

Supporting information

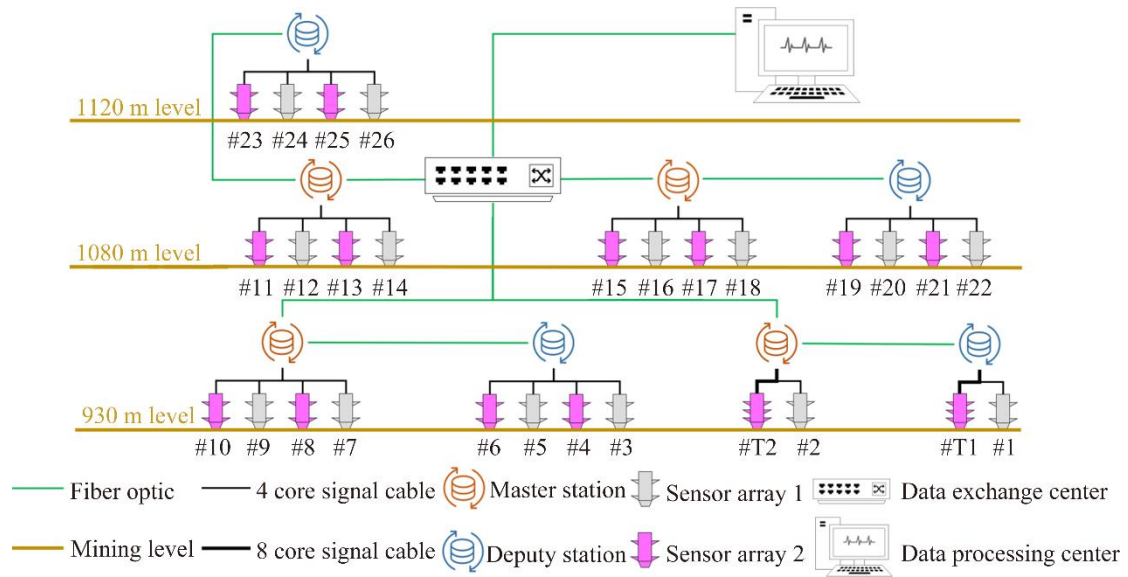


Figure S1 Layout of 28 sensors in the MS monitoring system (Gray sensors correspond to sensor array 1, and magenta sensors correspond to sensor array 2. The black numerical label corresponds to sensor ID. #1 to #26 represent uniaxial sensors, while #T1 and #T2 are triaxial sensors)

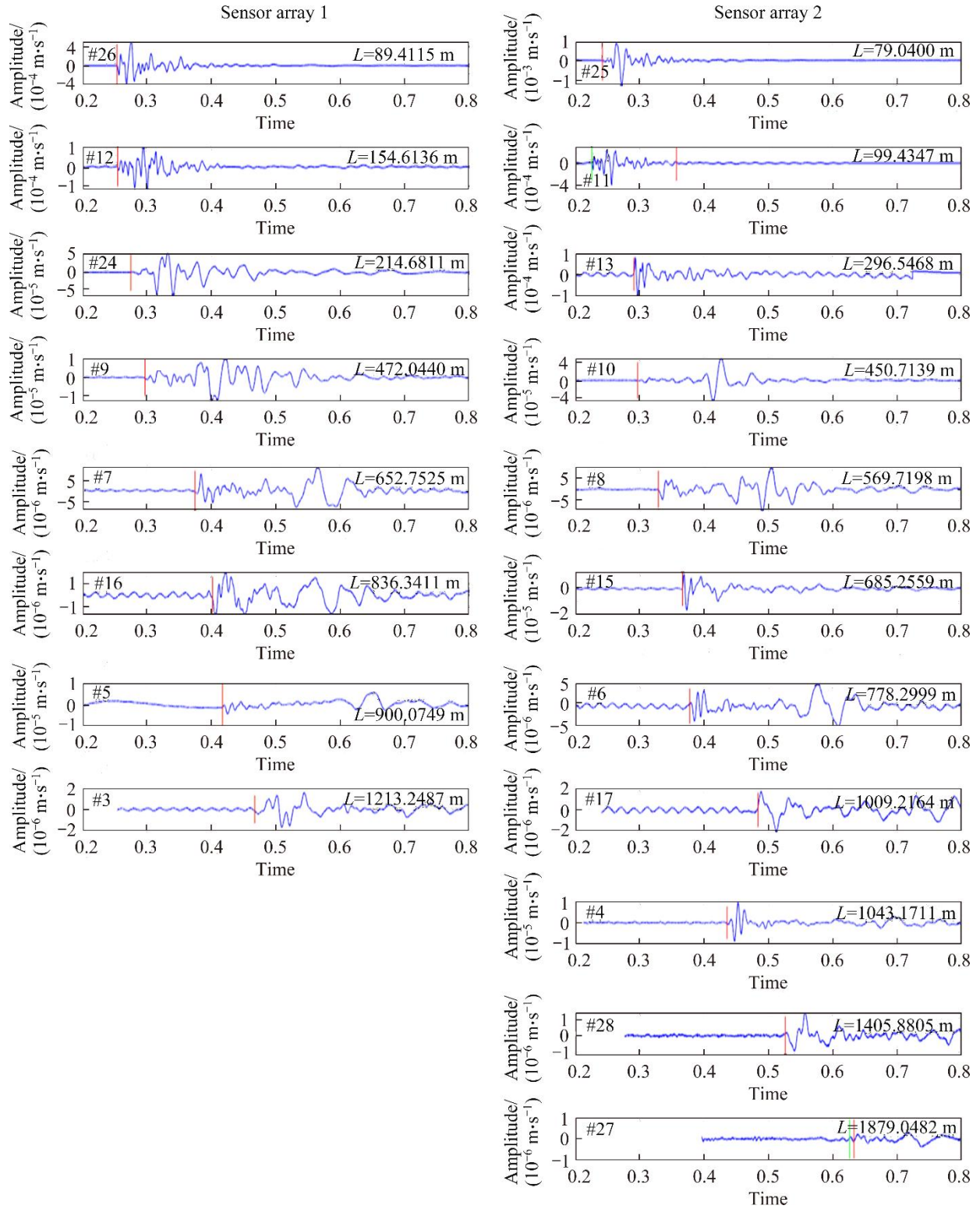


Figure S2 Waveforms of the blast event 4 and its P-wave first arrival picking results (The left side shows the waveforms recorded by 8 sensors in sensor array 1, and the right side shows the waveforms recorded by 11 sensors in sensor array 2. The blue curve represents the blast event signal. The red and green vertical lines represent the P-wave first arrivals picked up by the AIC method and the manually corrected P-wave first arrivals, respectively. The number in the upper left corner indicates the sensor ID. L represents the straight-line distance between the sensor and the blast event)

Table S1 Spatial coordinates and location results of the eight blast events based on 20 iterations

Group	Event ID	Measured spatial coordinates/m			Location result/m			Error
		<i>X</i>	<i>Y</i>	<i>Z</i>	<i>X</i>	<i>Y</i>	<i>Z</i>	
Sensor array 1 (Control group A)	E1	381683	2997760	1107	381606.91	2997765.77	1099.54	134.00
	E2	381653	2997405	1099	381572.66	2997360.12	1073.64	146.99
	E3	381194	2996224	1014	381198.32	2996197.47	1040.21	114.72
	E4	381684	2997777	1107	381613.65	2997801.01	1107.50	132.10
	E5	381503	2997036	1028	381530.76	2996998.28	1076.10	113.21
	E6	381590	2997278	1053	381564.90	2997273.94	1087.92	109.94
	E7	381526	2997584	1044	381544.12	2997625.35	1098.65	135.03
	E8	381442	2998029	1017	381552.27	2997919.36	1103.00	212.69
Average								137.34
Sensor array 2 (Control group B)	E1	381683	2997760	1107	381635.02	2997819.61	1107.77	76.52
	E2	381653	2997405	1099	381641.35	2997466.17	1200.00	118.65
	E3	381194	2996224	1014	381237.49	2996174.10	956.05	87.98
	E4	381684	2997777	1107	381683.54	2997797.09	1105.18	20.18
	E5	381503	2997036	1028	381489.07	2997022.01	990.37	42.50
	E6	381590	2997278	1053	381580.86	2997235.39	1018.93	55.32
	E7	381526	2997584	1044	381594.64	2997647.70	1018.03	97.18
	E8	381442	2998029	1017	381364.87	2997999.30	988.35	87.25
Average								73.20
Sensor arrays 1 & 2 (Experimental group)	E1	381683	2997760	1107	381635.41	2997819.98	1107.27	76.61
	E2	381653	2997405	1099	381638.51	2997456.22	1137.43	78.84
	E3	381194	2996224	1014	381231.22	2996178.71	964.98	76.55
	E4	381684	2997777	1107	381681.75	2997796.86	1107.57	21.92
	E5	381503	2997036	1028	381488.29	2997021.91	991.41	41.96
	E6	381590	2997278	1053	381580.07	2997235.33	1020.87	54.59
	E7	381526	2997584	1044	381575.21	2997616.51	1034.82	79.95
	E8	381442	2998029	1017	381409.26	2997988.90	1008.16	71.53
Average								62.74