

Table of ceasefire violations as of 19 July 2020⁹

SMM position	Event location	Means	No.	Observation	Description	Weapon	Date, time
SMM camera in Avdiivka (government-controlled, 17km N of Donetsk)	6-8km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	17-Jul, 23:03
	6-8km ESE	Recorded	1	Muzzle flash		N/K	17-Jul, 23:03
	2-4km SE	Recorded	1	Projectile	WSW to ENE	N/K	17-Jul, 23:27
	3-5km ESE	Recorded	3	Projectile	N to S	N/K	17-Jul, 23:43
	2-4km ESE	Recorded	1	Explosion	Undetermined	N/K	18-Jul, 12:45
SMM camera in Berezove (government-controlled, 31km SW of Donetsk)	2-4km SE	Recorded	1	Burst	In vertical flight	N/K	18-Jul, 01:09
SMM camera 2km E of Bohdanivka (government-controlled, 41km SW of Donetsk)	3-5km ESE	Recorded	1	Illumination flare	Unable to assess if inside or outside the disengagement area near Petrivske	N/K	18-Jul, 01:28
SMM camera in Chermalyk (government-controlled, 77km S of Donetsk)	3-5km SSE	Recorded	8	Projectile	NNE to SSW	N/K	17-Jul, 23:12
	3-5km SSE	Recorded	4	Projectile	NNE to SSW	N/K	17-Jul, 23:13
SMM camera at Donetsk Filtration Station (15km N of Donetsk)	500-900m S	Recorded	1	Muzzle flash		N/K	17-Jul, 20:44
	500-900m S	Recorded	1	Explosion	Airburst (subsequent to previous event)	N/K	17-Jul, 20:44
	0.5-1km S	Recorded	1	Projectile	NW to SE	N/K	17-Jul, 21:05
	0.5-1km S	Recorded	1	Projectile	NW to SE	N/K	17-Jul, 21:06
	1-2km S	Recorded	1	Projectile	NW to SE	N/K	17-Jul, 21:30
	0.5-1km S	Recorded	2	Explosion	Undetermined	N/K	17-Jul, 21:31
	0.5-1km S	Recorded	2	Muzzle flash		N/K	17-Jul, 21:31

⁹ The table only includes ceasefire violations directly observed by the SMM patrols or recorded by the SMM cameras and it may include those also assessed to be live-fire exercises, controlled detonations, etc. Details provided – in terms of distance, direction, weapons-type, etc. – are based on assessments provided by monitors on the ground and technical monitoring officers, and are not always necessarily precise. When information is not known (indicated with an “N/K”), the SMM was unable to ascertain such information due to distance, weather conditions technical limitations and/or other considerations. Ceasefire violations recorded by more than one patrol/camera and assessed to be the same are entered only once.

	0.5-1km S	Recorded	2	Projectile	NW to SE	N/K	17-Jul, 21:31
	0.5-1km S	Recorded	1	Explosion	Undetermined	N/K	17-Jul, 21:32
	0.5-1km S	Recorded	1	Explosion	Undetermined	N/K	17-Jul, 21:34
	2-4km SSW	Recorded	1	Projectile	NW to SE	N/K	17-Jul, 21:40
	0.8-1.2km SSE	Recorded	1	Explosion	Undetermined	N/K	18-Jul, 00:04
	0.8-1.2km SSE	Recorded	2	Explosion	Undetermined	N/K	18-Jul, 00:05
	300-600m SSW	Recorded	1	Muzzle flash		N/K	18-Jul, 01:33
SMM camera 1.5km NE of Hnutove (government- controlled, 90km S of Donetsk)	2-4km E	Recorded	7	Projectile	WSW to ENE (also recorded by SMM camera in Chermalyk)	N/K	17-Jul, 21:42
	2-4km E	Recorded	2	Projectile	WNW to ESE	N/K	17-Jul, 21:42
	2-4km E	Recorded	6	Projectile	W to E	N/K	17-Jul, 21:43
	2-4km E	Recorded	3	Explosion	Undetermined	N/K	17-Jul, 21:44
	2-4km E	Recorded	1	Projectile	NNW to SSE	N/K	17-Jul, 21:44
	2-4km E	Recorded	7	Projectile	WNW to ESE	N/K	17-Jul, 21:44
	2-4km E	Recorded	12	Projectile	N to S	N/K	17-Jul, 21:50
	2-4km E	Recorded	3	Projectile	WNW to ESE	N/K	17-Jul, 21:53
	2-4km E	Recorded	1	Muzzle flash		N/K	17-Jul, 21:55
	2-4km E	Recorded	1	Projectile	NW to SE (subsequent to previous event)	N/K	17-Jul, 21:55
	2-4km E	Recorded	5	Projectile	W to E	N/K	17-Jul, 21:57
	2-4km E	Recorded	5	Explosion	Undetermined	N/K	17-Jul, 21:58
	2-4km E	Recorded	14	Projectile	W to E	N/K	17-Jul, 21:58
	2-4km ESE	Recorded	2	Projectile	SW to NE	N/K	17-Jul, 21:59
	2-4km E	Recorded	3	Projectile	NNW to SSE	N/K	17-Jul, 21:59
	2-4km E	Recorded	3	Projectile	NNW to SSE	N/K	17-Jul, 22:00
	2-4km ESE	Recorded	4	Projectile	N to S	N/K	17-Jul, 22:02
	2-4km E	Recorded	1	Explosion	Undetermined	N/K	17-Jul, 22:04
	2-4km E	Recorded	2	Explosion	Undetermined	N/K	17-Jul, 22:05
	2-4km E	Recorded	1	Explosion	Undetermined	N/K	17-Jul, 22:07
	2-4km E	Recorded	5	Projectile	WNW to ESE	N/K	17-Jul, 22:07
	2-4km E	Recorded	13	Projectile	W to E	N/K	17-Jul, 22:08
	2-4km ESE	Recorded	5	Explosion	Undetermined	N/K	17-Jul, 22:10
	2-4km E	Recorded	15	Projectile	WNW to ESE	N/K	17-Jul, 22:10
2-4km ESE	Recorded	1	Explosion	Undetermined	N/K	17-Jul, 22:13	

2-4km E	Recorded	7	Projectile	NNW to SSE	N/K	17-Jul, 22:14
2-4km E	Recorded	2	Explosion	Undetermined	N/K	17-Jul, 22:15
2-4km E	Recorded	4	Projectile	WSW to ENE	N/K	17-Jul, 22:15
2-4km E	Recorded	4	Projectile	WSW to ENE	N/K	17-Jul, 22:16
2-4km E	Recorded	5	Projectile	WSW to ENE	N/K	17-Jul, 22:17
2-4km E	Recorded	8	Projectile	WSW to ENE	N/K	17-Jul, 22:19
2-4km ESE	Recorded	6	Explosion	Undetermined	N/K	17-Jul, 22:21
2-4km E	Recorded	5	Projectile	WNW to ESE	N/K	17-Jul, 22:21
2-4km ESE	Recorded	1	Explosion	Undetermined	N/K	17-Jul, 22:28
2-4km ESE	Recorded	2	Muzzle flash		N/K	17-Jul, 22:28
2-4km ESE	Recorded	2	Projectile	SW to NE (subsequent to previous event)	N/K	17-Jul, 22:28
2-4km ESE	Recorded	23	Projectile	WNW to ESE	N/K	17-Jul, 22:28
2-4km E	Recorded	1	Projectile	NNW to SSE	N/K	17-Jul, 22:28
2-4km E	Recorded	1	Projectile	NNW to SSE	N/K	17-Jul, 22:29
2-4km E	Recorded	1	Projectile	SW to NE	N/K	17-Jul, 22:29
2-4km E	Recorded	1	Muzzle flash		N/K	17-Jul, 22:30
2-4km E	Recorded	1	Projectile	NNW to SSE (subsequent to previous event)	N/K	17-Jul, 22:30
2-4km E	Recorded	1	Explosion	Subsequent to previous event	N/K	17-Jul, 22:30
2-4km E	Recorded	4	Projectile	WNW to ESE	N/K	17-Jul, 22:30
2-4km ESE	Recorded	1	Projectile	SW to NE	N/K	17-Jul, 22:30
2-4km ESE	Recorded	1	Muzzle flash		N/K	17-Jul, 22:31
2-4km ESE	Recorded	1	Projectile	SW to NE (subsequent to previous event)	N/K	17-Jul, 22:31
2-4km ESE	Recorded	4	Projectile	SW to NE	N/K	17-Jul, 22:31
2-4km E	Recorded	1	Muzzle flash		N/K	17-Jul, 22:34
2-4km E	Recorded	1	Projectile	NNW to SSE (subsequent to previous event)	N/K	17-Jul, 22:34
2-4km E	Recorded	1	Projectile	SW to NE	N/K	17-Jul, 22:34
2-4km E	Recorded	7	Projectile	NW to SE	N/K	17-Jul, 22:34
2-4km E	Recorded	4	Explosion	Undetermined	N/K	17-Jul, 22:35
2-4km E	Recorded	1	Projectile	WSW to ENE	N/K	17-Jul, 22:43

	2-4km ESE	Recorded	4	Projectile	NNW to SSE	N/K	17-Jul, 22:46
	2-4km E	Recorded	3	Projectile	SW to NE	N/K	17-Jul, 22:50
	2-4km ESE	Recorded	1	Projectile	SW to NE	N/K	17-Jul, 22:52
	2-4km ESE	Recorded	1	Explosion	Undetermined	N/K	17-Jul, 23:08
	2-4km E	Recorded	1	Projectile	SW to NE	N/K	17-Jul, 23:08
	2-4km E	Recorded	2	Projectile	SW to NE	N/K	17-Jul, 23:09
	2-4km E	Recorded	2	Projectile	NNW to SSE	N/K	17-Jul, 23:44
	2-4km E	Recorded	1	Projectile	NNW to SSE	N/K	17-Jul, 23:45
	2-4km E	Recorded	1	Projectile	NNW to SSE	N/K	17-Jul, 23:46
	2-4km E	Recorded	1	Projectile	NNW to SSE	N/K	17-Jul, 23:49
	2-4km E	Recorded	9	Projectile	WNW to ESE	N/K	17-Jul, 23:51
	2-4km E	Recorded	1	Projectile	NNW to SSE	N/K	17-Jul, 23:59
	2-4km E	Recorded	3	Projectile	NNW to SSE	N/K	18-Jul, 00:04
	2-4km E	Recorded	1	Projectile	NNW to SSE	N/K	18-Jul, 00:05
	2-4km SE	Recorded	2	Projectile	N to S	N/K	18-Jul, 00:11
	2-4km E	Recorded	1	Projectile	NNW to SSE	N/K	18-Jul, 00:11
	2-4km E	Recorded	1	Projectile	SW to NE	N/K	18-Jul, 00:13
	2-4km E	Recorded	1	Projectile	SW to NE	N/K	18-Jul, 00:21
	2-4km E	Recorded	1	Projectile	SW to NE	N/K	18-Jul, 00:31
	2-4km E	Recorded	1	Projectile	SW to NE	N/K	18-Jul, 00:46
SMM camera at entry-exit checkpoint in Maiorsk (government-controlled, 45km NE of Donetsk)	1-2km ENE	Recorded	2	Projectile	NNW to SSE	N/K	17-Jul, 22:40
SMM camera in Svitlodarsk (government-controlled, 57km NE of Donetsk)	1-3km SE	Recorded	1	Projectile	NW to SE	N/K	17-Jul, 22:06
	1-3km SE	Recorded	1	Projectile	NW to SE	N/K	17-Jul, 22:55
	1-3km SE	Recorded	1	Projectile	In vertical flight	N/K	17-Jul, 23:07
	1-3km SE	Recorded	1	Projectile	NE to SW	N/K	17-Jul, 23:14
	1-3km SE	Recorded	4	Projectile	NW to SE	N/K	17-Jul, 23:16
	1-3km SE	Recorded	1	Projectile	NW to SE	N/K	17-Jul, 23:17
	1-3km SE	Recorded	1	Projectile	WNW to ESE	N/K	17-Jul, 23:23
	1-3km SE	Recorded	1	Projectile	NNW to SSE	N/K	17-Jul, 23:26
	1-3km SE	Recorded	5	Projectile	W to E	N/K	17-Jul, 23:31
	1-3km SE	Recorded	1	Explosion	Undetermined	N/K	17-Jul, 23:32
	1-3km SE	Recorded	2	Projectile	W to E	N/K	17-Jul, 23:40

	1-3km SE	Recorded	12	Projectile	In vertical flight	N/K	17-Jul, 23:50
	1-3km SE	Recorded	4	Projectile	In vertical flight	N/K	17-Jul, 23:51
	3-5km WSW	Recorded	1	Explosion	Airburst	N/K	18-Jul, 01:55
About 1km NW of the railway station in Yasynuvata (non-government-controlled, 16km NE of Donetsk)	1km NNW	Heard	3	Shot		Small arms	18-Jul, 09:40
	1km NNW	Heard	11	Burst		Small arms	18-Jul, 09:40
	1-1.5km NNW	Heard	20	Burst		Small arms	18-Jul, 10:20
SE part of Avdiivka (government-controlled, 17km N of Donetsk)	2-3km E	Heard	8	Burst		HMG	18-Jul, 09:40
About 500m NE of Kamianka (government-controlled, 20km N of Donetsk)	2-3km SE	Heard	11	Burst		HMG	18-Jul, 09:38
About 700m NW of Petrivske (non-government-controlled, 41km S of Donetsk)	2-3km SSE	Heard	1	Burst	Assessed as outside the disengagement area	HMG	18-Jul, 12:07
Svitlodarsk (government-controlled, 57km NE of Donetsk)	3-4km SSW	Heard	25	Burst		HMG	17-Jul, 18:55
	3-5km SW	Heard	1	Explosion	Undetermined	N/K	17-Jul, 19:19
	3-5km SW	Heard	5	Burst		HMG	17-Jul, 19:21
	3-5km SE	Heard	2	Explosion	Undetermined	N/K	17-Jul, 20:41
	3-4km SE	Heard	4	Burst		HMG	17-Jul, 21:46
	4-5km ESE	Heard	1	Burst		HMG	17-Jul, 21:55
	4-5km ESE	Heard	2	Explosion	Undetermined	N/K	17-Jul, 21:55
	4-5km ESE	Heard	3	Explosion	Undetermined	N/K	17-Jul, 22:03
	4-5km ESE	Heard	15	Burst		HMG	17-Jul, 22:03-22:07
	3-4km ESE	Heard	4	Explosion	Undetermined	N/K	17-Jul, 22:09-22:12
	4-5km ESE	Heard	2	Burst		HMG	17-Jul, 22:17

	4-5km SE	Heard	1	Explosion	Undetermined	N/K	17-Jul, 22:19
	3-4km ESE	Heard	11	Explosion	Undetermined	N/K	17-Jul, 22:57-23:05
	4-5km ESE	Heard	19	Burst		HMG	17-Jul, 23:05-23:06
	3-4km ESE	Heard	22	Explosion	Undetermined	N/K	17-Jul, 23:15-23:30
	3-4km ESE	Heard	33	Burst		HMG	17-Jul, 23:15-23:32
	3-4km ESE	Heard	3	Explosion	Undetermined	N/K	17-Jul, 23:36
	3-4km ESE	Heard	36	Burst		HMG	17-Jul, 23:36-23:45
	4-5km SE	Heard	8	Explosion	Undetermined	N/K	17-Jul, 23:56-23:59
	4-5km SE	Heard	15	Explosion	Undetermined	N/K	18-Jul, 15:55-16:15
	4-5km SE	Heard	40	Burst		HMG	18-Jul, 15:55-16:15
	4-5km SE	Heard	1	Explosion	Undetermined	N/K	18-Jul, 18:25
SMM camera on N edge of Popasna (government-controlled, 69km W of Luhansk)	3-5km SSE	Recorded	1	Explosion	Undetermined	N/K	17-Jul, 23:57
	4-6km SSE	Recorded	1	Explosion	Undetermined	N/K	17-Jul, 23:57
SMM camera in Zolote (government-controlled, 60km W of Luhansk)	3-5km E	Recorded	4	Projectile	NNW to SSE (assessed as outside the disengagement area)	N/K	17-Jul, 22:03
	3-5km E	Recorded	4	Projectile	NNW to SSE (assessed as outside the disengagement area)	N/K	17-Jul, 22:03
	3-5km E	Recorded	1	Projectile	NW to SE (assessed as outside the disengagement area)	N/K	17-Jul, 22:03
	3-5km E	Recorded	2	Projectile	SSW to NNE (assessed as outside the disengagement area)	N/K	17-Jul, 22:06

	3-5km E	Recorded	1	Projectile	In vertical flight (assessed as outside the disengagement area)	N/K	17-Jul, 22:12
	3-5km E	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	17-Jul, 22:29
	3-5km E	Recorded	2	Projectile	SW to NE (assessed as outside the disengagement area)	N/K	17-Jul, 22:50
	3-5km E	Recorded	11	Projectile	SW to NE (assessed as outside the disengagement area)	N/K	17-Jul, 22:51
	3-5km E	Recorded	1	Projectile	NW to SE (assessed as outside the disengagement area)	N/K	17-Jul, 22:54
	3-5km E	Recorded	1	Projectile	NW to SE (assessed as outside the disengagement area)	N/K	17-Jul, 22:55
	3-5km E	Recorded	1	Projectile	NNW to SSE (assessed as outside the disengagement area)	N/K	17-Jul, 23:33
	3-5km E	Recorded	33	Projectile	SSW to NNE (assessed as outside the disengagement area)	N/K	17-Jul, 23:45
N edge of Popasna (government-controlled, 69km W of	3-4km SSE	Heard	4	Explosion	Impact	Mortar (type N/K)	17-Jul, 22:00-22:06
	3-4km SSE	Heard	55	Shot and burst		HMG	17-Jul, 22:05-22:14

Luhansk)	6-8km E	Heard	2	Explosion	Undetermined (assessed as outside the disengagement area)	N/K	17-Jul, 23:34
	5-7km E	Heard	2	Explosion	Undetermined (assessed as outside the disengagement area)	N/K	17-Jul, 23:59
	8-10km E	Heard	1	Explosion	Undetermined (assessed as inside the disengagement area)	N/K	18-Jul, 00:20
	5-7km E	Heard	2	Burst	Assessed as outside the disengagement area	HMG	18-Jul, 00:44
	5-7km E	Heard	43	Burst	Assessed as outside the disengagement area	Small arms	18-Jul, 04:18-04:22
Zolote-4/Rodina (government-controlled, 59km W of Luhansk)	3-5km E	Heard	20	Explosion	Undetermined (assessed as outside the disengagement area)	N/K	18-Jul, 10:25-10:26
	3-5km E	Heard	1	Burst	Assessed as outside the disengagement area	HMG	18-Jul, 10:25-10:26
3km N of Pervomaisk (non-government-controlled, 58km W of Luhansk)	4-5km NE	Heard	20	Shot	Assessed as outside the disengagement area	HMG	18-Jul, 10:26
SMM camera in Avdiivka (government-controlled, 17km N of Donetsk)	4-6km SE	Recorded	1	Explosion	Undetermined	N/K	18-Jul, 23:52
	4-6km SE	Recorded	1	Explosion	Undetermined	N/K	18-Jul, 23:54
	4-6km SE	Recorded	1	Explosion	Undetermined	N/K	18-Jul, 23:57
	4-6km SE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 00:08
	4-6km SE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 00:11
	4-6km ESE	Recorded	1	Projectile	NNW to SSE	N/K	19-Jul, 01:54
	4-6km ESE	Recorded	5	Projectile	WSW to ENE	N/K	19-Jul, 01:55

SMM camera in Berezove (government-controlled, 31km SW of Donetsk)	3-5km SSE	Recorded	1	Projectile	In vertical flight	N/K	18-Jul, 22:51
SMM camera 2km E of Bohdanivka (government-controlled, 41km SW of Donetsk)	3-5km SE	Recorded	1	Explosion	Undetermined (assessed as outside the disengagement area near Petrivske)	N/K	18-Jul, 21:35
	4-6km SE	Recorded	1	Projectile	In vertical flight (assessed as outside the disengagement area near Petrivske)	N/K	18-Jul, 22:51
	3-5km ESE	Recorded	20	Projectile	In vertical flight (unable to assess if inside or outside the disengagement area near Petrivske)	N/K	18-Jul, 22:59
	3-5km ESE	Recorded	22	Projectile	WSW to ENE (unable to assess if inside or outside the disengagement area near Petrivske)	N/K	18-Jul, 23:00
	3-5km SE	Recorded	1	Explosion	Undetermined (assessed as outside the disengagement area near Petrivske)	N/K	18-Jul, 23:01
	3-5km SE	Recorded	5	Projectile	W to E (assessed as outside the disengagement area near Petrivske)	N/K	18-Jul, 23:02

	3-5km SE	Recorded	1	Projectile	SW to NE (unable to assess if inside or outside the disengagement area near Petrivske)	N/K	18-Jul, 23:04
	3-5km SE	Recorded	5	Projectile	SW to NE (unable to assess if inside or outside the disengagement area near Petrivske)	N/K	18-Jul, 23:10
SMM camera in Chermalyk (government-controlled, 77km S of Donetsk)	2-4km ESE	Recorded	1	Burst	In vertical flight	N/K	18-Jul, 21:22
	2-4km SE	Recorded	11	Projectile	In vertical flight	N/K	18-Jul, 21:23
	2-4km SE	Recorded	4	Projectile	In vertical flight	N/K	18-Jul, 21:24
	2-4km ESE	Recorded	21	Projectile	In vertical flight	N/K	18-Jul, 21:24
	2-4km SE	Recorded	1	Burst	In vertical flight	N/K	18-Jul, 22:34
	2-4km SE	Recorded	4	Projectile	ENE to WSW	N/K	19-Jul, 03:09
	2-4km SE	Recorded	2	Projectile	NE to SW	N/K	19-Jul, 03:12
SMM camera at Donetsk Filtration Station (15km N of Donetsk)	1-2km SSW	Recorded	1	Projectile	NW to SE	N/K	18-Jul, 23:49
	1-2km SSW	Recorded	1	Projectile	WSW to ENE	N/K	18-Jul, 23:49
SMM camera 1.5km NE of Hnutove (government-controlled, 90km S of Donetsk)	2-4km E	Recorded	10	Projectile	NNW to SSE (also recorded by SMM camera in Chermalyk)	N/K	18-Jul, 21:14
	2-4km E	Recorded	1	Explosion	Undetermined	N/K	18-Jul, 21:14
	2-4km ESE	Recorded	12	Projectile	In vertical flight	N/K	18-Jul, 21:22
	2-4km ESE	Recorded	23	Projectile	In vertical flight	N/K	18-Jul, 21:23
	2-4km SE	Recorded	1	Projectile	WSW to ENE	N/K	18-Jul, 21:36
	2-4km SE	Recorded	1	Projectile	WSW to ENE	N/K	18-Jul, 21:37
	2-4km E	Recorded	4	Projectile	SW to NE	N/K	18-Jul, 22:31
	2-4km ESE	Recorded	1	Explosion	Undetermined	N/K	18-Jul, 23:13

4-6km ESE	Recorded	1	Explosion	Undetermined (also recorded by SMM camera in Chermalyk)	N/K	18-Jul, 23:25
4-6km SE	Recorded	4	Projectile	N to S	N/K	18-Jul, 23:32
4-6km SE	Recorded	4	Projectile	N to S	N/K	18-Jul, 23:36
4-6km SE	Recorded	2	Explosion	Undetermined	N/K	18-Jul, 23:36
4-6km ESE	Recorded	2	Explosion	Undetermined (also recorded by SMM camera in Chermalyk)	N/K	18-Jul, 23:37
4-6km ESE	Recorded	2	Explosion	Undetermined	N/K	18-Jul, 23:38
4-6km ESE	Recorded	2	Explosion	Undetermined (also recorded by SMM camera in Chermalyk)	N/K	18-Jul, 23:43
4-6km ESE	Recorded	3	Projectile	N to S (also recorded by SMM camera in Chermalyk)	N/K	18-Jul, 23:50
4-6km SE	Recorded	1	Explosion	Undetermined	N/K	18-Jul, 23:52
4-6km ESE	Recorded	1	Explosion	Undetermined (also recorded by SMM camera in Chermalyk)	N/K	18-Jul, 23:53
4-6km ESE	Recorded	2	Explosion	Undetermined (also recorded by SMM camera in Chermalyk)	N/K	18-Jul, 23:54
4-6km ESE	Recorded	2	Explosion	Undetermined (also recorded by SMM camera in Chermalyk)	N/K	18-Jul, 23:56
4-6km ESE	Recorded	1	Explosion	Undetermined (also recorded by SMM camera in Chermalyk)	N/K	18-Jul, 23:57
4-6km ESE	Recorded	1	Explosion	Undetermined (also recorded by SMM camera in Chermalyk)	N/K	18-Jul, 23:59

4-6km ESE	Recorded	1	Explosion	Undetermined (also recorded by SMM camera in Chermalyk)	N/K	19-Jul, 00:01
4-6km ESE	Recorded	1	Explosion	Undetermined (also recorded by SMM camera in Chermalyk)	N/K	19-Jul, 00:03
4-6km ESE	Recorded	1	Explosion	Undetermined (also recorded by SMM camera in Chermalyk)	N/K	19-Jul, 00:05
4-6km SE	Recorded	22	Projectile	N to S	N/K	19-Jul, 00:07
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	19-Jul, 00:07
4-6km ESE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 00:07
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	19-Jul, 00:09
4-6km SE	Recorded	3	Projectile	N to S	N/K	19-Jul, 00:12
4-6km ESE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 00:12
4-6km ESE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 00:13
4-6km SE	Recorded	12	Projectile	SSW to NNE	N/K	19-Jul, 00:13
4-6km ESE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 00:14
4-6km ESE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 00:16
4-6km ESE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 00:21
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	19-Jul, 00:28
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	19-Jul, 00:35
4-6km E	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 00:39
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	19-Jul, 01:05
4-6km ESE	Recorded	1	Projectile	SW to NE	N/K	19-Jul, 01:07
4-6km SE	Recorded	14	Projectile	SW to NE	N/K	19-Jul, 01:27
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	19-Jul, 01:45
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	19-Jul, 02:17
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	19-Jul, 02:48
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	19-Jul, 03:03

	4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	19-Jul, 03:12
	4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	19-Jul, 03:22
	4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	19-Jul, 03:28
	2-4km ESE	Recorded	1	Explosion	Undetermined	N/K	18-Jul, 22:25
	2-4km ESE	Recorded	1	Projectile	In vertical flight	N/K	18-Jul, 23:14
	2-4km ESE	Recorded	1	Projectile	SW to NE	N/K	19-Jul, 02:18
	2-4km ESE	Recorded	1	Projectile	WNW to ESE	N/K	19-Jul, 02:18
	2-4km ESE	Recorded	3	Projectile	SW to NE	N/K	19-Jul, 02:19
SMM camera in Hranitne (government-controlled, 60km S of Donetsk)	4-6km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	18-Jul, 21:43
SMM camera in Svitlodarsk (government-controlled, 57km NE of Donetsk)	5-7km SE	Recorded	28	Projectile	In vertical flight	N/K	18-Jul, 21:22
	5-7km SE	Recorded	58	Projectile	In vertical flight	N/K	18-Jul, 21:23
	6-8km SSE	Recorded	30	Projectile	In vertical flight	N/K	18-Jul, 21:23
	2-4km SE	Recorded	2	Projectile	W to E	N/K	18-Jul, 22:58
	6-8km SE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 00:05
About 600m ENE of Vesele (non-government-controlled, 9km NW of Donetsk)	2-3km NE	Heard	1	Explosion	Undetermined	N/K	19-Jul, 11:37
About 700m NW of Petrivske (non-government-controlled, 41km S of Donetsk)	1-1.5km S	Heard	14	Burst	Assessed as inside the disengagement area	Small arms	19-Jul, 10:56
	1-1.5km S	Heard	10	Shot	Assessed as inside the disengagement area	Small arms	19-Jul, 10:56
About 2km N of Petrivske (non-government-controlled,	2-4km SSW	Heard	2	Shot	Assessed as inside the disengagement area	Small arms	19-Jul, 11:48

41km S of Donetsk)	1.5-2km SW	Heard	36	Burst	Assessed as outside the disengagement area	Small arms	19-Jul, 11:57
About 2km E of Bohdaniivka (government-controlled, 41km SW of Donetsk)	1-2km NE	Heard	16	Shot	Assessed as outside the disengagement area near Petrivske	Small arms	19-Jul, 11:48
	1-2km NE	Heard	32	Burst	Assessed as outside the disengagement area near Petrivske	Small arms	19-Jul, 11:57
Svitlodarsk (government-controlled, 57km NE of Donetsk)	5-7km SSE	Heard	3	Explosion	Undetermined	N/K	18-Jul, 20:30-20:40
	5-7km SSE	Heard	4	Explosion	Undetermined	N/K	18-Jul, 23:20-23:40
	5-7km SSE	Heard	12	Burst		HMG	18-Jul, 23:20-23:40
	5-7km SSE	Heard	2	Explosion	Undetermined	N/K	18-Jul, 23:45-23:47
	5-7km SSE	Heard	2	Explosion	Undetermined	N/K	18-Jul, 23:52
	5-7km SSE	Heard	2	Explosion	Undetermined	N/K	18-Jul, 23:56
	3-4km ESE	Heard	30	Explosion	Undetermined	N/K	19-Jul, 04:20-04:50
	2-4km ESE	Heard	70	Explosion	Undetermined	IFV (type N/K)	19-Jul, 04:20-04:50
	0-1km SE	Heard	25	Explosion	Outgoing	Artillery (type N/K)	19-Jul, 04:55-05:25
	3-4km SE	Heard	75	Explosion	Undetermined	N/K	19-Jul, 04:55-05:25
	3-4km SE	Heard	50	Burst		HMG	19-Jul, 04:55-05:25
	3-4km ESE	Heard	55	Explosion	Undetermined	N/K	19-Jul, 05:35-06:25
	3-4km ESE	Heard	40	Burst		HMG	19-Jul, 05:35-06:25
	3-4km E	Heard	30	Explosion	Undetermined	N/K	19-Jul, 05:35-06:25
	3-4km E	Heard	25	Burst		HMG	19-Jul, 05:35-06:25
	3-4km SE	Heard	20	Burst		HMG	19-Jul, 05:35-06:25
	3-4km SE	Heard	30	Explosion	Undetermined	N/K	19-Jul, 05:35-06:25
5-7km ESE	Heard	6	Explosion	Undetermined	N/K	19-Jul, 06:30	

5-7km ESE	Heard	1	Explosion	Undetermined	N/K	19-Jul, 06:38
5-7km ESE	Heard	1	Explosion	Undetermined	N/K	19-Jul, 06:39
5-7km ESE	Heard	20	Burst		HMG	19-Jul, 06:39
5-7km ESE	Heard	4	Explosion	Undetermined	N/K	19-Jul, 06:40
5-7km ESE	Heard	20	Burst		HMG	19-Jul, 06:40
5-7km ESE	Heard	1	Explosion	Undetermined	N/K	19-Jul, 06:41
5-7km ESE	Heard	15	Burst		HMG	19-Jul, 06:42
5-7km ESE	Heard	1	Explosion	Undetermined	N/K	19-Jul, 06:43
5-7km ESE	Heard	15	Burst		HMG	19-Jul, 06:43
5-7km ESE	Heard	3	Explosion	Undetermined	N/K	19-Jul, 06:44
5-7km ESE	Heard	36	Burst		HMG	19-Jul, 06:44
5-7km ESE	Heard	2	Explosion	Undetermined	N/K	19-Jul, 06:45
5-7km ESE	Heard	2	Explosion	Undetermined	N/K	19-Jul, 06:47
5-7km ESE	Heard	3	Explosion	Undetermined	N/K	19-Jul, 06:48
5-7km ESE	Heard	6	Burst		HMG	19-Jul, 06:48
5-7km ESE	Heard	3	Explosion	Undetermined	N/K	19-Jul, 06:51
5-7km ESE	Heard	15	Burst		HMG	19-Jul, 06:50-06:51
ESE	Heard		Burst	Uncountable, overlapping	HMG	19-Jul, 06:52-06:53
1-2km ESE	Heard	6	Explosion	Outgoing	Artillery (type N/K)	19-Jul, 06:54-06:55
1-2km ESE	Heard	8	Explosion	Outgoing	Artillery (type N/K)	19-Jul, 06:56-06:58
ESE	Heard		Burst	Uncountable, overlapping	HMG	19-Jul, 06:56-06:58
1-2km N	Heard	25	Explosion	Outgoing	Artillery (type N/K)	19-Jul, 06:59-07:08
1-2km E	Heard	25	Explosion	Outgoing	Artillery (type N/K)	19-Jul, 07:10-07:15
ESE	Heard		Burst	Uncountable, overlapping	HMG	19-Jul, 07:10-07:15
1-2km N	Heard	2	Explosion	Outgoing	Artillery (type N/K)	19-Jul, 07:17
5-7km ESE	Heard	15	Burst		HMG	19-Jul, 07:19
1-2km N	Heard	3	Explosion	Outgoing	Artillery (type N/K)	19-Jul, 07:27
1-2km N	Heard	6	Explosion	Outgoing	Artillery (type N/K)	19-Jul, 07:31
1-2km ESE	Heard	1	Explosion	Impact	N/K	19-Jul, 07:32
1-2km ESE	Heard	1	Explosion	Impact	N/K	19-Jul, 07:34
1-2km N	Heard	1	Explosion	Impact	N/K	19-Jul, 07:34

1-2km N	Heard	1	Explosion	Outgoing	Artillery (type N/K)	19-Jul, 07:39
5-7km ESE	Heard	1	Explosion	Impact	N/K	19-Jul, 07:39
1-2km N	Heard	1	Explosion	Outgoing	Artillery (type N/K)	19-Jul, 07:44
5-7km ESE	Heard	1	Explosion	Impact	N/K	19-Jul, 07:44
1-2km ESE	Heard	2	Explosion	Undetermined	N/K	19-Jul, 07:48
1-2km SE	Heard	2	Explosion	Undetermined	N/K	19-Jul, 07:51
1-2km N	Heard	1	Explosion	Outgoing	Artillery (type N/K)	19-Jul, 08:02
5-7km ESE	Heard	23	Burst		HMG	19-Jul, 08:12
5-7km ESE	Heard	8	Burst		HMG	19-Jul, 08:15
5-7km ESE	Heard	1	Explosion	Undetermined	N/K	19-Jul, 09:35
3-4km E	Heard	1	Explosion	Impact	N/K	19-Jul, 09:42
4-6km SW	Heard	22	Explosion	Undetermined	N/K	19-Jul, 14:30-14:50
4-6km SW	Heard	45	Burst		HMG	19-Jul, 14:40-14:50
5-7km E	Heard	6	Explosion	Undetermined	N/K	19-Jul, 18:00-18:08
2-3km N	Heard	4	Explosion	Outgoing	N/K	19-Jul, 18:09-18:12
5-7km ESE	Heard	4	Explosion	Impact	N/K	19-Jul, 18:09-18:12
2-3km E	Heard	4	Explosion	Outgoing	N/K	19-Jul, 18:09-18:12
6-7km ESE	Heard	4	Explosion	Impact	N/K	19-Jul, 18:09-18:12
2-3km E	Heard	8	Explosion	Outgoing	N/K	19-Jul, 18:13
5-7km ESE	Heard	8	Explosion	Impact	N/K	19-Jul, 18:13
2-3km E	Heard	15	Explosion	Outgoing	N/K	19-Jul, 18:15-18:18
6-7km ESE	Heard	15	Explosion	Impact	N/K	19-Jul, 18:15-18:18
5-6km E	Heard	3	Explosion	Undetermined	N/K	19-Jul, 18:21-18:23
3-4km ESE	Heard	1	Explosion	Outgoing	N/K	19-Jul, 18:25
5-7km ESE	Heard	1	Explosion	Impact	N/K	19-Jul, 18:25
5-7km ESE	Heard	18	Burst		HMG	19-Jul, 18:25
3-4km E	Heard	5	Explosion	Outgoing	N/K	19-Jul, 18:27-18:30
6-8km E	Heard	5	Explosion	Impact	N/K	19-Jul, 18:27-18:30

SMM camera in Kriakivka (government-controlled, 38km NW of Luhansk)	3-5km SSW	Recorded	1	Muzzle flash	SSW to NNE	N/K	19-Jul, 23:48
	3-5km SSW	Recorded	1	Projectile	SSW to NNE (subsequent to the previous event)	N/K	19-Jul, 23:48
	3-5km SSW	Recorded	1	Explosion	SSW to NNE (airburst, subsequent to the previous event)	N/K	19-Jul, 23:48
	3-5km ESE	Recorded	1	Explosion	Airburst	N/K	18-Jul, 23:51
	3-4km SE	Recorded	1	Projectile	NNE to SSW	N/K	18-Jul, 23:51
	6-8km SSE	Recorded	1	Explosion	Undetermined	N/K	18-Jul, 23:54
	3-5km ESE	Recorded	1	Projectile	SW to NE	N/K	18-Jul, 23:54
	3-5km ESE	Recorded	1	Explosion	Airburst (subsequent to previous event)	N/K	18-Jul, 23:54
	6-8km SE	Recorded	1	Explosion	Undetermined	N/K	18-Jul, 23:59
	3-5km ESE	Recorded	2	Projectile	SW to NE	N/K	19-Jul, 00:10
	3-5km ESE	Recorded	1	Projectile	NW to SE	N/K	19-Jul, 00:10
	6-8km SE	Recorded	2	Explosion	Undetermined	N/K	19-Jul, 00:11
	3-5km ESE	Recorded	4	Projectile	SW to NE	N/K	19-Jul, 00:11
	3-4km ESE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 01:07
	6-8km SE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 01:08
	6-8km SE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 01:10
	6-8km SE	Recorded	2	Explosion	Undetermined	N/K	19-Jul, 01:11
	6-8km SE	Recorded	2	Explosion	Undetermined	N/K	19-Jul, 01:13
	3-5km ESE	Recorded	4	Projectile	NNE to SSW	N/K	19-Jul, 01:13
	3-5km ESE	Recorded	1	Explosion	Airburst (subsequent to previous event)	N/K	19-Jul, 01:13
	3-5km SE	Recorded	4	Projectile	W to E	N/K	19-Jul, 01:21
	3-5km ESE	Recorded	2	Explosion	Impact (subsequent to previous event)	N/K	19-Jul, 01:21
	4-6km SE	Recorded	2	Muzzle flash		N/K	19-Jul, 01:22
4-6km SE	Recorded	4	Projectile	W to E (subsequent to the previous event)	N/K	19-Jul, 01:22	

	4-6km ESE	Recorded	4	Explosion	Impact (subsequent to previous event, assessed as outside the disengagement area near Zolote)	N/K	19-Jul, 01:22
	4-6km SE	Recorded	11	Projectile	W to E	N/K	19-Jul, 01:23
	4-6km ESE	Recorded	11	Explosion	Impact (subsequent to previous event, assessed as outside the disengagement area near Zolote)	N/K	19-Jul, 01:23
	4-6km SE	Recorded	4	Projectile	W to E	N/K	19-Jul, 01:24
	4-6km ESE	Recorded	12	Explosion	Impact (subsequent to previous event, assessed as outside the disengagement area near Zolote)	N/K	19-Jul, 01:24
	6-8km SE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 01:31
	6-8km SE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 01:35
	6-8km SE	Recorded	1	Explosion	Undetermined	N/K	19-Jul, 01:41
SMM camera in Zolote (government-controlled, 60km W of Luhansk)	4-6km E	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	18-Jul, 22:20
	4-6km E	Recorded	9	Projectile	NNW to SSE (assessed as outside the disengagement area)	N/K	18-Jul, 22:29
	4-6km E	Recorded	3	Projectile	NW to SE (assessed as outside the disengagement area)	N/K	18-Jul, 22:42

4-6km E	Recorded	4	Projectile	SW to NE (assessed as outside the disengagement area)	N/K	18-Jul, 22:43
4-6km E	Recorded	2	Projectile	NW to SE (assessed as outside the disengagement area)	N/K	18-Jul, 22:45
4-6km E	Recorded	3	Projectile	NW to SE (in vertical flight, assessed as outside the disengagement area)	N/K	18-Jul, 22:47
4-6km E	Recorded	1	Illumination flare	Assessed as outside the disengagement area	N/K	18-Jul, 22:47
4-6km E	Recorded	8	Projectile	NNW to SSE (assessed as outside the disengagement area)	N/K	18-Jul, 23:00
4-6km E	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	18-Jul, 23:12
4-6km E	Recorded	3	Projectile	SW to NE (assessed as outside the disengagement area)	N/K	18-Jul, 23:21
4-6km E	Recorded	1	Explosion	Undetermined (assessed as outside the disengagement area)	N/K	18-Jul, 23:22
4-6km E	Recorded	13	Projectile	NNW to SSE (assessed as outside the disengagement area)	N/K	18-Jul, 23:54

	4-6km E	Recorded	1	Projectile	NW to SE (assessed as outside the disengagement area)	N/K	18-Jul, 23:55
	4-6km E	Recorded	13	Projectile	NNW to SSE (assessed as outside the disengagement area)	N/K	19-Jul, 00:00
	4-6km E	Recorded	8	Projectile	NNE to SSW (assessed as outside the disengagement area)	N/K	19-Jul, 00:25
	4-6km E	Recorded	5	Projectile	NNW to SSE (assessed as outside the disengagement area)	N/K	19-Jul, 00:26
	4-6km E	Recorded	6	Projectile	NNW to SSE (assessed as outside the disengagement area)	N/K	19-Jul, 01:18
N edge of Popasna (government- controlled, 69km W of Luhansk)	5-7km SSE	Heard	2	Explosion	Undetermined	N/K	18-Jul, 18:26- 18:28
	8-10km SSE	Heard	2	Explosion	Undetermined	N/K	18-Jul, 21:21- 21:22
	5-7km ESE	Heard	14	Burst	Assessed as outside the disengagement area near Zolote	HMG	18-Jul, 23:00
	5-7km ESE	Heard	1	Explosion	Undetermined (assessed as outside the disengagement area near Zolote)	N/K	18-Jul, 23:00
	5-7km ESE	Heard	1	Explosion	Undetermined	N/K	18-Jul, 23:04
	5-7km ESE	Heard	45	Burst	Assessed as outside the disengagement area near Zolote	HMG	18-Jul, 23:25- 23:26

5-7km ESE	Heard	2	Explosion	Undetermined (assessed as outside the disengagement area near Zolote)	N/K	18-Jul, 23:26-23:27
5-7km ESE	Heard	8	Burst	Assessed as outside the disengagement area near Zolote	HMG	18-Jul, 23:33
5-7km ESE	Heard	1	Explosion	Undetermined (assessed as outside the disengagement area near Zolote)	N/K	18-Jul, 23:40
5-7km ESE	Heard	30	Burst	Assessed as outside the disengagement area near Zolote	HMG	18-Jul, 23:40
5-7km ESE	Heard	7	Explosion	Undetermined (assessed as outside the disengagement area near Zolote)	N/K	18-Jul, 23:40-23:45
5-7km ESE	Heard	37	Burst	Assessed as outside the disengagement area near Zolote	HMG	18-Jul, 23:50
5-7km ESE	Heard	4	Explosion	Undetermined (assessed as outside the disengagement area near Zolote)	N/K	18-Jul, 23:52
5-7km ESE	Heard	1	Explosion	Undetermined (assessed as outside the disengagement area near Zolote)	N/K	18-Jul, 23:57
5-7km ESE	Heard	2	Explosion	Undetermined (assessed as outside the disengagement area near Zolote)	N/K	19-Jul, 00:05

	5-7km ESE	Heard	8	Burst	Assessed as outside the disengagement area near Zolote	HMG	19-Jul, 00:10
	5-7km ESE	Heard	5	Shot	Assessed as outside the disengagement area near Zolote	HMG	19-Jul, 00:10
	5-7km ESE	Heard	63	Shot and Burst	Assessed as outside the disengagement area near Zolote	Small arms	19-Jul, 00:11-00:25
	5-7km ESE	Heard	35	Explosion	Undetermined (assessed as outside the disengagement area near Zolote)	N/K	19-Jul, 00:12-01:05
	5-7km ESE	Heard	32	Burst	Assessed as outside the disengagement area near Zolote	HMG	19-Jul, 00:37-00:43
	5-8km ESE	Heard	130	Shot and Burst	Assessed as outside the disengagement area near Zolote	Small arms	19-Jul, 00:46-01:14
	5-7km ESE	Heard	3	Shot and Burst	Assessed as outside the disengagement area near Zolote	Small arms	19-Jul, 01:19
Kadiivka (formerly Stakhanov, non-government-controlled, 50km W of Luhansk)	10-15km N	Heard	62	Explosion	Undetermined	N/K	18-Jul, 20:50-21:24
	10-15km NNE	Heard	52	Explosion	Undetermined	N/K	18-Jul, 20:50-21:24
	10-15km N	Heard	22	Explosion	Undetermined	N/K	19-Jul, 05:23-05:38
	10-15km NW	Heard	15	Explosion	Undetermined (unable to assess if inside or outside the disengagement area)	N/K	19-Jul, 05:23-05:38
	5km NNE	Heard	16	Explosion	Outgoing	N/K	19-Jul, 05:23-05:38

	10-15km N	Heard	11	Explosion	Undetermined	N/K	19-Jul, 05:49-06:05
	5km NNE	Heard	23	Explosion	Outgoing	N/K	19-Jul, 05:49-06:05
	5km NNE	Heard	5	Explosion	Outgoing	N/K	19-Jul, 06:23-06:38