

Certification of dust suppression PM2,5

SURVEY OF INDUSTRIAL HYGIENE OF THE EFFECTIVENESS OF WATER AEROSOL IN MINI ACTIVITY DUST SUPPRESSION.

4. ANALYTICAL RESULTS:

The table below shows the concentrations of total suspended dust (PTS) in mg/m3, and concentrations of respirable fraction (FR) for each position in mg/m3 identified with the relevant indication of the operation or otherwise of generation water aerosol:

Measuring point	PTS mg/m3	FR mg/m3	Generation water aerosol with single cannon (YES/NO)
Position 1	0,235	0,050	YES
	0,361	0,101	NO
Position 2	0,120	0,023	YES
	0,192	0,034	NO
Position 3	0,101	0,020	YES
	0,264	0,026	NO
Position 4	0,134	0,019	YES
	0,145	0,024	NO

SURVEY OF THE EFFECTIVENESS OF WATER AEROSOL IN UNDERGROUND MINE DUST SUPPRESSION.

1. PURPOSE OF THE SURVEY

The purpose of this survey, of Industrial Hygiene, has been to test the effectiveness of water aerosol in underground mine dust suppression. This study was conducted at the "Rio Maggiore" mineral research center gallery, owned by Tassullo SpA. The average diameter of the gallery is around 8 meters and, at the time of the survey, it penetrated a calcareous rock mass for over 1.500 m. The survey covered the scaling operations. Previous research ascertained that dust dispersion reaches its peak in this phase of the mining process. During scaling, a hammer excavator breaks and removes all loose rocks. This is a very important step in securing the safety of the workplace. Drilling and breaking down the rock generate the highest concentration of dust, throughout the entire process, but the forced ventilation systems are able to disperse it only partially.

3. ANALYTICAL RESULTS:

The table below shows the concentrations of respirable fraction (FR) in mg/m3 for each position identified with the relevant indication of the operation or not of the generation of water aerosol system.

<i>Measuring point</i>	<i>FR mg/mc</i>	<i>Generation of the water aerosol</i>
Position 1 At about 40 m from the front	1,137	YES
	6,642	NO
Position 2 Measure personal operator in the excavator	0,895	YES
	3,889	NO
Position 3 At 400 m from the entrance	1,975	YES
	15,581	NO

Dust and odour suppression systems

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