Table of ceasefire violations as of 2 January 2020¹¹

SMM position	Event location	Means	No.	Observation	Description	Weapon	Date, time
SMM camera in Berezove (government- controlled, 31km SW of Donetsk)	1-3km SE	Recorded	1	Illumination flare	In vertical flight	N/K	30-Dec, 19:11
SMM camera in	1-2km SE	Recorded	2	Projectile	WSW to ENE	N/K	30-Dec, 19:01
Chermalyk (government- controlled, 77km S	4-5km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	30-Dec, 22:02
	2-4km SE	Recorded	2	Projectile	WSW to ENE	N/K	30-Dec, 22:11
of Donetsk)	4-5km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 00:00
	2-4km SE	Recorded	2	Projectile	WSW to ENE	N/K	31-Dec, 01:10
SMM camera at	1-3km S	Recorded	1	Explosion	Undetermined	N/K	30-Dec, 22:51
Donetsk Filtration	1-3km S	Recorded	1	Explosion	Impact	N/K	30-Dec, 22:52
Station (15km N of	1-3km S	Recorded	4	Projectile	W to E	N/K	30-Dec, 22:52
Donetsk)	500-800m S	Recorded	6	Muzzle flash		N/K	31-Dec, 01:10
	500-800m S	Recorded	10	Muzzle flash		N/K	31-Dec, 01:11
	400-800m S	Recorded	2	Burst	W to E	N/K	31-Dec, 17:58
SMM camera in	3-5km E	Recorded	10	Projectile	In vertical flight	N/K	30-Dec, 18:49
Hranitne	3-5km E	Recorded	6	Projectile	S to N	N/K	30-Dec, 18:49
(government-	2-4km ESE	Recorded	1	Projectile	SW to NE	N/K	30-Dec, 20:16
controlled, 60km S	2-4km E	Recorded	1	Burst	SW to NE	N/K	30-Dec, 23:57
of Donetsk)	2-4km E	Recorded	3	Projectile	NW to SE	N/K	30-Dec, 23:57
	2-4km ESE	Recorded	2	Projectile	SSW to NNE	N/K	31-Dec, 01:22
	2-4km ESE	Recorded	2	Projectile	S to N	N/K	31-Dec, 01:20
	2-4km ESE	Recorded	1	Projectile	S to N	N/K	31-Dec, 02:36
	2-4km E	Recorded	5	Projectile	In vertical flight	N/K	31-Dec, 03:26
	2-4km E	Recorded	5	Projectile	S to N	N/K	31-Dec, 03:26
	2-4km E	Recorded	4	Projectile	N to S	N/K	31-Dec, 03:20
	2-4km E	Recorded	1	Projectile	SW to NE	N/K	31-Dec, 05:41
	2-4km E	Recorded	4	Projectile	S to N	N/K	31-Dec, 05:41
	2-4km E	Recorded	2	Projectile	N to S	N/K	31-Dec, 05:41
	1-3km E	Recorded	1	Explosion	Undetermined	N/K	31-Dec, 18:07
SMM camera at entry-exit checkpoint in Marinka (government- controlled, 23km SW of Donetsk)	2-4km NNE	Recorded	6	Projectile	SW to NE	N/K	30-Dec, 22:34
SMM camera at Oktiabr mine (non-	4-6km ENE	Recorded	1	Illumination flare	In vertical flight	N/K	30-Dec, 20:58
government-	4-6km ENE	Recorded	1	Explosion	Undetermined	N/K	30-Dec, 20:59
controlled, 9km NW of Donetsk city centre)	4-6km ENE	Recorded	1	Illumination flare	In vertical flight	N/K	30-Dec, 21:05
SE part of Avdiivka (government- controlled, 17km N of Donetsk)	1.5-2km SSE	Heard	5	Burst		Small arms	31-Dec, 09:15

¹¹ The table only includes ceasefire violations directly observed by the SMM and it may include those also assessed to be live-fire exercises, controlled detonations, etc. Details provided – in terms of distance, direction, weaponstype, etc. – are based on assessments provided by monitors on the ground, 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 and/or other considerations. Ceasefire violations recorded by more than one patrol and assessed to be the same are entered only once.

About 1km N of central railway	2km N	Heard	1	Shot		Small arms	31-Dec, 09:45
station in Donetsk city (non- government- controlled, 6km NW of Donetsk city centre)	1-2km E	Heard	2	Shot		Small arms	31-Dec, 09:47
About 2km SE of	2-3km NNE	Heard	15	Explosion	Undetermined	N/K	31-Dec, 12:14
Spartak (non-	2-3km NNE	Heard	3	Burst		HMG	31-Dec, 12:14
government- controlled, 9km N of Donetsk)	3km NNW	Heard	6	Explosion	Undetermined	N/K	31-Dec, 12:36
Oleksandrivka (non- government- controlled, 20km SW of Donetsk)	1-2km WNW	Heard	1	Explosion	Undetermined	N/K	31-Dec, 12:01
Yasynuvata Railway station (non-	3-4km W	Heard	3	Burst		Small arms	31-Dec, 12:49
government- controlled, 16km NE of Donetsk)	3-4km W	Heard	1	Shot		Small arms	31-Dec, 12:49
About 1km NW of the railway station	2-3km SSE	Heard	5	Burst		Small arms	31-Dec, 09:17
in Yasynuvata (non- government-	2-3km SSE	Heard	1	Burst		Small arms	31-Dec, 09:28
controlled, 16km NE of Donetsk)	2-4km SSE	Heard	10	Explosion	Undetermined	N/K	31-Dec, 09:48
NE of Dolletsk)	2km SW	Heard	1	Burst		Small arms	31-Dec, 10:29
Kulykove (non- government- controlled, 87km S of Donetsk)	3-4km NW	Heard	3	Explosion	Undetermined	N/K	31-Dec, 12:52
Svitlodarsk	5-7km SW	Heard	3	Explosion	Undetermined	N/K	31-Dec, 12:49
(government- controlled, 57km NE of Donetsk)	6-8km SW	Heard	19	Explosion	Undetermined	N/K	31-Dec, 14:53- 14:55
Kalynove (non- government- controlled, 60km W of Luhansk)	3-5km W	Heard	1	Burst		HMG	31-Dec, 09:10
S outskirts of non- government- controlled Luhansk city	400-500m SW	Heard	8	Shot	Assessed as aimed at an SMM mini- UAV	Small arms	31-Dec, 11:17- 11:18
2km S of Muratove (government- controlled, 51km NW of Luhansk)	5-7km SSW	Heard	11	Explosion	Undetermined	N/K	31-Dec, 13:23- 13:30
SMM camera in Stanytsia Luhanska (government- controlled, 16km	6-8km WSW	Recorded	7	Airburst	Assessed as outside the disengagement area	N/K	30-Dec, 19:28
NE of Luhansk)	0.3-1km SW	Recorded	2	Projectile	NNE to SSW (unable to be assessed inside or outside the disengagement area)	N/K	30-Dec, 22:55
SMM camera in Avdiivka	4-6km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 20:24
(government- controlled, 17km N	3-5km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 21:19
of Donetsk)	4-6km SE	Recorded	2	Explosion	Undetermined	N/K	31-Dec, 21:27

4-6km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 21
2-4km SE	Recorded	20	Projectile	WSW to ENE	N/K	31-Dec, 21
4-6km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 21
4-6km SE	Recorded	2	Explosion	Undetermined	N/K	31-Dec, 21
4-6km SE	Recorded	6	Explosion	Undetermined	N/K	31-Dec, 22
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 22
2-4km ESE	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 23
4-6km SE	Recorded	4	Explosion	Undetermined	N/K	31-Dec, 23
4-6km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23
4-6km ESE	Recorded	3	Projectile	In vertical flight	N/K	31-Dec, 23
2-4km SE	Recorded	2	Burst	Approximately	N/K	31-Dec, 23
2-4km ESE	Recorded	1	Burst	Approximately	N/K	31-Dec, 23
4-6km SE	Recorded	7	Explosion	Undetermined	N/K	31-Dec, 23
2-4km SE	Recorded	5	Explosion	Undetermined	N/K	31-Dec, 23
2-4km SSE	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 23
2-4km SE	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 23
4-6km ESE	Recorded	1	Burst	SW to NE	N/K	31-Dec, 23
2-4km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23
4-6km ESE	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23
2-4km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23
2-4km SE	Recorded	2	Projectile	In vertical flight	N/K	31-Dec, 23
2-4km ESE	Recorded	4	Projectile	In vertical flight	N/K	31-Dec, 23
2-4km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23
2-4km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23
2-4km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23
2-4km SSE	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23
2-4km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23
4-6km SSE	Recorded	3	Burst	In vertical flight	N/K	31-Dec, 23
2-4km ESE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23
2-4km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23
2-4km SSE	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 23
3-5km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23
2-4km SSE	Recorded	6	Explosion	Undetermined	N/K	31-Dec, 23
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23
4-6km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23
2-4km SSE	Recorded	4	Illumination flare	In vertical flight	N/K	31-Dec, 23
2-4km SSE	Recorded	11	Projectile	In vertical flight	N/K	31-Dec, 23
2-4km SSE	Recorded	8	Illumination flare	In vertical flight	N/K	31-Dec, 23
2-4km ESE	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23

2-4km SSE	Recorded	2	Projectile	In vertical flight	N/K	31-Dec, 23:08
4-6km SSE	Recorded	2	Burst	In vertical flight	N/K	31-Dec, 23:09
4-6km SE	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23:09
4-6km SE	Recorded	10	Explosion	Undetermined	N/K	31-Dec, 23:09
2-4km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:10
2-4km SE	Recorded	2	Projectile	In vertical flight	N/K	31-Dec, 23:10
4-6km SSE	Recorded	2	Burst	In vertical flight	N/K	31-Dec, 23:10
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:10
4-6km SE	Recorded	12	Explosion	Undetermined	N/K	31-Dec, 23:10
4-6km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:11
4-6km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:11
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:11
4-6km SE	Recorded	8	Explosion	Undetermined	N/K	31-Dec, 23:11
4-6km SE	Recorded	4	Illumination flare	In vertical flight	N/K	31-Dec, 23:12
4-6km ESE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:12
4-6km SSE	Recorded	4	Illumination flare	In vertical flight	N/K	31-Dec, 23:12
2-4km SSE	Recorded	3	Projectile	In vertical flight	N/K	31-Dec, 23:12
4-6km SE	Recorded	5	Explosion	Undetermined	N/K	31-Dec, 23:12
4-6km SSE	Recorded	4	Illumination flare	In vertical flight	N/K	31-Dec, 23:13
4-6km ESE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:13
4-6km SSE	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:13
4-6km SSE	Recorded	8	Explosion	Undetermined	N/K	31-Dec, 23:13
4-6km SSE	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:14
4-6km SSE	Recorded	12	Explosion	Undetermined	N/K	31-Dec, 23:14
4-6km SSE	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23:14
4-6km SE	Recorded	5	Explosion	Undetermined	N/K	31-Dec, 23:14
4-6km SE	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23:15
4-6km ESE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:15
4-6km SSE	Recorded	6	Explosion	Undetermined	N/K	31-Dec, 23:15
4-6km SE	Recorded	4	Explosion	Undetermined	N/K	31-Dec, 23:15
4-6km SSE	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23:16
4-6km SE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:16
4-6km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:16
4-6km SE	Recorded	10	Explosion	Undetermined	N/K	31-Dec, 23:16
4-6km SSE	Recorded	12	Explosion	Undetermined	N/K	31-Dec, 23:16
4-6km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:17
4-6km SE	Recorded	6	Illumination flare	In vertical flight	N/K	31-Dec, 23:17
4-6km SE	Recorded	11	Explosion	Undetermined	N/K	31-Dec, 23:17
4-6km SE	Recorded	4	Illumination flare	In vertical flight	N/K	31-Dec, 23:18
4-6km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:18

4-6km SSE	Recorded	8	Explosion	Undetermined	N/K	31-Dec, 23:18
4-6km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:19
4-6km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:19
4-6km SE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:19
4-6km SE	Recorded	12	Explosion	Undetermined	N/K	31-Dec, 23:19
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:20
4-6km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:20
4-6km SSE	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:20
4-6km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:21
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:21
4-6km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:21
4-6km SSE	Recorded	4	Explosion	Undetermined	N/K	31-Dec, 23:21
4-6km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:22
4-6km SE	Recorded	6	Explosion	Undetermined	N/K	31-Dec, 23:22
4-6km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:23
4-6km SE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:23
4-6km SSE	Recorded	3	Explosion	Undetermined	N/K	31-Dec, 23:23
4-6km SE	Recorded	5	Explosion	Undetermined	N/K	31-Dec, 23:23
4-6km SSE	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23:24
4-6km SE	Recorded	15	Explosion	Undetermined	N/K	31-Dec, 23:24
4-6km SSE	Recorded	10	Explosion	Undetermined	N/K	31-Dec, 23:24
2-4km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:25
2-4km SE	Recorded	3	Projectile	NE to SW	N/K	31-Dec, 23:25
4-6km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:25
4-6km SSE	Recorded	16	Explosion	Undetermined	N/K	31-Dec, 23:25
4-6km SSE	Recorded	24	Explosion	Undetermined	N/K	31-Dec, 23:26
4-6km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:26
4-6km SE	Recorded	4	Explosion	Undetermined	N/K	31-Dec, 23:26
4-6km SSE	Recorded	10	Explosion	Undetermined	N/K	31-Dec, 23:27
4-6km SE	Recorded	6	Explosion	Undetermined	N/K	31-Dec, 23:27
4-6km SSE	Recorded	11	Explosion	Undetermined	N/K	31-Dec, 23:29
4-6km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:29
4-6km SE	Recorded	3	Explosion	Undetermined	N/K	31-Dec, 23:29
4-6km SSE	Recorded	8	Explosion	Undetermined	N/K	31-Dec, 23:30
4-6km SE	Recorded	3	Explosion	Undetermined	N/K	31-Dec, 23:30
2-4km SE	Recorded	1	Projectile	WSW to ENE	N/K	31-Dec, 23:30
2-4km SSE	Recorded	2	Explosion	Undetermined	N/K	31-Dec, 23:30
4-6km ESE	Recorded	3	Explosion	Undetermined	N/K	31-Dec, 23:30
4-6km SE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:31
4-6km SSE	Recorded	7	Explosion	Undetermined	N/K	31-Dec, 23:31
4-6km ESE	Recorded	5	Explosion	Undetermined	N/K	31-Dec, 23:31
4-6km SE	Recorded	3	Explosion	Undetermined	N/K	31-Dec, 23:31
4-6km SSE	Recorded	8	Explosion	Undetermined	N/K	31-Dec, 23:32

4-6km SE	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23:3
4-6km SSE	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:3
4-6km ESE	Recorded	2	Explosion	Undetermined	N/K	31-Dec, 23:33
4-6km SE	Recorded	4	Illumination flare	In vertical flight	N/K	31-Dec, 23:3
4-6km SSE	Recorded	15	Explosion	Undetermined	N/K	31-Dec, 23:3
4-6km SE	Recorded	12	Explosion	Undetermined	N/K	31-Dec, 23:3
4-6km SE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:3
4-6km SE	Recorded	4	Explosion	Undetermined	N/K	31-Dec, 23:3
4-6km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:3
4-6km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:3
4-6km SE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:3
4-6km SE	Recorded	18	Illumination flare	In vertical flight	N/K	31-Dec, 23:3
4-6km SSE	Recorded	12	Explosion	Undetermined	N/K	31-Dec, 23:3
4-6km SE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:3
4-6km SE	Recorded	6	Explosion	Undetermined	N/K	31-Dec, 23:3
4-6km SSE	Recorded	4	Explosion	Undetermined	N/K	31-Dec, 23:3
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:3
4-6km SE	Recorded	9	Explosion	Undetermined	N/K	31-Dec, 23:3
4-6km SSE	Recorded	6	Explosion	Undetermined	N/K	31-Dec, 23:3
4-6km SSE	Recorded	1	Illumination flare	In vertical flight.	N/K	31-Dec, 23:3
4-6km SE	Recorded	1	Explosion	Undetermined	N/K	31-Dec, 23:3
4-6km SSE	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:3
4-6km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:3
4-6km ESE	Recorded	2	Explosion	Undetermined	N/K	31-Dec, 23:4
4-6km SE	Recorded	19	Projectile	SW to NE	N/K	31-Dec, 23:4
4-6km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:4
4-6km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:4
4-6km SE	Recorded	4	Explosion	Undetermined	N/K	31-Dec, 23:4
4-6km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:5
4-6km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:5
4-6km SE	Recorded	4	Explosion	Undetermined	N/K	31-Dec, 23:5
4-6km SE	Recorded	4	Burst	In vertical flight. Approximately 100 rounds.	N/K	31-Dec, 23:5
4-6km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:5
4-6km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:5
4-6km SSE	Recorded	3	Explosion	Undetermined	N/K	31-Dec, 23:5
2-4km SE	Recorded	1	Burst	In vertical flight	N/K	1-Jan, 00:15
2-4km SE	Recorded	1	Explosion	Airburst	N/K	1-Jan, 00:16
2-4km SE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:16
2-4km SE	Recorded	2	Projectile	In vertical flight	N/K	1-Jan, 00:17
2-4km SSE	Recorded	1	Projectile	In vertical flight	N/K	1-Jan, 00:17
4-6km SSE	Recorded	1	Airburst		N/K	1-Jan, 00:17

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2-4km SE	Recorded	1	Projectile	In vertical flight	N/K	1-Jan, 00:18
2-4km SE	Recorded	1	Projectile	NE to SW	N/K	1-Jan, 00:18
2-4km SE	Recorded	2	Airburst	NE CW	N/K	1-Jan, 00:18
2-4km ESE	Recorded	11	Projectile	NE to SW	N/K	1-Jan, 00:23
2-4km SE	Recorded	2	Explosion	Airburst	N/K	1-Jan, 00:23
2-4km SSE	Recorded	12	Projectile	In vertical flight	N/K	1-Jan, 00:27
4-6km SSE	Recorded	2	Explosion	Undetermined	N/K	1-Jan, 00:27
2-4km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 01:10
2-4km SE	Recorded	15	Projectile	SW to NE	N/K	1-Jan, 01:10
2-4km ESE	Recorded	2	Illumination flare	In vertical flight	N/K	1-Jan, 01:11
2-4km ESE	Recorded	5	Projectile	NE to SW	N/K	1-Jan, 01:11
2-4km SE	Recorded	2	Burst		N/K	1-Jan, 00:00
2-4km ESE	Recorded	2	Illumination flare	In vertical flight	N/K	1-Jan, 00:00
4-6km SE	Recorded	2	Explosion	Undetermined	N/K	1-Jan, 00:01
2-4km SE	Recorded	1	Burst		N/K	1-Jan, 00:01
2-4km SSE	Recorded	1	Burst		N/K	1-Jan, 00:01
2-4km SE	Recorded	1	Projectile	NNE to SSW	N/K	1-Jan, 00:01
2-4km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:02
2-4km ESE	Recorded	10	Projectile	SW to NE	N/K	1-Jan, 00:02
2-4km ESE 2-4km ESE	Recorded	8	Projectile	NE to SW	N/K	1-Jan, 00:02
2-4km SSE	Recorded	1	Burst	TATE IO D AA	N/K	1-Jan, 00:02 1-Jan, 00:02
2-4kiii 33E 4-6km SE	Recorded	8	Explosion	Undetermined	N/K	1-Jan, 00:02
2-4km ESE	Recorded	5	Projectile	NE to SW	N/K	1-Jan, 00:03
2-4km SSE	Recorded	1	Projectile	In vertical flight	N/K	1-Jan, 00:03
4-6km SE	Recorded	5	Explosion	Undetermined	N/K	1-Jan, 00:03
2-4km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:04
2-4km ESE	Recorded	1	Projectile	NE to SW	N/K	1-Jan, 00:04
2-4km SE	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 00:05
2-4km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:05
2-4km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:06
4-6km SE	Recorded	2	Explosion	Undetermined	N/K	1-Jan, 00:06
2-4km SSE	Recorded	14	Projectile	In vertical flight	N/K	1-Jan, 00:07
4-6km ESE	Recorded	3	Illumination flare	In vertical flight	N/K	1-Jan, 00:07
4-6km SE	Recorded	3	Explosion	Undetermined	N/K	1-Jan, 00:07
2-4km SE	Recorded	1	Burst		N/K	1-Jan, 00:08
4-6km ESE	Recorded	2	Explosion	Undetermined	N/K	1-Jan, 00:08
4-6km SE	Recorded	4	Explosion	Undetermined	N/K	1-Jan, 00:08
4-6km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:08
2-4km SE	Recorded	2	Illumination flare	In vertical flight	N/K	1-Jan, 00:09
4-6km SSE	Recorded	2	Explosion	Undetermined	N/K	1-Jan, 00:09
			Illumination			
2-4km ESE	Recorded	2	flare	In vertical flight	N/K	1-Jan, 00:10
2-4km SE	Recorded	1	Burst	TId., 1	N/K	1-Jan, 00:10
2-4km SE	Recorded	2	Explosion	Undetermined	N/K	1-Jan, 00:10
	Recorded	1	Projectile	WSW to ENE	N/K	1-Jan, 00:10
2-4km SE						1
4-6km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:11
2-4km SE 4-6km SSE 2-4km SE	Recorded Recorded	1 5		In vertical flight SW to NE	N/K N/K	1-Jan, 00:11 1-Jan, 00:11

	2-4km SE	Recorded	3	Projectile	WSW to ENE	N/K	1-Jan, 00:12
	4-6km SSE	Recorded	2	Explosion	Undetermined	N/K	1-Jan, 00:12
	4-6km SSE	Recorded	4	Explosion	Undetermined	N/K	1-Jan, 00:13
	4-6km SE	Recorded	2	Explosion	Undetermined	N/K	1-Jan, 00:14
	4-6km ESE	Recorded	2	Projectile	NE to SW	N/K	1-Jan, 00:14
	4-6km SSE	Recorded	6	Explosion	Undetermined	N/K	1-Jan, 00:14
SMM camera in	3-4km S	Recorded	5	Projectile	In vertical flight	N/K	31-Dec, 23:02
Berezove	3-4km SE	Recorded	6	Projectile	SW to NE	N/K	31-Dec, 23:03
(government-	3-4km SE	Recorded	11	Projectile	In vertical flight	N/K	31-Dec, 23:03
controlled, 31km	3-4km SE	Recorded	3	Burst	In vertical flight	N/K	31-Dec, 23:04
SW of Donetsk)	3-4km SE	Recorded	3	Projectile	In vertical flight	N/K	31-Dec, 23:04
	3-4km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:04
SMM camera in Chermalyk	4-5km SE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 22:49
(government- controlled, 77km S	4-5km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:22
of Donetsk)	2-4km SE	Recorded	4	Projectile	WSW to ENE	N/K	31-Dec, 23:26
	2-4km SSE	Recorded	2	Projectile	NNE to SSW	N/K	1-Jan, 00:10
	2-4km SE	Recorded	2	Projectile	NNE to SSW	N/K	1-Jan, 00:46
	2-4km SE	Recorded	1	Burst	NNE to SSW	N/K	1-Jan, 00:54
SMM camera at	400-800m S	Recorded	2	Burst	W to E	N/K	31-Dec, 17:58
Donetsk Filtration Station (15km N of	4-6km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 19:24
Donetsk)	0.5-1km S	Recorded	1	Explosion	Undetermined	N/K	31-Dec, 20:01
	300-800m SSW	Recorded	1	Projectile	NNW to SSE	N/K	31-Dec, 20:02
	300-800m S	Recorded	1	Explosion	Undetermined	N/K	31-Dec, 21:19
	0.8-1.5km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 21:28
	1-2km SSW	Recorded	1	Projectile	N to S	N/K	31-Dec, 21:30
	1-2km SSW	Recorded	4	Projectile	NW to SE	N/K	31-Dec, 21:30
	1-2km SSW	Recorded	1	Illumination flare	In vertical flight (also recorded by SMM camera in Avdiivka)	N/K	31-Dec, 22:12
	1-2km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 22:24
	1-2km SSE	Recorded	1	Illumination flare	In vertical flight (also recorded by SMM camera in Avdiivka)	N/K	31-Dec, 22:42
	2-4km SSW	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 22:57
	0.5-1km S	Recorded	1	Muzzle flash		N/K	31-Dec, 22:57
	0.5-1km S	Recorded	1	Explosion	Impact	N/K	31-Dec, 22:57
	0.5-1km S	Recorded	4	Projectile	NW to SE	N/K	31-Dec, 22:57
	0.5-1km SSE	Recorded	1	Explosion	Undetermined	N/K	31-Dec, 22:57
	0.5-1km S	Recorded	4	Explosion	Undetermined	N/K	31-Dec, 22:58
	0.5-1km S	Recorded	6	Projectile	NW to SE	N/K	31-Dec, 22:58
	300-800m S	Recorded	4	Muzzle flash		N/K	31-Dec, 22:59
	0.5-1km SSE	Recorded	4	Explosion	Undetermined	N/K	31-Dec, 22:59
	0.5-1km S	Recorded	6	Projectile	NW to SE	N/K	31-Dec, 22:59
	300-800m S	Recorded	4	Muzzle flash		N/K	31-Dec, 23:00
	0.8-1.5km S	Recorded	1	Burst	ESE to WNW	N/K	31-Dec, 23:00
	0.8-1.5km S	Recorded	4	Illumination flare	In vertical flight	N/K	31-Dec, 23:0
	300-800m S	Recorded	3	Muzzle flash		N/K	31-Dec, 23:0
	0.8-1.5km S	Recorded	3	Projectile	In vertical flight	N/K	31-Dec, 23:0
	0.8-1.5km S	Recorded	3	Burst	In vertical flight	N/K	31-Dec, 23:0

2-4km SSW	Recorded	1	Burst	Also recorded by SMM camera at Oktiabr mine	N/K	31-Dec, 23:02
1-2km S	Recorded	8	Projectile	ESE to WNW	N/K	31-Dec, 23:02
0.8-1.5km S	Recorded	4	Projectile	NW to SE	N/K	31-Dec, 23:02
2-4km SSW	Recorded	1	Illumination flare	In vertical flight (also recorded by SMM camera at Oktiabr mine)	N/K	31-Dec, 23:03
2-4km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:03
2-4km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:03
100-200m SSW	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:03
100-500m S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:03
1-2km SSW	Recorded	3	Projectile	In vertical flight	N/K	31-Dec, 23:03
0.8-1.5km S	Recorded	2	Projectile	NW to SE	N/K	31-Dec, 23:03
1-2km S	Recorded	4	Projectile	SE to NW	N/K	31-Dec, 23:03
			Illumination			
2-4km S	Recorded	3	flare Illumination	In vertical flight	N/K	31-Dec, 23:04
2-4km SSW 2-4km SSW	Recorded Recorded	18	flare Projectile	In vertical flight In vertical flight	N/K N/K	31-Dec, 23:04 31-Dec, 23:04
2-4KIII 55 W	Recorded	10		in vertical ingit	IN/IX	31-Dec, 23.04
2-4km SSE	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23:05
2-4km S	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:05
2-4km SSW	Recorded	7	Illumination flare	In vertical flight	N/K	31-Dec, 23:05
2-4km S	Recorded	2	Explosion	Undetermined	N/K	31-Dec, 23:05
2-4km S	Recorded	3	Burst	In vertical flight	N/K	31-Dec, 23:05
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:05
2-4km SSW	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23:06
2-4km SSW	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 23:06
300-500m SSW	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:06
2-4km S	Recorded	4	Illumination flare	In vertical flight	N/K	31-Dec, 23:07
2-4km SSW	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23:07
2-4km SSW	Recorded	15	Projectile	In vertical flight	N/K	31-Dec, 23:07
2-4km SSW	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:08
2-4km S	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23:08
2-4km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:08
2-4km SSW	Recorded	15	Projectile	In vertical flight	N/K	31-Dec, 23:08
2-4km SSW	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 23:08
300-500m S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:09
1-2km S	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:09
2-4km SSE	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 23:09
2-4km SSW	Recorded	2	Burst	In vertical flight	N/K	31-Dec, 23:09
300-800m S	Recorded	2	Muzzle flash	- · · · · · · · · · · · · · · · · · · ·	N/K	31-Dec, 23:09
2-4km SSW	Recorded	2	Burst	In vertical flight	N/K	31-Dec, 23:10
				Outgoing	N/K	31-Dec, 23:10
300-500m SSW	Recorded	1	Explosion			

300-500m SSW	Recorded	1	Projectile	NNW to SSE (subsequent to the previous event)	N/K	31-Dec, 23:1
500-800m SSE	Recorded	1	Explosion	Impact (subsequent to the previous event)	N/K	31-Dec, 23:1
1-2km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:1
2-4km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:1
2-4km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:1
2-4km SSW	Recorded	5	Projectile	In vertical flight	N/K	31-Dec, 23:1
2-4km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:1
2-4km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:1
2-4km SSW	Recorded	3	Projectile	In vertical flight	N/K	31-Dec, 23:1
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:1
300-600m SSW	Recorded	1	Muzzle flash		N/K	31-Dec, 23:1
300-700m SSW	Recorded	1	Projectile	NNW to SSE	N/K	31-Dec, 23:1
1-2km SSW	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:1
2-4km SSW	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:1
1-2km S	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:1
300-600m SSW	Recorded	2	Muzzle flash		N/K	31-Dec, 23:1
500-800m S	Recorded	1	Explosion	Impact	N/K	31-Dec, 23:1
1-2km S	Recorded	3	Projectile	SSE to NNW	N/K	31-Dec, 23:1
2-4km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:1
2-4km SSE	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 23:1
2-4km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:1
2-4km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:2
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:2
2-4km SSW	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:2
500-800m S	Recorded	3	Muzzle flash		N/K	31-Dec, 23:2
2-4km S	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:2
1-2km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:2
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:2
2-4km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:2
2-4km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:2
2-4km SSW	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:2
300-600m SSW	Recorded	1	Muzzle flash		N/K	31-Dec, 23:2
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:2
2-4km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:2
2-4km SSW	Recorded	2	Projectile	In vertical flight	N/K	31-Dec, 23:2
2-4km SSW	Recorded	2	Projectile	In vertical flight	N/K	31-Dec, 23:2
1-2km SSW	Recorded	1	Projectile	NW to SE	N/K	31-Dec, 23:3
2-4km SSW	Recorded	2	Projectile	In vertical flight	N/K	31-Dec, 23:3
2-4km SSW	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:3
2-4km SSW	Recorded	3	Explosion	Undetermined	N/K	31-Dec, 23:3

2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:31
			Illumination			
2-4km S	Recorded	1	flare	In vertical flight	N/K	31-Dec, 23:32
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:32
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:33
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:34
2-4km SSW	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:34
2-4km SSW	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:37
2-4km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:38
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:39
2-4km SSW	Recorded	1	Projectile	ESE to WNW	N/K	31-Dec, 23:41
1-2km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:42
2-4km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:43
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:43
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:45
2-4km SSE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:47
2-4km S	Recorded	3	Burst	In vertical flight	N/K	31-Dec, 23:53
2-4km S	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:53
2-4km S	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:54
2-4km S	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:55
1-2km SSW	Recorded	2	Illumination flare	In vertical flight	N/K	1-Jan, 00:00
1-2km SSW	Recorded	1	Burst	In vertical flight	N/K	1-Jan, 00:00
2-4km SSW	Recorded	2	Burst	In vertical flight	N/K	1-Jan, 00:01
2-4km SSW	Recorded	1	Muzzle flash		N/K	1-Jan, 00:01
300-600m SSW	Recorded	2	Projectile	N to S	N/K	1-Jan, 00:01
300-600m SSW	Recorded	1	Projectile	NW to SE	N/K	1-Jan, 00:01
500-800m S	Recorded	1	Explosion	Impact (subsequent to the previous event)	N/K	1-Jan, 00:01
1-2km SSW	Recorded	1	Projectile	WNW to ESE	N/K	1-Jan, 00:01
2-4km SSE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:02
0.8-1.5km S	Recorded	3	Burst	In vertical flight	N/K	1-Jan, 00:02
300-800m SSW	Recorded	10	Projectile	NW to SE	N/K	1-Jan, 00:02
0.5-1km S	Recorded	1	Explosion	Impact	N/K	1-Jan, 00:02
0.5-1km S	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 00:02
300-600m SSW	Recorded	7	Muzzle flash		N/K	1-Jan, 00:02
2-4km SSW	Recorded	3	Burst	In vertical flight	N/K	1-Jan, 00:02
0.8-1.5km S	Recorded	1	Explosion	Outgoing	N/K	1-Jan, 00:03
0.8-1.5km S	Recorded	11	Projectile	Subsequent to the previous event	N/K	1-Jan, 00:03
0.8-1.5km S	Recorded	1	Explosion	Impact (subsequent to the previous event)	N/K	1-Jan, 00:03
300-600m SSW	Recorded	7	Muzzle flash		N/K	1-Jan, 00:03
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	1-Jan, 00:03
500-800m S	Recorded	1	Explosion	Outgoing	N/K	1-Jan, 03:10
2-4km SSW	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 03:33
2-4km SSW	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 04:03
0.8-1.5km S	Recorded	15	Projectile	WNW to ESE	N/K	1-Jan, 00:04

0.8-1.5km S	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:04
0.8-1.5km S	Recorded	4	Projectile	ESE to WNW	N/K	1-Jan, 00:04
0.5-1km S	Recorded	9	Projectile	WNW to ESE	N/K	1-Jan, 00:05
0.5-1km S	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:06
0.5-1km SSE	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 00:06
0.8-1.2km SSW	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 00:06
0.5-1km S	Recorded	4	Illumination flare	In vertical flight	N/K	1-Jan, 00:07
2-4km SSW	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:07
2-4km SSW	Recorded	12	Projectile	In vertical flight	N/K	1-Jan, 00:07
300-600m SSW	Recorded	5	Muzzle flash		N/K	1-Jan, 00:07
0.8-1.5km SSE	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 00:07
500-800m S	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 00:08
500-800m S	Recorded	1	Projectile	WNW to ESE	N/K	1-Jan, 00:08
500-800m S	Recorded	1	Explosion	Impact (subsequent to the previous event)	N/K	1-Jan, 00:08
300-600m SSW	Recorded	2	Muzzle flash		N/K	1-Jan, 00:08
2-4km S	Recorded	2	Projectile	In vertical flight	N/K	1-Jan, 00:08
0.8-1.2km S	Recorded	10	Projectile	In vertical flight	N/K	1-Jan, 00:09
0.5-1km SSW	Recorded	3	Explosion	Undetermined	N/K	1-Jan, 00:10
2-4km SW	Recorded	10	Projectile	In vertical flight	N/K	1-Jan, 00:10
2-4km S	Recorded	2	Explosion	Airburst	N/K	1-Jan, 00:10
N/K S	Recorded	1	Projectile	In vertical flight	N/K	1-Jan, 00:10
2-4km SSW	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 00:10
2-4KIII 55 W	Recorded	1		Undetermined	IN/ IX	1-Jan, 00:11
2-4km SSW	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:12
2-4km SSW	Recorded	3	Projectile	In vertical flight	N/K	1-Jan, 00:12
300-600m SSW	Recorded	1	Projectile	In vertical flight	N/K	1-Jan, 00:12
1-2km SSW	Recorded	1	Explosion	Airburst	N/K	1-Jan, 00:14
300-600m SSW	Recorded	5	Muzzle flash		N/K	1-Jan, 00:14
300-600m SSW	Recorded	4	Projectile	In vertical flight	N/K	1-Jan, 00:14
300-600m SSW	Recorded	3	Muzzle flash		N/K	1-Jan, 00:15
300-600m SSW	Recorded	2	Projectile	In vertical flight	N/K	1-Jan, 00:15
2-4km SSW	Recorded	1	Projectile	In vertical flight	N/K	1-Jan, 00:15
2-3km SSW	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:16
2-4km SSW	Recorded	3	Projectile	In vertical flight	N/K	1-Jan, 00:17
1-2km SSW	Recorded	1	Projectile	In vertical flight	N/K	1-Jan, 00:18
1-2km SSW	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 00:18
1-2km SSW	Recorded	1	Projectile	In vertical flight	N/K	1-Jan, 00:18
0.5-1km S	Recorded	6	Projectile	NW to SE	N/K	1-Jan, 00:23
0.5-1km SSE	Recorded	1	Explosion	Impact	N/K	1-Jan, 00:28
0.8-1.5km S	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 01:10
0.5-1km SSW	Recorded	9	Projectile	In vertical flight	N/K	1-Jan, 01:10
0.5-1km S	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 01:11
0.5-1km S	Recorded	12	Projectile	NW to SE	N/K	1-Jan, 01:11
0.5-1km S	Recorded	5	Projectile	In vertical flight	N/K	1-Jan, 01:22
0.5-1km S	Recorded	1	Projectile	WNW to ESE	N/K	1-Jan, 03:10
0.5-1km S	Recorded	1	Explosion	Impact (subsequent to the previous event)	N/K	1-Jan, 03:10
0.8-1.5km S	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 03:10
1-2km S	Recorded	10	Projectile	NW to SE	N/K	1-Jan, 16:45
		-	J			1-Jan, 16:46

	500-800m SSW	Recorded	2	Explosion	Undetermined	N/K	1-Jan, 18:18
SMM camera 1.5km NE of Hnutove	2-4km E	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:05
government- controlled, 90km S	2-4km E	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:07
of Donetsk)	2-4km ESE	Recorded	2	Burst	In vertical flight	N/K	31-Dec, 23:08
	2-4km ESE	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 23:32
	2-4km ESE	Recorded	10	Projectile	In vertical flight	N/K	31-Dec, 23:46
	2-4km ESE	Recorded	1	Projectile	SSW to NNE	N/K	31-Dec, 00:03
	2-4km ESE	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 00:05
	2-4km ESE	Recorded	1	Projectile	SSW to NNE	N/K	31-Dec, 00:08
	2-4km ESE	Recorded	1	Explosion	Undetermined	N/K	31-Dec, 00:10
	2-4km ESE	Recorded	1	Projectile	NNE to SSW	N/K	31-Dec, 00:10
	2-4km E	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 00:46
	2-4km ESE	Recorded	8	Projectile	N to S	N/K	31-Dec, 00:55
	2-4km ENE	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 23:10
SMM camera at	2-4km ENE	Recorded	10	Projectile	In vertical flight	N/K	31-Dec, 23:11
entry-exit	2-4km E	Recorded	5	Projectile	In vertical flight	N/K	31-Dec, 23:14
checkpoint in	2-4km ENE	Recorded	1	Projectile	NNW to SSE	N/K	31-Dec, 23:44
Hnutove (government-	2-4km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:59
controlled, 84km S	2-4km ESE	Recorded	1	Projectile	NNW to SSE	N/K	1-Jan, 00:06
of Donetsk)	2-4km ESE	Recorded	1	Projectile	In vertical flight	N/K	1-Jan, 00:08
SMM camera in	1-3km E	Recorded	1	Explosion	Undetermined	N/K	31-Dec, 18:07
Hranitne	2-4km E	Recorded	1	Projectile	S to N	N/K	31-Dec, 21:09
(government-	2-4km ESE	Recorded	1	Projectile	SW to NE	N/K	31-Dec, 21:10
controlled, 60km S	2-4km E 2-4km E	Recorded	1	Explosion	Undetermined	N/K	31-Dec, 21:32
of Donetsk)	2-4km ESE	Recorded	1	Projectile	N to S	N/K	31-Dec, 21:44
	2-4km E 2-4km E	Recorded	1	Projectile	S to N	N/K	31-Dec, 21:44
	3-5km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:12
	1-3km ESE	Recorded	2	Projectile	In vertical flight	N/K	31-Dec, 23:14
	3-5km ESE	Recorded	18	Projectile	In vertical flight	N/K	31-Dec, 23:15
	1-3km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:20
	1-3km ESE	Recorded	6	Burst	In vertical flight.	N/K	31-Dec, 23:24
	2-4km ESE	Recorded	1	Projectile	NNE to SSW	N/K	1-Jan, 03:22
	2-4km E	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 03:39
	2-4km E	Recorded	2	Projectile	S to N	N/K	1-Jan, 03:39
	2-4km E	Recorded	1	Projectile	NW to SE	N/K	1-Jan, 03:39
	2-4km E	Recorded	1	Projectile	S to N	N/K	1-Jan, 04:26
	4-6km E	Recorded	1	Projectile	NNW to SSE	N/K	1-Jan, 04:26
SMM camera in	2-4km ESE	Recorded	1	Illumination	In vertical flight	N/K	31-Dec, 23:07
Krasnohorivka (government- controlled, 21km W	2-4km E	Recorded	1	flare Illumination flare	In vertical flight	N/K	31-Dec, 23:08
of Donetsk)	2-4km ESE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:14
	2-4km SE	Recorded	1	Burst	In vertical flight	N/K	1-Jan, 00:09
	2-4km SE	Recorded	5	Projectile	In vertical flight	N/K	1-Jan, 00:11
	2-4km E	Recorded	2	Projectile	In vertical flight	N/K	1-Jan, 00:11
	3-5km SE	Recorded	5	Explosion	Undetermined	N/K	1-Jan, 16:54
	3-5km SE	Recorded	2	Explosion	Undetermined	N/K	1-Jan, 16:56
SMM camera at	1-3km ENE	Recorded	20	Projectile	NW to SE	N/K	31-Dec, 20:32
entry-exit	1-3km ENE	Recorded	3	Projectile	NW to SE	N/K	31-Dec, 20:32 31-Dec, 20:37
checkpoint in			1				
Maiorsk	1-3km E	Recorded	16	Burst	In vertical flight	N/K HMG	31-Dec, 23:04
(government-	1-3km ENE	Recorded		Projectile	NW to SE	HMG	31-Dec, 23:12
	1-3km ENE	Recorded	1	Projectile	NW to SE	N/K	31-Dec, 23:41

controlled, 45km	1-3km E	Recorded	1	Burst	In vertical flight	N/K	1-Jan, 00:30
NE of Donetsk)	2-4km E	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:38
	2-4km ESE	Recorded	1	Burst	In vertical flight	N/K	1-Jan, 00:50
	2-4km ESE	Recorded	1	Burst	In vertical flight	N/K	1-Jan, 01:13
	2-4km ESE	Recorded	1	Projectile	In vertical flight	N/K	1-Jan, 01:27
SMM camera at entry-exit	1-3km NNW	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 20:38
checkpoint in	2-4km NNE	Recorded	1	Explosion	Undetermined	N/K	31-Dec, 21:37
Marinka government- controlled, 23km	2-4km NNE	Recorded	1	Burst	Also recorded by SMM camera in Krasnohorivka	N/K	31-Dec, 23:02
SW of Donetsk)	2-4km NNE	Recorded	3	Projectile	Also recorded by SMM camera in Krasnohorivka	N/K	31-Dec, 23:02
	2-4km NNE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:02
	2-4km NNE	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:03
	2-4km NNE	Recorded	7	Burst	Also recorded by SMM camera in Krasnohorivka	N/K	31-Dec, 23:05
	2-4km NNE	Recorded	5	Projectile	Also recorded by SMM camera in Krasnohorivka	N/K	31-Dec, 23:05
	2-4km NNE	Recorded	1	Burst	Also recorded by SMM camera in Krasnohorivka	N/K	31-Dec, 23:06
	2-4km NNE	Recorded	1	Burst	Also recorded by SMM camera in Krasnohorivka	N/K	31-Dec, 23:11
	2-4km NNE	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23:12
	2-4km N	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:13
	2-4km NNE	Recorded	1	Burst	Also recorded by SMM camera in Krasnohorivka	N/K	31-Dec, 23:32
	2-4km NNE	Recorded	1	Burst	Also recorded by SMM camera in Krasnohorivka	N/K	31-Dec, 23:33
	2-4km NNE	Recorded	2	Burst	Also recorded by SMM camera in Krasnohorivka	N/K	31-Dec, 23:35
	2-4km NNE	Recorded	2	Burst	Also recorded by SMM camera in Krasnohorivka	N/K	31-Dec, 23:42
	2-4km NNE	Recorded	1	Burst	Also recorded by SMM camera in Krasnohorivka	N/K	31-Dec, 23:45
	2-4km N	Recorded	7	Burst	Also recorded by SMM camera in Krasnohorivka	N/K	31-Dec, 23:47
	2-4km NNE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:59
	2-4km NNE	Recorded	2	Burst	In vertical flight.	N/K	1-Jan, 00:00
	2-4km NNE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:00
	2-4km NNE	Recorded	1	Burst	In vertical flight	N/K	1-Jan, 00:01
	2-4km N	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:01
	2-4km NNE	Recorded	4	Projectile	In vertical flight	N/K	1-Jan, 00:01
	2-4km NNE	Recorded	5	Projectile	In vertical flight	N/K	1-Jan, 00:03

	2-4km N	Recorded	1	Projectile	In vertical flight	N/K	1-Jan, 00:03
			1	Illumination			
	2-4km NNE	Recorded	5	flare	In vertical flight	N/K	1-Jan, 00:03
	2-4km NNE	Recorded	18	Projectile	W to E	N/K	1-Jan, 00:04
	2-4km NNE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:04
	2-4km NNE	Recorded	3	Projectile	In vertical flight	N/K	1-Jan, 00:04
	2-4km NNE	Recorded	3	Burst	In vertical flight	N/K	1-Jan, 00:05
	2-4km N	Recorded	4	Illumination flare	In vertical flight	N/K	1-Jan, 00:05
	2-4km N	Recorded	22	Projectile	In vertical flight	N/K	1-Jan, 00:05
	2-4km N	Recorded	1	Burst	In vertical flight	N/K	1-Jan, 00:06
	2-4km NNW	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:06
	3-5km NNE	Recorded	1	Projectile	SW to NE	N/K	1-Jan, 00:06
	3-5km NNE	Recorded	1	Projectile	SW to NE	N/K	1-Jan, 00:07
	2-4km NNE	Recorded	1	Projectile	SW to NE	N/K	1-Jan, 00:08
	3-5km NNE	Recorded	3	Illumination flare	In vertical flight	N/K	1-Jan, 00:08
	2-4km N	Recorded	2	Illumination flare	In vertical flight	N/K	1-Jan, 00:12
	2-4km N	Recorded	3	Illumination flare	In vertical flight	N/K	1-Jan, 00:13
	2-4km NNE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:13
	2-4km NNE	Recorded	1	Burst	In vertical flight	N/K	1-Jan, 00:13
	2-4km N	Recorded	3	Illumination flare	In vertical flight	N/K	1-Jan, 00:14
	2-4km NNE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:15
	2-4km NNE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:16
	2-4km NNE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:17
	2-4km NNE	Recorded	1	Illumination flare	In vertical flight	N/K	1-Jan, 00:19
	3-5km NNE	Recorded	12	Projectile	NE to SW	N/K	1-Jan, 00:19
	2-4km NNE	Recorded	1	Burst	In vertical flight	N/K	1-Jan, 00:35
	2-4km NNE	Recorded	1	Burst	In vertical flight	N/K	1-Jan, 00:39
SMM camera at	2-4km NE	Recorded	6	Projectile	WNW to ESE	N/K	1-Jan, 00:00
Oktiabr mine (non-	4-6km NE	Recorded	2	Burst	In vertical flight	N/K	1-Jan, 00:00
government- controlled, 9km NW	4-6km NE	Recorded	2	Illumination flare	In vertical flight	N/K	1-Jan, 00:00
of Donetsk city	4-6km NE	Recorded	3	Burst	In vertical flight	N/K	1-Jan, 00:01
centre)	4-6km NE	Recorded	1	Projectile	WNW to ESE	N/K	1-Jan, 00:01
	4-6km NE	Recorded	1	Explosion	Impact (subsequent to the previous event)	N/K	1-Jan, 00:01
	4-6km NE	Recorded	2	Burst	In vertical flight	N/K	1-Jan, 00:04
	2-4km NE	Recorded	9	Projectile	WNW to ESE	N/K	1-Jan, 00:04
	2-4km NE	Recorded	1	Burst	In vertical flight.	N/K	31-Dec, 23:02
	4-6km NE	Recorded	2	Projectile	In vertical flight.	N/K	31-Dec, 23:03
	4-6km NE	Recorded	2	Illumination flare	In vertical flight	N/K	31-Dec, 23:03
	4-6km NE	Recorded	3	Burst	In vertical flight	N/K	31-Dec, 23:04
	4-6km NE	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:04
	4-6km NE	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 23:05
	4-6km NE	Recorded	1	Projectile	In vertical flight	N/K	31-Dec, 23:05
	4-6km NE	Recorded	2	Burst	In vertical flight	N/K	31-Dec, 23:06
	4-6km NE	Recorded	1	Burst	In vertical flight	N/K	31-Dec, 23:07
	7-OKIII INE	Recolucu	1	Duist	in vertical iligit	14/15	31-1000, 23.07

	4-6km NE	Recorded	2	Burst	In vertical flight	N/K	31-Dec, 23:08
	4-6km NE	Recorded	2	Burst	In vertical flight	N/K	31-Dec, 23:09
	4-6km NE	Recorded	2	Burst	In vertical flight	N/K	31-Dec, 23:10
	2-4km NE	Recorded	2	Projectile	WNW to ESE	N/K	31-Dec, 23:11
	4-6km NE	Recorded	4	Burst	In vertical flight	N/K	31-Dec, 23:13
	4-6km NE	Recorded	7	Burst	In vertical flight	N/K	31-Dec, 23:53
Central railway	2km N	Heard	4	Burst		HMG	1-Jan, 11:42
station in Donetsk city (non- government-	3km SW	Heard	1	Explosion	Undetermined	N/K	1-Jan, 11:47
controlled, 6km NW of Donetsk city centre)	3-4km N	Heard	1	Explosion	Undetermined	N/K	1-Jan, 12:08
Trudivski area of Donetsk city's Petrovskyi District	2km W	Heard	1	Shot		Small arms	1-Jan, 09:37
(non-government- controlled, 15km SW of Donetsk city centre)	2km W	Heard	1	Shot		Small arms	1-Jan, 09:42
Railway station in Yasynuvata (non-	1.5km W	Heard	7	Explosion	Undetermined	N/K	1-Jan, 12:50- 12:55
government- controlled, 16km NE of Donetsk)	2km W	Heard	3	Shot		Small arms	1-Jan, 12:50- 12:55
1.2 of Donotok)	1.5km WSW	Heard	2	Explosion	Undetermined	N/K	1-Jan, 12:58- 12:59
	2-3km WSW	Heard	3	Burst		Small arms	1-Jan, 12:58- 12:59
	1-2km W	Heard	1	Burst		Small arms	1-Jan, 13:16
	1-2km N	Heard	1	Shot		Small arms	1-Jan, 13:25
About 1km N of Zaichenko (non- government- controlled, 93km S of Donetsk)	N/K W	Heard	1	Explosion	Undetermined	N/K	1-Jan, 11:38
Svitlodarsk	3-5km NW	Heard	4	Explosion	Undetermined	N/K	31-Dec, 22:52
(government-	3-5km NW	Heard	3	Burst		HMG	31-Dec, 22:52
controlled, 57km	3-5km NW	Heard	3	Explosion	Undetermined	N/K	31-Dec, 22:59
NE of Donetsk)	3-5km NW	Heard	2	Explosion	Undetermined	N/K	31-Dec, 23:05
	3-5km NW	Heard	4	Burst		HMG	31-Dec, 23:05
	3-5km NW	Heard	20	Burst		HMG	31-Dec, 23:59
	3-5km NW	Heard	8	Explosion	Undetermined	N/K	31-Dec, 23:59
	3-5km NW	Heard	2	Explosion	Undetermined	N/K	1-Jan, 15:04
	3-5km NW	Heard	3	Burst		Small arms	1-Jan, 15:04
Kadiivka (formerly Stakhanov, non- government- controlled, 50km W of Luhansk)	10-15km W	Heard	3	Explosion	Undetermined	N/K	31-Dec, 21:05 21:10
SE edge of Kalynove (non- government controlled, 60km W of Luhansk)	2-4km WSW	Heard	12	Burst		HMG	1-Jan, 10:13- 10:15
N edge of disengagement area near Zolote (government- controlled, 60km W of Luhansk)	2-4km NNE	Heard	1	Burst	Assessed as outside the disengagement area	HMG	1-Jan, 12:55

SMM camera at Prince Ihor Monument SE of Stanytsia Luhanska bridge (15km NE of	2-3km WNW	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:01
Luhansk)	2-3km WNW	Recorded	1	Burst	Assessed as outside the disengagement area	N/K	31-Dec, 23:35
SMM camera on Stanytsia Luhanska oridge (15km NE of Luhansk)	7-9km SW	Recorded	5	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:02
	7-9km SW	Recorded	13	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:03
	7-9km SW	Recorded	8	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:04
	7-9km SW	Recorded	8	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:05
	7-9km SW	Recorded	4	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:06
	7-9km SW	Recorded	6	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:07
	7-9km SW	Recorded	9	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:08
	7-9km SW	Recorded	7	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:09
	7-9km SW	Recorded	8	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:10
	7-9km SW	Recorded	5	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:12
	7-9km SW	Recorded	2	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:13

7-9km SW	Recorded	5	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:14
7-9km SW	Recorded	6	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:15
7-9km SW	Recorded	3	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:16
7-9km SW	Recorded	5	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:17
7-9km SW	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:18
7-9km SW	Recorded	4	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:19
7-9km SW	Recorded	6	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:20
7-9km SW	Recorded	7	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:21
7-9km SW	Recorded	4	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:22
7-9km SW	Recorded	2	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:24
7-9km SW	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:25
7-9km SW	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:26
7-9km SW	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:28

7-9km SW	Recorded	4	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:31
7-9km SW	Recorded	2	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:32
7-9km SW	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:33
7-9km SW	Recorded	2	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:34
7-9km SW	Recorded	2	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:37
7-9km SW	Recorded	2	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:38
7-9km SW	Recorded	5	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:39
7-9km SW	Recorded	2	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:40
7-9km SW	Recorded	2	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:41
7-9km SW	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:48
7-9km SW	Recorded	2	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:45
7-9km SW	Recorded	3	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:57
7-9km SW	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 23:58

	7-9km SW	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	1-Jan, 00:01
	7-9km SW	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	1-Jan, 00:05
	7-9km SW	Recorded	1	Illumination flare	In vertical flight (assessed as outside the disengagement area)	N/K	1-Jan, 00:06
SMM camera in Zolote (government- controlled, 60km W of Luhansk)	4-6km SSE	Recorded	6	Explosion	In vertical flight (assessed as outside the disengagement area)	N/K	31-Dec, 20:52
	4-6km SSE	Recorded	6	Explosion	Undetermined (assessed as outside of the disengagement area)	N/K	31-Dec, 20:59
	4-6km SE	Recorded	1	Illumination flare	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 21:26
	4-6km ESE	Recorded	1	Explosion	Undetermined (assessed as outside of the disengagement area)	N/K	31-Dec, 22:20
	4-6km S	Recorded	2	Burst	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:00
	2-4km ENE	Recorded	1	Explosion	Undetermined (assessed as outside of the disengagement area)	N/K	31-Dec, 23:04
	2-4km ENE	Recorded	2	Projectile	NW to SE (assessed as outside of the disengagement area)	N/K	31-Dec, 23:04
	2-4km ENE	Recorded	4	Projectile	NW to SE (assessed as outside of the disengagement area)	N/K	31-Dec, 23:04
	2-4km ENE	Recorded	3	Projectile	NW to SE (assessed as outside of the disengagement area)	N/K	31-Dec, 23:05
	2-4km ENE	Recorded	1	Explosion	Undetermined (assessed as outside of the disengagement area)	N/K	31-Dec, 23:05

2-4km ENE	Recorded	9	Projectile	W to E (assessed as outside of the disengagement area)	N/K	31-Dec, 23:05
2-4km NE	Recorded	1	Burst	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:05
2-4km ENE	Recorded	7	Projectile	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:05
2-4km E	Recorded	1	Projectile	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:06
2-4km E	Recorded	1	Burst	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:06
2-4km E	Recorded	1	Projectile	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:06
4-6km SE	Recorded	1	Illumination flare	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:08
4-6km SE	Recorded	1	Illumination flare	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:12
2-4km E	Recorded	8	Projectile	SW to NE (assessed as outside of the disengagement area)	N/K	31-Dec, 23:13
2-4km ENE	Recorded	4	Explosion	Undetermined (assessed as outside of the disengagement area)	N/K	31-Dec, 23:13
4-6km SE	Recorded	1	Illumination flare	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:30
4-6km SE	Recorded	1	Illumination flare	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:35
2-4km NE	Recorded	1	Explosion	Undetermined (assessed as outside of the disengagement area)	N/K	31-Dec, 23:41

2-4km NE	Recorded	2	Explosion	Undetermined (assessed as outside of the disengagement area)	N/K	31-Dec, 23:42
2-4km E	Recorded	1	Illumination flare	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:49
4-6km SE	Recorded	1	Illumination flare	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:55
2-4km ENE	Recorded	1	Illumination flare	In vertical flight (assessed as outside of the disengagement area)	N/K	31-Dec, 23:59
2-4km ENE	Recorded	4	Illumination flare	In vertical flight (assessed as outside of the disengagement area)	N/K	1-Jan, 00:00
2-4km ENE	Recorded	25	Projectile	In vertical flight (assessed as outside of the disengagement area)	N/K	1-Jan, 00:00
2-4km ENE	Recorded	6	Projectile	NW to SE (assessed as outside of the disengagement area)	N/K	1-Jan, 00:00
2-4km E	Recorded	9	Projectile	In vertical flight (assessed as outside of the disengagement area)	N/K	1-Jan, 00:00
2-4km ENE	Recorded	2	Projectile	NW to SE (assessed as outside of the disengagement area)	N/K	1-Jan, 00:01
2-4km E	Recorded	6	Projectile	In vertical flight (assessed as outside of the disengagement area)	N/K	1-Jan, 00:01
2-4km ESE	Recorded	1	Projectile	In vertical flight (assessed as outside of the disengagement area)	N/K	1-Jan, 00:01
2-4km E	Recorded	2	Illumination flare	In vertical flight (assessed as outside of the disengagement area)	N/K	1-Jan, 00:01
2-4km ENE	Recorded	1	Illumination flare	In vertical flight (assessed as outside of the disengagement area)	N/K	1-Jan, 00:09

	3-5km ESE	Recorded	1	Illumination flare	In vertical flight (assessed as outside of the disengagement area)	N/K	1-Jan, 17:51
SMM camera in	4-5km SSW	Recorded	4	Burst	In vertical flight.	N/K	31-Dec, 23:00
Kriakivka (government- controlled, 38km NW of Luhansk)	4-5km SSW	Recorded	3	Illumination flare	In vertical flight	N/K	31-Dec, 23:00
	4-5km SSW	Recorded	1	Illumination flare	In vertical flight	N/K	31-Dec, 23:01
	4-5km SSW	Recorded	6	Burst	In vertical flight.	N/K	31-Dec, 23:01
SMM camera in Chermalyk	1-3km E	Recorded	4	Burst	NNW to SSE	N/K	1-Jan, 20:38
(government- controlled, 77km S of Donetsk)	1-3km E	Recorded	5	Projectile	NNW to SSE	N/K	1-Jan, 20:39
SMM camera at	0.5-1km SSE	Recorded	1	Projectile	E to W	N/K	1-Jan, 21:10
Donetsk Filtration	0.5-1km SSE	Recorded	2	Muzzle flash		N/K	1-Jan, 21:10
Station (15km N of Donetsk)	1-3km SSW	Recorded	1	Illumination flare	In vertical flight	N/K	2-Jan, 17:38
SMM camera 1.5km	3-5km ESE	Recorded	1	Projectile	NNE to SSW	N/K	2-Jan, 01:11
NE of Hnutove	3-5km ESE	Recorded	1	Projectile	NNE to SSW	N/K	2-Jan, 01:12
(government-	3-5km ESE	Recorded	2	Projectile	SW to NE	N/K	2-Jan, 01:12
controlled, 90km S of Donetsk)	3-5km ESE	Recorded	1	Projectile	In vertical flight	N/K	2-Jan, 01:13
of Donetsk)	3-5km ESE	Recorded	1	Projectile	SW to NE	N/K	2-Jan, 01:13
SMM camera in	1-3km ESE	Recorded	6	Projectile	WNW to ESE	N/K	2-Jan, 00:30
Hranitne	1-3km E	Recorded	6	Projectile	SSW to NNE	N/K	2-Jan, 00:30
(government-	1-3km E	Recorded	3	Projectile	SSW to NNE	N/K	2-Jan, 00:31
controlled, 60km S of Donetsk)	2-4km E	Recorded	1	Explosion	Undetermined	N/K	2-Jan, 00:54
SMM camera at	1-3km NNE	Recorded	1	Muzzle flash		N/K	1-Jan, 22:29
entry-exit	1-3km NNE	Recorded	1	Projectile	WSW to ENE	N/K	1-Jan, 22:29
checkpoint in Marinka	1-3km N	Recorded	1	Explosion	Undetermined	N/K	1-Jan, 22:30
(government- controlled, 23km SW of Donetsk)	1-3km NNE	Recorded	1	Explosion	Airburst	N/K	1-Jan, 22:30
About 3km SW of central railway	1-2km NW	Heard	5	Burst		Small arms	2-Jan, 11:40
station in Donetsk city (non- government-	1-2km NW	Heard	7	Shot		Small arms	2-Jan, 11:45
controlled, 6 km	1-3km NW	Heard	5	Shot		Small arms	2-Jan, 11:47
NW of Donetsk city centre)	1-3km NW	Heard	3	Burst		HMG	2-Jan, 11:48
	1-2km NW	Heard	10	Shot		Small arms	2-Jan, 11:50
	4-5km NW	Heard	1	Explosion	Undetermined	N/K	2-Jan, 11:59
About 1km NW of the railway station in Yasynuvata (non- government- controlled, 16 km NE of Donetsk)	2-3km NNW	Heard	3	Shot		Small arms	2-Jan, 09:05
Railway station in Yasynuvata (non- government- controlled, 16 km NE of Donetsk)	1km W	Heard	1	Shot		Small arms	2-Jan, 13:23
About 1km E of Kruta Balka (non- government- controlled, 16 km N of Donetsk)	1-2km NNW	Heard	6	Shot		Small arms	2-Jan, 11:20

Oleksandrivka (non- government- controlled, 20 km SW of Donetsk)	1km WSW	Heard	1	Shot		Small arms	2-Jan, 13:20
Novotroitske (government- controlled, 36km SW of Donetsk)	3-4km NE	Heard	5	Burst		Small arms	2-Jan, 11:00- 11:01
About 1km N of Zaichenko (non- government- controlled, 93km S of Donetsk)	2-3km WNW	Heard	2	Shot		Small arms	2-Jan, 11:10
2km E of Bezimenne (non-	1-3km N	Heard	1	Shot		Small arms	2-Jan, 12:17
government- controlled, 100km S	2-3km WNW	Heard	6	Shot		Small arms	2-Jan, 12:34- 12:50
of Donetsk)	2-3km WNW	Heard	1	Explosion	Undetermined	N/K	2-Jan, 12:34- 12:50
About 5km N Horlivka (non- government- controlled, 39 km NE of Donetsk)	2-3km NE	Heard	3	Burst		HMG	2-Jan, 09:22
Horlivka (non- government- controlled, 39km NE of Donetsk)	4-6km NW	Heard	1	Explosion	Undetermined	N/K	2-Jan, 16:35
About 500m NE of Kamianka (government- controlled, 20km N of Donetsk)	3-5km NE	Heard	3	Shot		Small arms	2-Jan, 11:03
SMM camera in Stanytsia Luhanska (government- controlled, 16km NE of Luhansk)	4-6km W	Recorded	6	Explosion	Undetermined (assessed as outside the disengagement area)	N/K	1-Jan, 22:47