/2021 13:00	458.3	0.0	10.9	52.9	1.6	32.9
	18/10/2021 14:00	458.0	0.0	8.7	63.7	2.2	16.5
	18/10/2021 15:00	457.6	0.0	11.3	52.2	1.2	19.0
	18/10/2021 16:00	457.6	0.0	9.7	59.3	1.7	49.6
	18/10/2021 17:00	457.9	0.0	6.8	72.9	1.3	24.4
	18/10/2021 18:00	458.4	0.0	5.9	76.3	0.7	7.5
	18/10/2021 19:00	458.9	0.0	5.4	81.8	0.8	36.7
	18/10/2021 20:00	459.2	0.0	4.9	89.5	0.3	34.4
	18/10/2021 21:00	459.4	0.0	4.3	90.2	0.6	37.8
	18/10/2021 22:00	459.6	0.0	4.1	95.0	0.5	354.6
	18/10/2021 23:00	459.4	0.0	4.0	95.6	0.8	351.6
	19/10/2021 00:00	459.2	0.0	4.1	89.9	0.1	144.0
19	19/10/2021 01:00	459.0	0.0	4.1	85.5	0.2	116.9
	19/10/2021 02:00	458.7	0.0	4.0	81.2	0.4	177.6
	19/10/2021 03:00	458.4	0.0	4.1	81.1	0.3	236.3
	19/10/2021 04:00	458.5	0.0	3.6	90.2	0.3	233.6
	19/10/2021 05:00	458.7	0.0	3.5	93.2	0.5	177.7
	19/10/2021 06:00	459.2	0.0	3.8	90.2	0.1	160.2
	19/10/2021 07:00	459.7	0.0	4.7	83.5	0.4	137.5
	19/10/2021 08:00	460.0	0.0	5.4	77.0	0.5	141.8
	19/10/2021 09:00	460.0	0.0	6.9	73.8	0.6	133.8
	19/10/2021 10:00	460.0	0.0	6.9	73.5	0.9	98.3
	19/10/2021 11:00	459.8	0.0	8.1	68.2	1.1	46.3
	19/10/2021 12:00	459.5	0.0	8.2	68.8	1.0	54.2
	19/10/2021 13:00	458.9	0.0	8.7	67.4	1.1	146.6
	19/10/2021 14:00	458.2	0.0	10.4	58.2	0.9	43.3
20	19/10/2021 15:00	457.7	0.0	10.5	56.5	0.9	72.6
	19/10/2021 16:00	457.6	0.0	10.3	58.8	0.7	26.9
	19/10/2021 17:00	458.0	0.0	7.6	75.5	1.2	37.8
	19/10/2021 18:00	458.7	0.0	6.0	88.9	1.5	20.0
	19/10/2021 19:00	459.3	0.0	5.4	88.2	1.0	47.2
	19/10/2021 20:00	459.6	0.0	5.4	85.4	0.9	59.2
	19/10/2021 21:00	460.1	0.0	4.8	91.8	0.8	66.3
	19/10/2021 22:00	460.6	0.3	3.3	98.5	0.6	155.5
	19/10/2021 23:00	460.1	0.0	2.9	99.3	0.2	149.0
	20/10/2021 00:00	459.8	0.0	3.2	98.3	0.3	210.8
	20/10/2021 01:00	459.5	0.0	3.0	99.3	0.4	207.3
	20/10/2021 02:00	459.1	0.0	2.7	99.3	0.6	212.2
	20/10/2021 03:00	459.0	0.0	2.9	99.3	0.4	231.0
	20/10/2021 04:00	459.1	0.0	2.9	99.3	0.8	212.2
20/10/2021 05:00	459.3	0.0	3.1	99.3	0.3	220.0	
21	20/10/2021 06:00	459.6	0.0	3.7	96.5	0.7	192.2
	20/10/2021 07:00	460.0	0.0	5.4	86.6	0.7	177.8
	20/10/2021 08:00	460.3	0.0	8.2	72.2	0.7	150.0
	20/10/2021 09:00	460.4	0.0	9.0	67.4	1.0	83.6
	20/10/2021 10:00	460.3	0.0	10.1	59.9	1.0	148.6
	20/10/2021 11:00	460.1	0.0	11.1	56.1	1.5	95.4
	20/10/2021 12:00	459.8	0.0	9.8	61.6	1.6	156.4
	20/10/2021 13:00	459.3	0.0	11.2	49.6	1.2	131.5
	20/10/2021 14:00	458.8	0.0	11.9	43.4	1.2	139.3
	20/10/2021 15:00	458.5	0.0	10.3	50.5	1.9	55.1
	20/10/2021 16:00	458.8	0.0	8.1	59.8	1.9	58.5
	20/10/2021 17:00	458.8	0.0	7.3	64.3	0.7	43.8
	20/10/2021 18:00	459.1	0.0	6.2	78.2	0.7	14.3
	20/10/2021 19:00	459.5	0.0	4.5	93.1	1.5	343.0
20/10/2021 20:00	459.8	0.0	4.1	92.6	0.7	336.3	
20/10/2021 21:00	460.0	0.0	3.9	92.5	0.0	197.9	
20/10/2021 22:00	460.1	0.0	3.7	94.2	0.0	249.0	
20/10/2021 23:00	460.0	0.0	3.6	96.3	0.0	202.9	
21/10/2021 00:00	459.6	0.0	3.2	98.4	0.0	224.0	
21/10/2021 01:00	459.2	0.0	2.3	99.2	0.0	0.0	
21/10/2021 02:00	459.1	0.0	1.8	99.3	0.0	0.0	
21/10/2021 03:00	458.9	0.0	1.4	99.3	0.1	212.4	
21/10/2021 04:00	459.0	0.0	0.8	99.3	0.0	194.0	
21/10/2021 05:00	459.4	0.0	0.1	99.3	0.0	180.8	
21/10/2021 06:00	459.7	0.0	2.3	96.7	0.3	180.0	
21/10/2021 07:00	460.1	0.0	3.5	96.3	0.8	204.7	
21/10/2021 08:00	460.4	0.0	5.6	91.6	1.3	210.8	
21/10/2021 09:00	460.3	0.0	7.5	76.2	1.2	232.8	
21/10/2021 10:00	460.1	0.0	10.0	60.0	1.4	229.3	
21/10/2021 11:00	459.7	0.0	13.1	35.4	1.4	149.4	
21/10/2021 12:00	459.3	0.0	14.5	24.5	1.4	119.1	
21/10/2021 13:00	458.7	0.0	14.7	26.4	1.4	152.7	
21/10/2021 14:00	458.2	0.0	14.8	27.3	1.5	136.6	
21/10/2021 15:00	458.0	0.0	14.9	30.2	1.8	67.8	
21/10/2021 16:00	458.0	0.0	13.0	34.5	1.2	65.7	
21/10/2021 17:00	458.3	0.0	10.7	45.1	1.1	61.3	
21/10/2021 18:00	458.7	0.0	8.3	54.0	1.1	56.8	
21/10/2021 19:00	459.1	0.0	7.0	62.3	1.0	51.9	
21/10/2021 20:00	459.4	0.0	5.8	70.9	0.3	16.9	
21/10/2021 21:00	459.7	0.0	4.9	87.5	0.4	332.6	
21/10/2021 22:00	459.8	0.0	4.5	93.9	0.0	248.0	
21/10/2021 23:00	459.6	0.0	3.9	94.1	0.2	218.2	
22/10/2021 00:00	459.3	0.0	2.3	96.3	0.4	204.1	
22/10/2021 01:00	459.0	0.0	1.8	98.1	0.2	189.4	
22/10/2021 02:00	458.8	0.0	0.2	99.3	0.3	180.4	
22/10/2021 03:00	458.7	0.0	-0.5	99.3	0.4	185.3	

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22/10/2021 04:00	458.8	0.0	-0.8	99.4	0.0	182.0
22/10/2021 05:00	459.1	0.0	-1.2	99.4	0.3	199.1
22/10/2021 06:00	459.4	0.0	-1.1	99.4	0.5	220.2
22/10/2021 07:00	459.8	0.0	0.3	99.4	0.5	188.4
22/10/2021 08:00	460.0	0.0	4.1	94.8	0.8	204.9
22/10/2021 09:00	460.0	0.0	9.5	51.4	1.0	165.7
22/10/2021 10:00	459.9	0.0	12.4	27.5	1.6	67.8
22/10/2021 11:00	459.7	0.0	13.0	33.0	1.5	48.5
22/10/2021 12:00	459.4	0.0	12.0	41.5	2.0	8.5
22/10/2021 13:00	458.9	0.0	10.5	49.0	1.4	11.4
22/10/2021 14:00	458.4	0.0	10.1	52.3	2.5	3.8
22/10/2021 15:00	458.3	0.0	8.5	52.5	2.1	356.7
22/10/2021 16:00	458.3	0.3	7.7	63.5	1.7	355.9
22/10/2021 17:00	458.3	0.0	7.0	65.2	1.0	348.1
22/10/2021 18:00	458.4	0.0	7.1	64.5	0.2	10.2
22/10/2021 19:00	458.7	0.0	6.4	65.0	0.4	51.3
22/10/2021 20:00	459.1	0.0	5.6	65.3	0.2	39.9
22/10/2021 21:00	459.4	0.0	4.8	73.2	0.1	25.4
22/10/2021 22:00	459.5	0.0	4.0	85.6	0.1	348.2
22/10/2021 23:00	459.5	0.0	3.3	96.0	0.2	350.9
23/10/2021 00:00	459.1	0.0	2.1	99.3	0.3	326.6
23/10/2021 01:00	458.8	0.0	1.8	99.4	0.1	194.4
23/10/2021 02:00	458.5	0.0	0.9	99.4	0.4	204.9
23/10/2021 03:00	458.4	0.0	0.8	99.4	0.2	234.3
23/10/2021 04:00	458.6	0.0	0.7	99.4	0.2	248.7
23/10/2021 05:00	458.9	0.0	0.3	99.4	0.7	254.8
23/10/2021 06:00	459.2	0.0	0.2	99.4	0.6	232.7
23/10/2021 07:00	459.6	0.0	1.6	99.4	0.5	218.8
23/10/2021 08:00	459.8	0.0	5.5	90.6	1.1	220.2
23/10/2021 09:00	459.8	0.0	9.4	59.0	1.1	281.7
23/10/2021 10:00	459.6	0.0	12.8	20.9	1.4	89.4
23/10/2021 11:00	459.4	0.0	14.0	13.3	1.6	134.7
23/10/2021 12:00	458.9	0.0	14.5	14.3	1.4	167.3
23/10/2021 13:00	458.4	0.0	14.8	18.5	1.3	108.1
23/10/2021 14:00	458.1	0.0	13.8	26.3	1.5	33.3
23/10/2021 15:00	457.9	0.0	13.0	37.7	2.3	29.7
23/10/2021 16:00	458.1	0.0	10.1	50.2	1.4	26.5
23/10/2021 17:00	458.1	0.0	9.1	52.9	1.1	20.9
23/10/2021 18:00	458.3	0.0	8.0	61.2	0.8	17.2
23/10/2021 19:00	458.6	0.0	7.2	72.3	0.4	48.6
23/10/2021 20:00	459.2	0.0	6.4	77.6	0.3	203.3
23/10/2021 21:00	459.5	0.0	5.9	77.2	0.1	152.7
23/10/2021 22:00	459.8	0.0	6.2	77.6	0.4	154.6
23/10/2021 23:00	459.6	0.0	5.7	86.4	0.5	211.5
24/10/2021 00:00	459.1	0.0	4.3	96.6	0.4	209.7
24/10/2021 01:00	459.2	0.0	4.0	97.0	0.3	317.4
24/10/2021 02:00	458.9	0.0	3.7	98.6	0.2	249.3
24/10/2021 03:00	458.9	0.0	3.2	99.3	0.1	72.5
24/10/2021 04:00	459.1	0.0	3.2	99.3	0.4	34.5
24/10/2021 05:00	459.4	0.0	3.4	99.3	0.4	252.7
24/10/2021 06:00	459.7	0.0	3.5	99.3	0.7	201.8
24/10/2021 07:00	460.0	0.0	6.4	85.3	0.6	210.1
24/10/2021 08:00	460.1	0.0	9.4	62.6	0.8	217.4
24/10/2021 09:00	459.9	0.0	11.8	47.7	0.9	200.5
24/10/2021 10:00	459.8	0.0	13.3	31.1	0.8	140.5
24/10/2021 11:00	459.5	0.0	14.9	25.8	1.4	127.0
24/10/2021 12:00	459.1	0.0	15.0	26.9	1.3	30.4
24/10/2021 13:00	458.6	0.0	14.8	29.3	1.2	36.9
24/10/2021 14:00	458.3	0.0	12.9	43.0	1.2	23.4
24/10/2021 15:00	458.3	0.0	10.6	52.4	2.1	344.7
24/10/2021 16:00	458.3	0.0	10.0	53.8	1.4	349.2
24/10/2021 17:00	458.9	0.0	9.2	59.6	1.0	314.2
24/10/2021 18:00	459.1	0.0	8.1	65.1	1.0	224.0
24/10/2021 19:00	459.5	0.0	7.4	65.1	1.2	279.6
24/10/2021 20:00	459.8	0.0	6.2	75.6	1.3	199.9
24/10/2021 21:00	460.1	0.0	5.5	77.5	0.3	212.8
24/10/2021 22:00	460.2	0.0	5.6	74.5	0.1	240.2
24/10/2021 23:00	459.9	0.0	5.2	75.0	0.4	228.3
25/10/2021 00:00	459.2	0.0	3.9	87.6	0.5	203.5
25/10/2021 01:00	458.7	0.0	3.3	90.9	0.0	209.0
25/10/2021 02:00	458.7	0.0	3.2	91.0	0.1	91.0
25/10/2021 03:00	458.9	0.0	3.5	89.4	0.0	341.0
25/10/2021 04:00	459.1	0.0	3.3	89.4	0.1	220.7
25/10/2021 05:00	459.2	0.0	2.3	95.4	0.2	212.7
25/10/2021 06:00	459.5	0.0	3.6	92.8	0.1	170.7
25/10/2021 07:00	459.8	0.0	4.0	90.3	0.5	206.4
25/10/2021 08:00	459.9	0.0	5.6	80.5	0.5	225.0
25/10/2021 09:00	460.0	0.0	6.6	68.9	0.3	231.8
25/10/2021 10:00	460.1	0.0	7.3	69.9	0.8	3.1
25/10/2021 11:00	459.9	0.0	7.6	73.2	1.5	357.7
25/10/2021 12:00	459.4	0.0	9.1	65.1	0.9	43.0
25/10/2021 13:00	458.8	0.0	9.9	60.0	1.1	19.4
25/10/2021 14:00	458.2	0.0	10.4	59.5	1.3	36.4
25/10/2021 15:00	457.7	0.0	10.2	64.2	1.3	13.8
25/10/2021 16:00	457.9	0.0	9.0	75.1	1.8	9.4
25/10/2021 17:00	458.5	0.0	7.4	88.1	1.8	8.5
25/10/2021 18:00	458.8	0.0	5.8	97.8	1.6	8.0
25/10/2021 19:00	459.2	0.0	5.1	99.2	0.6	41.0
25/10/2021 20:00	459.4	0.0	4.5	99.1	0.2	49.6

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25/10/2021 21:00	459.6	0.0	3.6	99.3	0.5	54.8
25/10/2021 22:00	459.8	0.0	3.8	99.1	0.5	50.6
25/10/2021 23:00	459.7	0.0	3.5	99.3	0.5	27.8
26/10/2021 00:00	459.5	0.0	3.1	99.3	0.4	14.9
26/10/2021 01:00	459.2	0.0	2.7	99.2	0.0	219.0
26/10/2021 02:00	459.0	0.0	2.6	97.7	0.4	270.7
26/10/2021 03:00	458.9	0.0	2.0	99.3	0.4	331.0
26/10/2021 04:00	459.1	0.0	2.1	99.2	0.8	340.7
26/10/2021 05:00	459.3	0.0	1.6	99.3	0.0	345.0
26/10/2021 06:00	459.6	0.0	2.2	97.9	0.3	339.4
26/10/2021 07:00	459.8	0.0	3.9	88.8	0.3	325.7
26/10/2021 08:00	460.0	0.0	7.1	63.6	0.8	136.8
26/10/2021 09:00	460.0	0.0	9.2	48.7	0.9	171.6
26/10/2021 10:00	459.7	0.0	11.7	42.0	1.1	29.0
26/10/2021 11:00	459.3	0.0	12.8	36.9	1.3	24.8
26/10/2021 12:00	458.8	0.0	13.4	29.4	1.2	15.7
26/10/2021 13:00	458.1	0.0	13.1	35.0	1.9	6.0
26/10/2021 14:00	457.9	0.0	11.1	57.5	1.4	31.9
26/10/2021 15:00	457.6	0.0	10.9	60.3	2.0	56.2
26/10/2021 16:00	457.4	0.0	9.8	64.6	1.9	33.1
26/10/2021 17:00	457.9	0.0	7.9	75.8	1.7	28.1
26/10/2021 18:00	459.0	0.0	2.9	94.5	1.7	237.6
26/10/2021 19:00	459.2	0.0	3.0	98.7	1.1	313.2
26/10/2021 20:00	459.5	0.0	2.9	98.7	0.4	332.0
26/10/2021 21:00	459.5	0.0	3.4	95.8	0.5	335.1
26/10/2021 22:00	459.4	0.0	2.8	98.2	0.3	345.4
26/10/2021 23:00	459.3	0.0	3.2	96.4	0.1	13.1
27/10/2021 00:00	458.9	0.0	3.3	97.9	0.0	0.0
27/10/2021 01:00	458.7	0.0	2.5	99.0	0.2	337.6
27/10/2021 02:00	458.5	0.0	2.1	99.3	0.1	60.1
27/10/2021 03:00	458.5	0.0	1.6	99.3	0.2	51.5
27/10/2021 04:00	458.8	0.0	1.2	99.3	0.2	35.7
27/10/2021 05:00	459.1	0.0	1.7	99.4	0.0	185.0
27/10/2021 06:00	459.6	0.0	3.0	99.0	0.2	121.2
27/10/2021 07:00	460.1	0.0	4.5	86.6	0.8	193.8
27/10/2021 08:00	460.4	0.0	5.2	82.0	1.2	192.9
27/10/2021 09:00	460.5	0.0	6.5	73.6	0.7	186.9
27/10/2021 10:00	460.3	0.0	8.3	57.6	0.9	157.0
27/10/2021 11:00	459.9	0.0	10.3	48.5	0.9	8.9
27/10/2021 12:00	459.4	0.0	10.6	52.6	2.0	2.7
27/10/2021 13:00	459.1	0.0	8.5	72.9	2.4	21.0
27/10/2021 14:00	459.0	0.0	8.9	65.7	2.1	23.0
27/10/2021 15:00	458.8	0.0	9.9	54.5	1.5	28.4
27/10/2021 16:00	458.7	0.0	9.6	55.5	1.9	8.5
27/10/2021 17:00	458.9	0.0	8.5	62.9	1.6	6.4
27/10/2021 18:00	459.3	0.0	7.1	70.0	1.2	24.6
27/10/2021 19:00	459.6	0.0	6.0	77.2	0.7	40.8
27/10/2021 20:00	459.9	0.0	5.0	87.5	0.7	4.0
27/10/2021 21:00	460.2	0.0	4.3	93.6	0.4	47.6
27/10/2021 22:00	460.4	0.0	4.0	93.3	0.3	60.7
27/10/2021 23:00	460.2	0.0	4.3	93.0	0.4	56.8
28/10/2021 00:00	459.9	0.0	4.2	93.1	0.4	59.0
28/10/2021 01:00	459.4	0.0	3.3	97.2	0.3	358.5
28/10/2021 02:00	459.2	0.0	2.8	99.3	0.2	11.6
28/10/2021 03:00	459.3	0.0	3.2	97.9	0.4	59.0
28/10/2021 04:00	459.5	0.0	3.5	93.9	0.2	57.8
28/10/2021 05:00	459.8	0.0	3.5	91.2	0.3	46.4
28/10/2021 06:00	460.1	0.0	4.0	89.3	0.4	142.4
28/10/2021 07:00	460.5	0.0	4.0	94.0	0.6	140.1
28/10/2021 08:00	460.8	0.0	4.1	97.2	0.9	23.8
28/10/2021 09:00	461.0	0.0	4.5	97.7	1.2	8.8
28/10/2021 10:00	460.8	0.0	6.2	88.8	1.3	24.7
28/10/2021 11:00	460.6	0.0	7.5	82.0	1.2	74.5
28/10/2021 12:00	460.0	0.0	9.8	61.3	1.2	70.6
28/10/2021 13:00	459.6	0.0	9.6	60.6	1.2	103.3
28/10/2021 14:00	459.3	0.0	10.1	59.1	1.4	125.0
28/10/2021 15:00	459.1	0.0	9.7	59.3	1.2	140.8
28/10/2021 16:00	459.0	0.0	9.9	57.6	1.1	93.0
28/10/2021 17:00	459.2	0.0	8.0	66.6	1.0	51.9
28/10/2021 18:00	459.5	0.0	5.8	76.2	0.8	61.7
28/10/2021 19:00	460.2	0.0	4.7	81.4	1.3	55.0
28/10/2021 20:00	460.6	0.0	4.8	80.1	0.8	62.2
28/10/2021 21:00	460.7	0.0	4.7	83.5	0.7	56.6
28/10/2021 22:00	460.8	0.0	4.3	88.9	1.0	49.7
28/10/2021 23:00	460.7	0.0	3.9	91.2	0.9	52.4
29/10/2021 00:00	460.5	0.0	3.9	89.6	0.6	50.2
29/10/2021 01:00	460.0	0.0	4.0	88.8	0.4	92.7
29/10/2021 02:00	459.6	0.0	3.9	88.5	0.2	159.7
29/10/2021 03:00	459.5	0.0	3.2	91.1	0.6	54.9
29/10/2021 04:00	459.6	0.0	3.4	88.8	0.5	60.7
29/10/2021 05:00	460.1	0.0	3.2	90.3	0.4	53.5
29/10/2021 06:00	460.4	0.0	3.4	88.5	0.6	70.6
29/10/2021 07:00	460.8	0.0	4.5	80.0	0.7	160.6
29/10/2021 08:00	461.0	0.0	6.8	63.8	1.0	144.9
29/10/2021 09:00	461.1	0.0	6.8	64.4	1.1	65.8
29/10/2021 10:00	460.8	0.0	8.6	54.1	1.1	136.9
29/10/2021 11:00	460.4	0.0	9.2	49.5	1.2	138.6
29/10/2021 12:00	459.8	0.0	10.0	43.3	1.9	164.2
29/10/2021 13:00	459.5	0.0	9.3	53.9	1.1	155.0

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29/10/2021 14:00	459.5	0.0	5.4	90.2	1.0	163.3
29/10/2021 15:00	459.3	0.0	6.0	86.0	1.4	163.9
29/10/2021 16:00	459.2	0.0	5.8	78.9	0.9	146.1
29/10/2021 17:00	459.3	0.0	5.0	81.1	0.8	114.2
29/10/2021 18:00	459.4	0.0	4.8	83.2	0.6	161.0
29/10/2021 19:00	459.7	0.0	4.7	84.6	0.3	133.2
29/10/2021 20:00	460.0	0.0	4.4	86.6	0.2	132.7
29/10/2021 21:00	459.9	0.0	4.0	88.0	0.1	64.4
29/10/2021 22:00	460.0	0.0	4.2	84.9	0.2	111.9
29/10/2021 23:00	459.7	0.0	4.3	78.7	0.3	146.4
30/10/2021 00:00	459.4	0.0	4.4	78.0	0.4	160.3
30/10/2021 01:00	459.0	0.0	4.5	77.0	0.2	150.7
30/10/2021 02:00	458.7	0.0	3.8	83.5	0.8	199.5
30/10/2021 03:00	458.6	0.0	3.1	90.0	0.5	184.7
30/10/2021 04:00	458.6	0.0	3.0	92.7	0.2	215.9
30/10/2021 05:00	458.8	0.0	3.0	91.3	0.4	249.7
30/10/2021 06:00	459.1	0.0	4.0	85.5	0.7	205.5
30/10/2021 07:00	459.5	0.0	5.7	75.6	1.3	183.3
30/10/2021 08:00	459.8	0.0	7.4	63.4	1.1	165.3
30/10/2021 09:00	459.9	0.0	8.8	54.5	1.0	98.9
30/10/2021 10:00	459.9	0.0	9.1	54.7	1.2	47.3
30/10/2021 11:00	459.8	0.0	8.1	69.3	1.7	20.6
30/10/2021 12:00	459.3	0.0	10.4	54.2	1.2	17.4
30/10/2021 13:00	458.8	0.0	10.0	60.3	1.7	6.7
30/10/2021 14:00	458.5	0.0	9.2	66.8	2.9	10.0
30/10/2021 15:00	458.2	0.0	9.8	61.3	2.2	6.0
30/10/2021 16:00	458.0	0.0	9.0	67.8	1.5	28.2
30/10/2021 17:00	458.3	0.0	7.0	79.0	1.2	21.3
30/10/2021 18:00	458.6	0.0	5.6	82.2	0.8	21.8
30/10/2021 19:00	458.9	0.0	5.2	81.7	0.8	9.6
30/10/2021 20:00	459.3	0.0	5.0	86.4	0.3	2.4
30/10/2021 21:00	459.7	0.0	5.0	87.4	0.4	44.8
30/10/2021 22:00	459.8	0.0	4.3	90.2	0.7	50.1
30/10/2021 23:00	459.8	0.0	4.3	92.0	0.7	55.5
31/10/2021 00:00	459.3	0.0	3.6	91.9	0.2	34.2
31/10/2021 01:00	458.9	0.0	3.0	94.2	0.2	257.1
31/10/2021 02:00	458.7	0.0	2.8	97.0	0.1	308.8
31/10/2021 03:00	458.5	0.0	3.4	93.8	0.0	0.0
31/10/2021 04:00	458.6	0.0	2.7	97.1	0.3	207.3
31/10/2021 05:00	459.0	0.0	2.3	99.2	0.0	313.7
31/10/2021 06:00	459.4	0.0	3.3	95.7	0.1	335.1
31/10/2021 07:00	460.0	0.0	4.6	89.7	0.3	271.0
31/10/2021 08:00	460.3	0.0	6.2	78.8	0.4	345.6
31/10/2021 09:00	460.4	0.0	7.0	75.1	0.9	256.1
31/10/2021 10:00	460.3	0.0	8.5	63.5	0.6	182.7
31/10/2021 11:00	460.0	0.0	10.3	54.2	0.9	25.1
31/10/2021 12:00	459.6	0.0	11.6	49.2	1.1	36.8
31/10/2021 13:00	458.9	0.0	10.7	59.7	2.9	354.5
31/10/2021 14:00	458.6	0.0	8.9	65.6	1.6	33.2
31/10/2021 15:00	458.4	0.0	8.1	71.1	1.3	10.2
31/10/2021 16:00	458.2	0.0	8.2	70.5	1.1	10.1
31/10/2021 17:00	458.2	0.0	7.6	72.1	0.4	4.1
31/10/2021 18:00	458.6	0.0	6.7	76.9	0.1	344.6
31/10/2021 19:00	459.0	0.0	6.3	78.9	0.3	37.3
31/10/2021 20:00	459.4	0.0	6.0	84.8	0.9	45.2
31/10/2021 21:00	459.8	0.0	5.7	91.0	0.6	28.4
31/10/2021 22:00	459.9	0.0	5.1	97.3	0.8	358.0
31/10/2021 23:00	459.8	0.0	4.2	94.0	1.1	179.5
1/11/2021 00:00	459.7	0.0	2.6	99.3	1.0	221.8
1/11/2021 01:00	459.1	0.0	2.8	99.2	0.8	192.8
1/11/2021 02:00	458.9	0.0	3.0	99.3	0.1	159.6
1/11/2021 03:00	458.6	0.0	3.2	99.3	0.6	200.3
1/11/2021 04:00	458.4	0.0	2.3	99.3	1.0	332.9
1/11/2021 05:00	458.8	0.0	2.4	99.3	0.2	300.6
1/11/2021 06:00	459.3	0.0	3.0	99.3	0.4	220.1
1/11/2021 07:00	459.5	0.0	5.2	86.7	0.5	128.5
1/11/2021 08:00	459.9	0.0	6.4	80.8	1.0	36.9
1/11/2021 09:00	460.0	0.0	7.8	72.7	1.3	15.1
1/11/2021 10:00	460.0	0.0	8.0	70.2	1.2	18.1
1/11/2021 11:00	459.6	0.0	9.1	66.6	0.7	43.6
1/11/2021 12:00	459.3	0.0	8.4	76.3	2.0	9.7
1/11/2021 13:00	459.0	0.0	7.9	82.5	1.9	38.5
1/11/2021 14:00	458.7	0.0	4.8	97.3	1.2	53.5
1/11/2021 15:00	458.4	0.0	5.2	93.3	1.5	3.4
1/11/2021 16:00	458.4	0.0	5.6	91.0	0.8	292.1
1/11/2021 17:00	458.5	0.0	4.6	94.3	0.5	303.4
1/11/2021 18:00	458.7	0.0	3.8	96.9	0.3	228.3
1/11/2021 19:00	459.1	0.0	3.4	96.9	0.3	226.6
1/11/2021 20:00	459.3	0.0	3.0	99.0	0.1	183.8
1/11/2021 21:00	459.5	0.0	3.1	98.4	0.0	0.0
1/11/2021 22:00	459.5	0.0	3.2	96.9	0.1	223.8
1/11/2021 23:00	459.3	0.0	2.7	98.9	0.1	228.9

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**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en octubre de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01      **CÓDIGO DE ACCIÓN:** 0003-10-2021-412

**DATOS DEL EQUIPO**

**EQUIPO:** Estación meteorológica      **MARCA:** Campbell

**MODELO:** CR1000      **SERIE:** 30825

DIA 1 - SETIEMBRE 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
27/10/2021 18:00	459.3	7.1	70	1.2
27/10/2021 19:00	459.6	6.0	77	0.7
27/10/2021 20:00	459.9	5.0	88	0.7
27/10/2021 21:00	460.2	4.3	94	0.4
27/10/2021 22:00	460.4	4.0	93	0.3
27/10/2021 23:00	460.2	4.3	93	0.4
28/10/2021 00:00	459.9	4.2	93	0.4
28/10/2021 01:00	459.4	3.3	97	0.3
28/10/2021 02:00	459.2	2.8	99	0.2
28/10/2021 03:00	459.3	3.2	98	0.4
28/10/2021 04:00	459.5	3.5	94	0.2
28/10/2021 05:00	459.8	3.5	91	0.3
28/10/2021 06:00	460.1	4.0	89	0.4
28/10/2021 07:00	460.5	4.0	94	0.6
28/10/2021 08:00	460.8	4.1	97	0.9
28/10/2021 09:00	461.0	4.5	98	1.2
28/10/2021 10:00	460.8	6.2	89	1.3
28/10/2021 11:00	460.6	7.5	82	1.2
28/10/2021 12:00	460.0	9.8	61	1.2
28/10/2021 13:00	459.6	9.6	61	1.2
28/10/2021 14:00	459.3	10.1	59	1.4
28/10/2021 15:00	459.1	9.7	59	1.2
28/10/2021 16:00	459.0	9.9	58	1.1
28/10/2021 17:00	459.2	8.0	67	1.0
<b>Promedio DIA 1</b>	<b>459.9</b>	<b>5.8</b>	<b>83.4</b>	<b>0.8</b>

MA: Sin datos por mantenimiento de estacion meteorologica

DIA 2 - SETIEMBRE 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
28/10/2021 18:00	459.5	5.8	76	0.8
28/10/2021 19:00	460.2	4.7	81	1.3
28/10/2021 20:00	460.6	4.8	80	0.8
28/10/2021 21:00	460.7	4.7	84	0.7
28/10/2021 22:00	460.8	4.3	89	1.0
28/10/2021 23:00	460.7	3.9	91	0.9
29/10/2021 00:00	460.5	3.9	90	0.6
29/10/2021 01:00	460.0	4.0	89	0.4
29/10/2021 02:00	459.6	3.9	89	0.2
29/10/2021 03:00	459.5	3.2	91	0.6
29/10/2021 04:00	459.6	3.4	89	0.5
29/10/2021 05:00	460.1	3.2	90	0.4
29/10/2021 06:00	460.4	3.4	89	0.6
29/10/2021 07:00	460.8	4.5	80	0.7
29/10/2021 08:00	461.0	6.8	64	1.0
29/10/2021 09:00	461.1	6.8	64	1.1
29/10/2021 10:00	460.8	8.6	54	1.1
29/10/2021 11:00	460.4	9.2	50	1.2
29/10/2021 12:00	459.8	10.0	43	1.9
29/10/2021 13:00	459.5	9.3	54	1.1
29/10/2021 14:00	459.5	5.4	90	1.0
29/10/2021 15:00	459.3	6.0	86	1.4
29/10/2021 16:00	459.2	5.8	79	0.9
29/10/2021 17:00	459.3	5.0	81	0.8
<b>Promedio DIA 2</b>	<b>460.1</b>	<b>5.4</b>	<b>78.0</b>	<b>0.9</b>



DIA 3 - SETIEMBRE 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
29/10/2021 18:00	459.4	4.8	83	0.6
29/10/2021 19:00	459.7	4.7	85	0.3
29/10/2021 20:00	460.0	4.4	87	0.2
29/10/2021 21:00	459.9	4.0	88	0.1
29/10/2021 22:00	460.0	4.2	85	0.2
29/10/2021 23:00	459.7	4.3	79	0.3
30/10/2021 00:00	459.4	4.4	78	0.4
30/10/2021 01:00	459.0	4.5	77	0.2
30/10/2021 02:00	458.7	3.8	84	0.8
30/10/2021 03:00	458.6	3.1	90	0.5
30/10/2021 04:00	458.6	3.0	93	0.2
30/10/2021 05:00	458.8	3.0	91	0.4
30/10/2021 06:00	459.1	4.0	86	0.7
30/10/2021 07:00	459.5	5.7	76	1.3
30/10/2021 08:00	459.8	7.4	63	1.1
30/10/2021 09:00	459.9	8.8	55	1.0
30/10/2021 10:00	459.9	9.1	55	1.2
30/10/2021 11:00	459.8	8.1	69	1.7
30/10/2021 12:00	459.3	10.4	54	1.2
30/10/2021 13:00	458.8	10.0	60	1.7
30/10/2021 14:00	458.5	9.2	67	2.9
30/10/2021 15:00	458.2	9.8	61	2.2
30/10/2021 16:00	458.0	9.0	68	1.5
<b>Promedio DIA 3</b>	<b>459.2</b>	<b>6.1</b>	<b>75.3</b>	<b>0.9</b>

DIA 4 - SETIEMBRE 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
30/10/2021 17:00	458.3	7.0	79	1.2
30/10/2021 18:00	458.6	5.6	82	0.8
30/10/2021 19:00	458.9	5.2	82	0.8
30/10/2021 20:00	459.3	5.0	86	0.3
30/10/2021 21:00	459.7	5.0	87	0.4
30/10/2021 22:00	459.8	4.3	90	0.7
30/10/2021 23:00	459.8	4.3	92	0.7
31/10/2021 00:00	459.3	3.6	92	0.2
31/10/2021 01:00	458.9	3.0	94	0.2
31/10/2021 02:00	458.7	2.8	97	0.1
31/10/2021 03:00	458.5	3.4	94	0.0
31/10/2021 04:00	458.6	2.7	97	0.3
31/10/2021 05:00	459.0	2.3	99	0.0
31/10/2021 06:00	459.4	3.3	96	0.1
31/10/2021 07:00	460.0	4.6	90	0.3
31/10/2021 08:00	460.3	6.2	79	0.4
31/10/2021 09:00	460.4	7.0	75	0.9
31/10/2021 10:00	460.3	8.5	64	0.6
31/10/2021 11:00	460.0	10.3	54	0.9
31/10/2021 12:00	459.6	11.6	49	1.1
31/10/2021 13:00	458.9	10.7	60	2.9
31/10/2021 14:00	458.6	8.9	66	1.6
31/10/2021 15:00	458.4	8.1	71	1.3
31/10/2021 16:00	458.2	8.2	71	1.1
<b>Promedio DIA 4</b>	<b>459.2</b>	<b>5.9</b>	<b>81.1</b>	<b>0.7</b>

DIA 5 - SETIEMBRE 2021				
Fecha	Presión atmosférica (mmHg)	Temperatura ambiental (°C)	Humedad relativa (%)	Velocidad de Viento (m/s)
31/10/2021 17:00	458.2	7.6	72	0.4
31/10/2021 18:00	458.6	6.7	77	0.1
31/10/2021 19:00	459.0	6.3	79	0.3
31/10/2021 20:00	459.4	6.0	85	0.9
31/10/2021 21:00	459.8	5.7	91	0.6
31/10/2021 22:00	459.9	5.1	97	0.8
31/10/2021 23:00	459.8	4.2	94	1.1
1/11/2021 00:00	459.7	2.6	99	1.0
1/11/2021 01:00	459.1	2.8	99	0.8
1/11/2021 02:00	458.9	3.0	99	0.1
1/11/2021 03:00	458.6	3.2	99	0.6
1/11/2021 04:00	458.4	2.3	99	1.0
1/11/2021 05:00	458.8	2.4	99	0.2
1/11/2021 06:00	459.3	3.0	99	0.4
1/11/2021 07:00	459.5	5.2	87	0.5
1/11/2021 08:00	459.9	6.4	81	1.0
1/11/2021 09:00	460.0	7.8	73	1.3
1/11/2021 10:00	460.0	8.0	70	1.2
1/11/2021 11:00	459.6	9.1	67	0.7
1/11/2021 12:00	459.3	8.4	76	2.0
1/11/2021 13:00	459.0	7.9	83	1.9
1/11/2021 14:00	458.7	4.8	97	1.2
1/11/2021 15:00	458.4	5.2	93	1.5
<b>Promedio DIA 5</b>	<b>459.2</b>	<b>5.4</b>	<b>87.7</b>	<b>0.9</b>

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en octubre de 2021

**ESTACIÓN DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0003-10-2021-412

**MEDICIONES PROMEDIO (DATOS DIARIOS)**

**DÍA 1** **INICIO:** 27/10/2021 17:45 **FINAL:** 28/10/2021 17:42 **PERIODO :** 23:57 horas **1437 min**

**Datos horarios registrados:** 23,95 horas

**Temperatura (°C):** 5,8 **Presión (mm Hg):** 459,9

**DÍA 2** **INICIO:** 28/10/2021 17:55 **FINAL:** 29/10/2021 17:45 **PERIODO :** 23:50 horas **1430 min**

**Datos horarios registrados:** 23,83 horas

**Temperatura (°C):** 5,4 **Presión (mm Hg):** 460,1

**DÍA 3** **INICIO:** 29/10/2021 17:58 **FINAL:** 30/10/2021 17:07 **PERIODO :** 23:09 horas **1389 min**

**Datos horarios registrados:** 23,15 horas

**Temperatura (°C):** 6,1 **Presión (mm Hg):** 459,2

**DÍA 4** **INICIO:** 30/10/2021 17:19 **FINAL:** 31/10/2021 16:36 **PERIODO :** 23:17 horas **1397 min**

**Datos horarios registrados:** 23,28 horas

**Temperatura (°C):** 5,9 **Presión (mm Hg):** 459,2

**DÍA 5** **INICIO:** 31/10/2021 16:47 **FINAL:** 1/11/2021 16:23 **PERIODO :** 23:36 horas **1416 min**

**Datos horarios registrados:** 23,60 horas

**Temperatura (°C):** 5,4 **Presión (mm Hg):** 459,2

**OBSERVACIONES:**

DATOS GENERALES

TÍTULO DEL ESTUDIO: Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en octubre de 2021

ESTACIÓN DE MONITOREO: CA-SB-01

CÓDIGO DE ACCIÓN: 0003-10-2021-412

DATOS DE LOS EQUIPOS

Barómetro	MARCA:	-	MODELO:	-	SERIE:	-
Venturi PM-10	MARCA:	THERMO SCIENTIFIC				
	MODELO:	HI VOL				
	SERIE:	P9327X				

CÁLCULOS

PM-10

DÍA 1 Fecha Inicio: 27/10/2021 17:45 Fecha Final: 28/10/2021 17:42

Presión inicial: 13.6 pulg H2O Presión final: 13.8 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.7	25.6	459.9	0.944	5.8	4.0	6.0	1.128

DÍA 2 Fecha Inicio: 28/10/2021 17:55 Fecha Final: 29/10/2021 17:45

Presión inicial: 13.5 pulg H2O Presión final: 13.7 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.6	25.4	460.1	0.945	5.4	4.0	6.0	1.128

DÍA 3 Fecha Inicio: 29/10/2021 17:58 Fecha Final: 30/10/2021 17:07

Presión inicial: 13.5 pulg H2O Presión final: 14.0 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.8	25.7	459.2	0.944	6.1	6.0	8.0	1.128

DÍA 4 Fecha Inicio: 30/10/2021 17:19 Fecha Final: 31/10/2021 16:36

Presión inicial: 13.8 pulg H2O Presión final: 13.9 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.9	25.8	459.2	0.944	5.9	4.0	6.0	1.128

DÍA 5 Fecha Inicio: 31/10/2021 16:47 Fecha Final: 1/11/2021 16:23

Presión inicial: 13.5 pulg H2O Presión final: 13.6 pulg H2O

PRESIÓN ATMOSFÉRICA				T <sub>a</sub> (°C)	T (°C) inferior	T (°C) superior	Flujo de muestreo, en m <sup>3</sup> /min (Qa)
Δh (pulg H <sub>2</sub> O)	P <sub>i</sub> (mm Hg)	P <sub>a</sub> (mm Hg)	P <sub>i</sub> /P <sub>a</sub>				
13.6	25.3	459.2	0.945	5.4	4.0	6.0	1.128

OBSERVACIONES:

"-": No aplica.

**Tabla 3.6. Concentración de PM<sub>10</sub> y el volumen muestreado de metales - alto volumen**

**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en octubre de 2021

**PUNTO DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0003-10-2021-412

N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Tiempo o periodo de muestreo en minutos (t)	Flujo de muestreo, en m³/min (Qa)	Volumen de muestreo en m³ (Va)*	ΔPeso (µg) **	Concentración de partículas (µg/m³)
1	PM <sub>10</sub>	1-213811	27/10/2021 17:45	28/10/2021 17:42	1437	1.128	1620.45	18000	11.1
2		1-213812	28/10/2021 17:55	29/10/2021 17:45	1430	1.128	1613.27	15000	9.3
3		1-213813	29/10/2021 17:58	30/10/2021 17:07	1389	1.128	1567.00	10000	6.4
4		1-213814	30/10/2021 17:19	31/10/2021 16:36	1397	1.128	1575.61	15000	9.5
5		1-213815	31/10/2021 16:47	1/11/2021 16:23	1416	1.128	1597.34	14000	8.8

18  
15  
10  
15  
14

**OBSERVACIONES:**

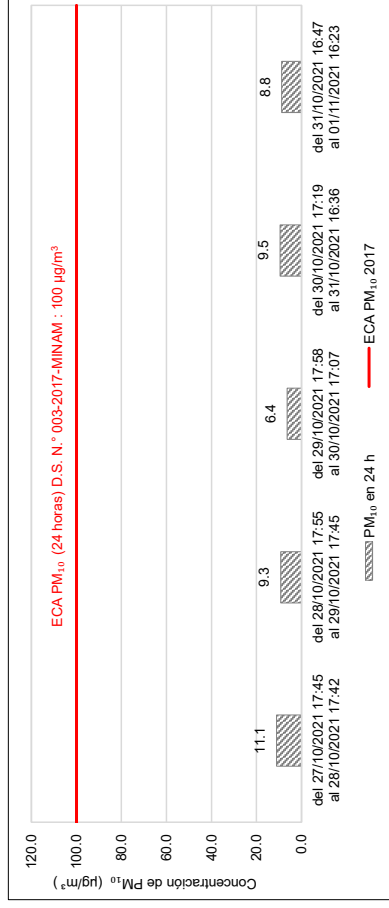
(\*) En el caso del material particulado y las sustancias que deben analizarse en la fase de partículas (metales, iones, carbonáceas, otros), el **volumen de muestreo** se debe expresar en las condiciones ambientales (volumen actual) en términos de temperatura ambiental y presión atmosférica promedio, medidas durante el periodo de muestreo, (Sección L.1.3 Cálculo de concentraciones señalada en el Protocolo de Monitoreo de la Calidad del aire del MINAM - D.S. N° 010-2019-MINAM).

(\*\*) Fuente: Informe de Ensayo MA2135754

\*. : No aplica.

PM <sub>10</sub> en 24 h	ECA PM <sub>10</sub> , 2017
0	100
1	100

Fecha inicio	Fecha final
del 27/10/2021 17:45	al 28/10/2021 17:42
del 28/10/2021 17:55	al 29/10/2021 17:45
del 29/10/2021 17:58	al 30/10/2021 17:07
del 30/10/2021 17:19	al 31/10/2021 16:36
del 31/10/2021 16:47	al 01/11/2021 16:23



**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en octubre de 2021

**PUNTO DE MONITOREO:**

CA-SB-01

**CÓDIGO DE ACCIÓN:**

0003-10-2021-412

RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		27/10/2021	28/10/2021	29/10/2021	30/10/2021	31/10/2021	
Aluminio	Al	µg/mtra	75.406	101.465	71.841	85.686	54.475
Antimonio	Sb	µg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	µg/mtra	2.898	3.427	3.128	3.381	1.771
Bario	Ba	µg/mtra	<1,058	<1,058	<1,058	<1,058	<1,058
Berilio	Be	µg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	µg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	µg/mtra	2.933	5.348	7.142	3.853	7.142
Cadmio	Cd	µg/mtra	<1,457	<1,457	<1,457	<1,457	<1,457
Calcio	Ca	µg/mtra	1213.365	1493.355	1378.195	1694.790	706.894
Cobalto	Co	µg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	µg/mtra	33.891	33.292	36.167	32.901	25.128
Cromo	Cr	µg/mtra	1.599	<1,586	<1,586	<1,586	<1,586
Estaño	Sn	µg/mtra	<0,967	<0,967	<0,967	<0,967	<0,967
Estroncio	Sr	µg/mtra	2.565	2.772	3.117	3.232	1.645
Fósforo	P	µg/mtra	15.64	16.74	11.25	15.09	10.28
Hierro	Fe	µg/mtra	583.31	812.81	597.05	518.39	361.34
Litio	Li	µg/mtra	<0,449	<0,449	<0,449	<0,449	<0,449
Magnesio	Mg	µg/mtra	156.75	223.24	161.46	165.46	106.01
Manganeso	Mn	µg/mtra	133.527	104.731	66.918	52.383	37.846
Mercurio	Hg	µg/mtra	<0,4960	<0,4960	<0,4960	<0,4960	<0,4960
Molibdeno	Mo	µg/mtra	<1,264	<1,264	<1,264	<1,264	<1,264
Níquel	Ni	µg/mtra	1.714	<1,411	<1,411	<1,411	<1,411
Plata	Ag	µg/mtra	<0,576	<0,576	<0,576	0.909	<0,576
Plomo	Pb	µg/mtra	38.077	49.830	29.198	28.647	21.195
Potasio	K	µg/mtra	144.54	50.73	31.43	45.85	40.68
Selenio	Se	µg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	µg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	µg/mtra	44.2	54.9	49.4	65.8	50.8
Talio	Tl	µg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	µg/mtra	1.921	1.150	1.231	1.599	1.162
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	µg/mtra	67.98	100.87	60.23	56.15	41.80

&lt;: Debajo del límite de detección

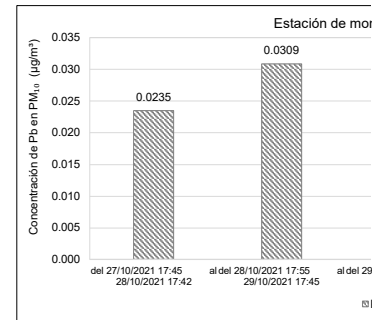
-: Sin dato

Fuente: Informe de Ensayo N° MA2135754 del laboratorio SGS del Perú S.A.C

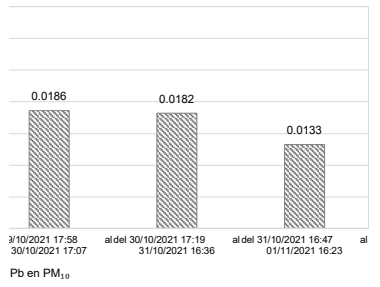
CONCENTRACIÓN DE METALES							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		27/10/2021	28/10/2021	29/10/2021	30/10/2021	31/10/2021	
<b>Volumen de muestreo, en m<sup>3</sup> (Va)</b>		<b>1620.45</b>	<b>1613.27</b>	<b>1567.00</b>	<b>1575.61</b>	<b>1597.34</b>	
Aluminio	Al	µg/m <sup>3</sup>	0.0465	0.0629	0.0458	0.0544	0.0341
Antimonio	Sb	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Arsénico	As	µg/m <sup>3</sup>	0.0018	0.0021	0.0020	0.0021	0.0011
Bario	Ba	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Berilio	Be	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Bismuto	Bi	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Boro	B	µg/m <sup>3</sup>	0.0018	0.0033	0.0046	0.0024	0.0045
Cadmio	Cd	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Calcio	Ca	µg/m <sup>3</sup>	0.7488	0.9257	0.8795	1.0756	0.4425
Cobalto	Co	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Cobre	Cu	µg/m <sup>3</sup>	0.0209	0.0206	0.0231	0.0209	0.0157
Cromo	Cr	µg/m <sup>3</sup>	0.0010	<LC	<LC	<LC	<LC
Estaño	Sn	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Estroncio	Sr	µg/m <sup>3</sup>	0.0016	0.0017	0.0020	0.0021	0.0010
Fósforo	P	µg/m <sup>3</sup>	0.0097	0.0104	0.0072	0.0096	0.0064
Hierro	Fe	µg/m <sup>3</sup>	0.3600	0.5038	0.3810	0.3290	0.2262
Litio	Li	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Magnesio	Mg	µg/m <sup>3</sup>	0.0967	0.1384	0.1030	0.1050	0.0664
Manganeso	Mn	µg/m <sup>3</sup>	0.0824	0.0649	0.0427	0.0332	0.0237
Mercurio	Hg	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Molibdeno	Mo	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Níquel	Ni	µg/m <sup>3</sup>	0.0011	<LC	<LC	<LC	<LC
Plata	Ag	µg/m <sup>3</sup>	<LC	<LC	<LC	0.0006	<LC
Plomo	Pb	µg/m <sup>3</sup>	0.0235	0.0309	0.0186	0.0182	0.0133
Potasio	K	µg/m <sup>3</sup>	0.0892	0.0314	0.0201	0.0291	0.0255
Selenio	Se	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Silicio	Si	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Sodio	Na	µg/m <sup>3</sup>	0.0273	0.0340	0.0315	0.0418	0.0318
Talio	Tl	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Titanio	Ti	µg/m <sup>3</sup>	0.0012	0.0007	0.0008	0.0010	0.0007
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/m <sup>3</sup>	<LC	<LC	<LC	<LC	<LC
Zinc	Zn	µg/m <sup>3</sup>	0.0420	0.0625	0.0384	0.0356	0.0262

&lt; LD: Menor al límite de detección

CONCENTRACIÓN DE PLOMO MENSUAL (µg/m <sup>3</sup> )						
FECHA	27/10/2021	28/10/2021	29/10/2021	30/10/2021	31/10/2021	Promedio mensual (µg/m <sup>3</sup> )
<b>Volumen de muestreo (m<sup>3</sup>)</b>	<b>1620.45</b>	<b>1613.27</b>	<b>1567.00</b>	<b>1575.61</b>	<b>1597.34</b>	
Octubre 2021	0.0235	0.0309	0.0186	0.0182	0.0133	0.0209



nitoreo CA-SB-01



**Tabla 3.8. Volumen muestreado para metales en PM<sub>10</sub> a temperatura de 10°C**

**TÍTULO DEL ESTUDIO:**

Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en octubre de 2021

**PUNTO DE MONITOREO:**

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**CÓDIGO DE ACCIÓN:**

0003-10-2021-412

N°	Parámetro	N° Filtro	Fecha Inicio	Fecha Final	Periodo (minutos)	Temperatura ambiental (°C)	Presión ambiental (mm Hg)	Flujo de muestreo (m <sup>3</sup> /min)	Volumen de muestreo en m <sup>3</sup> (Va)	Volumen de muestreo a 10°C en m <sup>3</sup> (Va <sub>10°C</sub> )*
1	Metales en PM <sub>10</sub>	1-213811	27/10/2021 17:45	28/10/2021 17:42	1437	5.8	459.9	1.128	1620.45	995.36
2		1-213812	28/10/2021 17:55	29/10/2021 17:45	1430	5.4	460.1	1.128	1613.27	992.69
3		1-213813	29/10/2021 17:58	30/10/2021 17:07	1389	6.1	459.2	1.128	1567.00	960.20
4		1-213814	30/10/2021 17:19	31/10/2021 16:36	1397	5.9	459.2	1.128	1575.61	966.05
5		1-213815	31/10/2021 16:47	1/11/2021 16:23	1416	5.4	459.2	1.128	1597.34	981.17

**OBSERVACIONES:**

(\*) El cálculo de volumen muestreado para metales en PM<sub>10</sub>, se realizó en base a las condiciones de temperatura de 10°C (283,15 °K) y presión estándar (760 mmHg ó 1013,25 mBar), establecidas en la Norma referencial ONTARIO'S AMBIENT AIR QUALITY CRITERIA.  
 "n" : No aplica.



**TÍTULO DEL ESTUDIO:** Evaluación de seguimiento de la calidad del aire en el área de influencia de la unidad minera Cerro de Pasco ubicada en el centro poblado Paragsha, distrito Simón Bolívar, provincia y departamento Pasco, en octubre de 2021

**PUNTO DE MONITOREO:** CA-SB-01 **CÓDIGO DE ACCIÓN:** 0003-10-2021-412

RESULTADOS DE LABORATORIO							
Metal medido en PM <sub>10</sub>	Unidad	Fecha					
		27/10/2021	28/10/2021	29/10/2021	30/10/2021	31/10/2021	
Aluminio	Al	µg/mtra	75.406	101.465	71.841	85.686	54.475
Antimonio	Sb	µg/mtra	<1,625	<1,625	<1,625	<1,625	<1,625
Arsénico	As	µg/mtra	2.898	3.427	3.128	3.381	1.771
Bario	Ba	µg/mtra	<1,058	<1,058	<1,058	<1,058	<1,058
Berilio	Be	µg/mtra	<0,770	<0,770	<0,770	<0,770	<0,770
Bismuto	Bi	µg/mtra	<1,321	<1,321	<1,321	<1,321	<1,321
Boro	B	µg/mtra	2.933	5.348	7.142	3.853	7.142
Cadmio	Cd	µg/mtra	<1,457	<1,457	<1,457	<1,457	<1,457
Calcio	Ca	µg/mtra	1213.365	1493.355	1378.195	1694.790	706.894
Cobalto	Co	µg/mtra	<0,403	<0,403	<0,403	<0,403	<0,403
Cobre	Cu	µg/mtra	33.891	33.292	36.167	32.901	25.128
Cromo	Cr	µg/mtra	1.599	<1,586	<1,586	<1,586	<1,586
Estaño	Sn	µg/mtra	<0,967	<0,967	<0,967	<0,967	<0,967
Estroncio	Sr	µg/mtra	2.565	2.772	3.117	3.232	1.645
Fósforo	P	µg/mtra	15.64	16.74	11.25	15.09	10.28
Hierro	Fe	µg/mtra	583.31	812.81	597.05	518.39	361.34
Litio	Li	µg/mtra	<0,449	<0,449	<0,449	<0,449	<0,449
Magnesio	Mg	µg/mtra	156.75	223.24	161.46	165.46	106.01
Manganeso	Mn	µg/mtra	133.527	104.731	66.918	52.383	37.846
Mercurio	Hg	µg/mtra	<0,4960	<0,4960	<0,4960	<0,4960	<0,4960
Molibdeno	Mo	µg/mtra	<1,264	<1,264	<1,264	<1,264	<1,264
Níquel	Ni	µg/mtra	1.714	<1,411	<1,411	<1,411	<1,411
Plata	Ag	µg/mtra	<0,576	<0,576	<0,576	0.909	<0,576
Plomo	Pb	µg/mtra	38.077	49.830	29.198	28.647	21.195
Potasio	K	µg/mtra	144.54	50.73	31.43	45.85	40.68
Selenio	Se	µg/mtra	<2,50	<2,50	<2,50	<2,50	<2,50
Silicio	Si	µg/mtra	<1524,5	<1524,5	<1524,5	<1524,5	<1524,5
Sodio	Na	µg/mtra	44.2	54.9	49.4	65.8	50.8
Talio	Tl	µg/mtra	<0,763	<0,763	<0,763	<0,763	<0,763
Titanio	Ti	µg/mtra	1.921	1.15	1.231	1.599	1.162
Uranio	U	µg/mtra	-	-	-	-	-
Vanadio	V	µg/mtra	<1,923	<1,923	<1,923	<1,923	<1,923
Zinc	Zn	µg/mtra	67.98	100.87	60.23	56.15	41.80

<: Debajo del límite de cuantificación

-: Sin dato

Fuente: Informe de Ensayo N° MA2135754 del laboratorio SGS del Perú S.A.C

CONCENTRACIÓN DE METALES								
Metal medido en PM <sub>10</sub>	Unidad	Fecha					AAQC- Ontario	
		27/10/2021	28/10/2021	29/10/2021	30/10/2021	31/10/2021	Valor (µg/m³)	CASRN
Volumen de muestreo a 10°C en m³ (Va <sub>10°C</sub> )		995.36	992.69	960.20	966.05	981.17		
Aluminio	Al	µg/m³	0.0758	0.1022	0.0748	0.0887	0.0555	-
Antimonio	Sb	µg/m³	<LC	<LC	<LC	<LC	<LC	25 7440-36-0
Arsénico	As	µg/m³	0.0029	0.0035	0.0033	0.0035	0.0018	0.3 7440-38-2
Bario	Ba	µg/m³	<LC	<LC	<LC	<LC	<LC	-
Berilio	Be	µg/m³	<LC	<LC	<LC	<LC	<LC	0.01 7440-41-7
Bismuto	Bi	µg/m³	<LC	<LC	<LC	<LC	<LC	-
Boro	B	µg/m³	0.0029	0.0054	0.0074	0.0040	0.0073	120 7440-42-8
Cadmio	Cd	µg/m³	<LC	<LC	<LC	<LC	<LC	0.025 7440-43-9
Calcio	Ca	µg/m³	1.2190	1.5043	1.4353	1.7544	0.7205	-
Cobalto	Co	µg/m³	<LC	<LC	<LC	<LC	<LC	0.1 7440-48-4
Cobre	Cu	µg/m³	0.0340	0.0335	0.0377	0.0341	0.0256	50 7440-50-8
Cromo	Cr	µg/m³	0.0016	<LC	<LC	<LC	<LC	0.5 7440-47-3
Estaño	Sn	µg/m³	<LC	<LC	<LC	<LC	<LC	10 7440-31-5
Estroncio	Sr	µg/m³	0.0026	0.0028	0.0032	0.0033	0.0017	120 7440-24-6
Fósforo	P	µg/m³	0.0157	0.0169	0.0117	0.0156	0.0105	-
Hierro	Fe	µg/m³	0.5860	0.8188	0.6218	0.5366	0.3683	4 15438-31-0
Litio	Li	µg/m³	<LC	<LC	<LC	<LC	<LC	-
Magnesio	Mg	µg/m³	0.1575	0.2249	0.1682	0.1713	0.1080	-
Manganeso	Mn	µg/m³	0.1341	0.1055	0.0697	0.0542	0.0386	0.2 7439-96-5
Mercurio	Hg	µg/m³	<LC	<LC	<LC	<LC	<LC	2 7439-97-6
Molibdeno	Mo	µg/m³	<LC	<LC	<LC	<LC	<LC	120 7439-98-7
Níquel	Ni	µg/m³	0.0017	<LC	<LC	<LC	<LC	0.1 7440-02-0
Plata	Ag	µg/m³	<LC	<LC	<LC	0.0009	<LC	1 7440-22-4
Plomo	Pb	µg/m³	0.0383	0.0502	0.0304	0.0297	0.0216	0.5 7439-92-1
Potasio	K	µg/m³	0.1452	0.0511	0.0327	0.0475	0.0415	-
Selenio	Se	µg/m³	<LC	<LC	<LC	<LC	<LC	10 7782-49-2
Silicio	Si	µg/m³	<LC	<LC	<LC	<LC	<LC	-
Sodio	Na	µg/m³	0.0444	0.0553	0.0514	0.0681	0.0518	-
Talio	Tl	µg/m³	<LC	<LC	<LC	<LC	<LC	-
Titanio	Ti	µg/m³	0.0019	0.0012	0.0013	0.0017	0.0012	120 7440-32-6
Uranio	U	µg/m³	-	-	-	-	-	0.15 7440-61-1
Vanadio	V	µg/m³	<LC	<LC	<LC	<LC	<LC	2 7440-62-2
Zinc	Zn	µg/m³	0.0683	0.1016	0.0627	0.0581	0.0426	120 7440-66-6

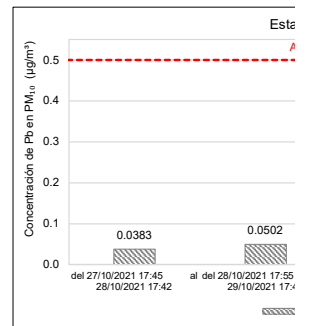
< LC: Menor al límite de cuantificación

-: Sin dato

Pb en PM <sub>10</sub>	AAQC Pb
0	0.5
1	0.5

Fecha inicio del 27/10/2021 17:45  
 Fecha inicio del 28/10/2021 17:55  
 Fecha inicio del 29/10/2021 17:58  
 Fecha inicio del 30/10/2021 17:19  
 Fecha inicio del 31/10/2021 16:47

Fer al 28/10/2021 17:55  
 Fer al 29/10/2021 17:58  
 Fer al 31/10/2021 17:19  
 Fer al 01/11/2021 17:55



cha final  
/2021 17:42  
/2021 17:45  
/2021 17:07  
/2021 16:36  
/2021 16:23

