

Table 1: Peaceful Nuclear Explosions in the Former Soviet Union, 1965–1988⁽¹⁾

No.	Date Year-Mo-Da	Time (hr:mn:sec)	Latitude (°N)	Longitude (°E)	Depth (m)	m_b (P)	Yield (kt)	Name
001	1965-Mar-30	08:00:00	52.9	56.5	1375	-	4.6	Butane 1-1
002	1965-Jun-10	07:00:00	52.9	56.5	1350	-	7.6	Butane 1-2
003	1966-Apr-22	02:58:00.26	47.829	47.935	161	4.7	1.1	Azgir A-1
004	1966-Sep-30	05:59:51.0	38.968	64.517	1532	5.1	30.0	Urtabulak
005	1967-Oct-06	06:59:57.5	57.70	65.20	172	4.7	0.3	Tawda
006	1968-May-21	03:59:11.98	38.918	65.032	2440	5.4	47.0	Pamuk
007	1968-Jul-01	04:02:00.5	47.909	47.912	597	5.5	27.0	Azgir A-2-1
008	1969-Sep-02	04:59:58.61	57.220	55.393	1212	4.8	7.6	Grifon-1
009	1969-Sep-08	04:59:58.70	57.220	55.417	1208	4.8	7.6	Grifon-2
010	1969-Sep-26	06:59:58.14	45.848	42.600	712	5.6	10.0	Stavropol
011	1969-Dec-06	07:02:59.85	43.867	54.800	407	5.8	30.0	Mangishlak-1
012	1970-Jun-25	04:59:55.5	52.20	55.70	702	4.9	2.3	Magistral
013	1970-Dec-12	07:00:59.83	43.85	54.80	497	6.0	80.0	Mangishlak-2
014	1970-Dec-23	07:00:59.76	44.025	54.933	470	6.0	75.0	Mangishlak-3
015	1971-Mar-23	06:59:58.38	61.40	56.20	127	5.5	45.0	Taiga
016	1971-Jul-02	17:00:01.13	67.283	63.467	542	4.7	2.3	Globe-4
017	1971-Jul-10	17:00:01.38	64.167	55.267	465	5.2	2.3	Globe-3
018	1971-Sep-19	11:00:01.08	57.508	42.643	610	4.5	2.3	Globe-1
019	1971-Oct-04	10:00:00.14	61.358	48.092	595	4.6	2.3	Globe-2
020	1971-Oct-22	05:00:01.0	51.60	54.45	1140	5.2	15.0	Sapphire-1
021	1971-Dec-22	06:59:59.0	47.897	48.133	986	6.0	64.0	Azgir A-3-1
022	1972-Apr-11	06:00:01.92	37.35	62.05	1720	4.9	15.0	Krater
023	1972-Jul-09	07:00:01.25	49.80	35.40	2483	4.8	3.8	Fakel
024	1972-Aug-20	03:00:00.01	49.400	48.142	489	5.7	6.6	Region-3
025	1972-Sep-04	07:00:00	67.75	33.10	131	4.6	2.1	Dnepr-1
026	1972-Sep-21	09:00:00.31	52.118	52.068	485	5.0	2.3	Region-1
027	1972-Oct-03	09:00:00.18	46.853	44.938	485	5.6	6.6	Region-4
028	1972-Nov-24	09:00:00.04	51.990	51.867	675	4.5	2.3	Region-2
029	1972-Nov-24	10:00:00.23	51.842	64.210	423	5.2	6.6	Region-5
030	1973-Aug-15	02:00:00.02	42.775	67.408	600	5.3	6.3	Meridian-3
031	1973-Aug-28	03:00:00.04	50.527	68.323	395	5.2	6.3	Meridian-1
032	1973-Sep-19	03:00:00.18	45.758	67.825	615	5.1	6.3	Meridian-2
033	1973-Sep-30	05:00:00.35	51.65	54.55	1145	5.2	10.0	Sapphir-2
034	1973-Oct-26	05:59:59.5	53.65	55.40	2026	4.8	10.0	Kama-2
035	1974-Jul-08	05:59:59.95	53.70	55.10	2123	4.6	10.0	Kama-1
036	1974-Aug-14	15:00:00.19	68.903	75.823	534	5.4	7.6	Horizon-2
037	1974-Aug-29	15:00:00.39	67.085	62.625	583	5.0	7.6	Horizon-1
038	1974-Oct-02	01:00:01.06	66.10	112.65	98	4.6	1.7	Crystal
039	1975-Apr-25	05:00:00	47.909	47.912	600	4.7	0.35	Azgir A-2-2
040	1975-Aug-12	15:00:00.60	70.763	126.953	496	5.1	7.6	Horizon-4
041	1975-Sep-29	11:00:00.43	69.578	90.337	834	4.8	7.6	Horizon-3
042	1976-Mar-29	07:00:00.23	47.897	48.133	986	4.3	10.0	Azgir A-3-2
043	1976-Jul-29	05:00:00.5	47.870	48.150	1000	5.9	58.0	Azgir A-4
044	1976-Nov-05	03:59:59.98	61.458	112.860	1522	5.3	15.0	Oka

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No.	Date Year-Mo-Da	Time (hr:mn:sec)	Latitude (°N)	Longitude (°E)	Depth (m)	m_b (P)	Yield (kt)	Name
045	1977-Jul-26	17:00:00.22	69.575	90.375	850	5.0	15.0	Meteorite-2
046	1977-Aug-10	22:00:00.10	50.955	110.983	494	5.0	8.5	Meteorite-5
047	1977-Aug-20	22:00:00.78	64.108	99.558	600	5.0	8.5	Meteorite-3
048	1977-Sep-10	16:00:00.18	57.251	106.551	550	4.8	7.6	Meteorite-4
049	1977-Sep-30	06:59:58.43	47.897	48.161	1500	5.0	10.0	Azgir A-5
050	1977-Oct-14	06:59:59.10	47.909	47.912	600	-	0.1	Azgir A-2-3
051	1977-Oct-30	06:59:59.07	47.909	47.912	600	-	0.01	Azgir A-2-4
052	1978-Aug-09	18:00:00.79	63.678	125.522	567	5.6	22.0	Kraton-4
053	1978-Aug-24	18:00:00.35	65.925	112.338	577	5.1	22.0	Kraton-3
054	1978-Sep-12	04:59:58.49	47.909	47.912	600	-	0.08	Azgir A-2-5
055	1978-Sep-21	15:00:00.19	66.598	86.210	886	5.2	15.0	Kraton-2
056	1978-Oct-08	00:00:00.0	61.55	112.85	1545	5.2	15.0	Wyatka
057	1978-Oct-17	04:59:59.06	47.850	48.120	1040	5.8	74.0	Azgir A-7
058	1978-Oct-17	14:00:00.16	63.185	63.432	593	5.5	22.0	Kraton-1
059	1978-Nov-30	07:59:59.14	47.909	47.912	600	-	0.06	Azgir A-2-6
060	1978-Dec-18	07:59:58.5	47.860	48.160	630	5.9	103.0	Azgir A-9
061	1979-Jan-10	08:00:00	47.909	47.912	600	5.0	0.5	Azgir A-2-7
062	1979-Jan-17	07:59:58.5	47.920	48.120	995	6.0	68.5	Azgir A-8
063	1979-Jul-14	04:59:58.0	47.880	48.120	849	5.6	21.0	Azgir A-11
064	1979-Aug-12	18:00:00.21	61.803	122.430	982	4.9	8.5	Kimberlite-4
065	1979-Sep-06	18:00:00.31	64.110	99.562	599	4.9	8.5	Kimberlite-3
066	1979-Sep-16	09:00:00	48.2	38.3	903	3.3	0.3	Cleavage
067	1979-Oct-04	16:00:00.03	60.675	71.455	837	5.4	22.0	Kimberlite-1
068	1979-Oct-07	21:00:00.22	61.85	113.10	1545	5.0	15.0	Sheksna
069	1979-Oct-24	05:59:59.0	47.850	48.140	915	5.8	33.0	Azgir A-10
070	1980-Jun-16	06:00:00	52.9	56.5	1400	-	3.2	Butane 2-1
071	1980-Jun-25	06:00:00	52.9	56.5	1390	-	3.2	Butane 2-2
072	1980-Oct-08	06:00:00.29	46.757	48.275	1050	5.2	8.5	Vega-1
073	1980-Nov-01	13:00:00.42	60.80	97.55	720	5.2	8.0	Batholith-1
074	1980-Dec-10	07:00:00.06	61.75	66.75	2485	4.6	15.0	Angara
075	1981-May-25	05:00:00.32	68.20	53.50	1511	5.5	37.6	Pyrite
076	1981-Sep-02	03:59:59.99	60.60	55.70	2088	4.4	3.2	Helium-1
077	1981-Sep-26	05:00:00.28	46.790	48.313	1050	5.2	8.5	Vega 2-1
078	1981-Sep-26	05:03:59.94	46.771	48.304	1050	5.3	8.5	Vega 2-2
079	1981-Oct-22	14:00:00.36	63.80	97.55	581	5.1	8.5	Shpat-2
080	1982-Jul-30	21:00:00.00	53.80	104.15	554	5.0	8.5	Rift-3
081	1982-Sep-04	18:00:00.06	69.20	81.65	960	5.3	16.0	Rift-1
082	1982-Sep-25	18:00:00.18	64.35	91.80	554	5.2	8.5	Rift-4
083	1982-Oct-10	05:00:00.23	61.55	112.85	1502	5.3	15.0	Neva-1
084	1982-Oct-16	06:00:00.15	46.759	48.247	947	5.2	8.5	Vega 3-1
085	1982-Oct-16	06:05:00.08	46.752	48.258	991	5.2	8.5	Vega 3-2
086	1982-Oct-16	06:10:00.10	46.766	48.288	1100	5.2	8.5	Vega 3-3
087	1982-Oct-16	06:15:00.17	46.760	48.300	1057	5.4	13.5	Vega 3-4
088	1983-Jul-10	03:59:59.99	51.363	53.306	907	5.3	15.0	Lira 1-1
089	1983-Jul-10	04:04:59.94	51.367	53.327	917	5.3	15.0	Lira 1-2
090	1983-Jul-10	04:09:59.85	51.380	53.340	841	5.3	15.0	Lira 1-3
091	1983-Sep-24	05:00:00.03	46.783	48.315	1050	5.2	8.5	Vega 4-1

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No.	Date Year-Mo-Da	Time (hr:mn:sec)	Latitude (°N)	Longitude (°E)	Depth (m)	m_b (P)	Yield (kt)	Name
092	1983-Sep-24	05:05:00.03	46.788	48.297	1050	5.1	8.5	Vega 4-2
093	1983-Sep-24	05:10:00.08	46.767	48.310	920	5.0	8.5	Vega 4-3
094	1983-Sep-24	05:15:00.14	46.749	48.303	1100	5.2	8.5	Vega 4-4
095	1983-Sep-24	05:19:59.93	46.754	48.289	950	5.4	8.5	Vega 4-5
096	1983-Sep-24	05:25:00.00	46.766	48.274	1100	5.3	8.5	Vega 4-6
097	1984-Jul-21	02:59:59.81	51.358	53.319	846	5.4	15.0	Lira 2-1
098	1984-Jul-21	03:04:59.71	51.371	53.337	955	5.3	15.0	Lira 2-2
099	1984-Jul-21	03:09:59.85	51.391	53.351	844	5.4	15.0	Lira 2-3
100	1984-Aug-11	19:00:00.20	65.05	55.10	759	5.3	8.5	Quartz-2
101	1984-Aug-25	19:00:00.33	61.90	72.10	726	5.3	8.5	Quartz-3
102	1984-Aug-27	06:00:00.05	67.75	33.00	175	4.7	3.4	Dnepr 2
103	1984-Aug-28	02:59:59.84	60.30	57.10	2065	4.4	3.2	Helium 2-1
104	1984-Aug-28	03:04:59.90	60.70	57.50	2075	4.4	3.2	Helium 2-2
105	1984-Sep-17	21:00:00.03	55.834	87.526	557	5.0	10.0	Quartz-4
106	1984-Oct-27	06:00:00.10	46.90	48.15	1000	5.0	3.2	Vega 5-1
107	1984-Oct-27	06:05:00.00	46.95	48.10	1000	5.0	3.2	Vega 5-2
108	1985-Jun-18	04:00:00.11	60.6	72.7	2860	-	2.5	Benzene
109	1985-Jul-18	21:15:00.29	65.994	41.038	772	5.1	8.5	Agate
110	1987-Apr-19	04:00:00.01	60.60	57.20	2015	4.5	3.2	Helium 3-1
111	1987-Apr-19	04:04:59.98	60.80	57.50	2055	4.5	3.2	Helium 3-2
112	1987-Jul-07	00:00:00.0	61.50	112.85	1502	5.1	15.0	Neva 2-1
113	1987-Jul-24	02:00:00.0	61.45	112.80	1515	5.1	15.0	Neva 2-2
114	1987-Aug-12	01:30:00.5	61.45	112.80	815	5.0	3.2	Neva 2-3
115	1987-Oct-03	15:15:00.03	47.60	56.20	1002	5.3	8.5	Batholith-2
116	1988-Aug-22	16:20:00.07	66.280	78.491	829	5.3	15.0	Ruby-2
117	1988-Sep-06	16:19:59.94	61.361	48.092	820	4.8	8.5	Ruby-1

(¹) Former Soviet Union carried out 117 Peaceful Nuclear Explosions during 1965–1988.

Date and Time=origin time of the tests given in Sultanov et al. (1999). Sultanov, D. D., J.R. Murphy and Kh.D. Rubinstein, A seismic source summary for Soviet peaceful nuclear explosions, *Bulletin of the Seismological Society of America*, **89**, 640-647, 1999.

Latitude and Longitude=location the tests given in Sultanov et al. (1999);

$m_b(P)$ =body-wave magnitude of the tests given in Sultanov et al. (1999);

Yield=the total effective energy released in a nuclear explosion. It is usually expressed in terms of equivalent tonnage of TNT required to produce the same energy release in an explosion.

kt=a kiloton. The energy of a nuclear explosion that is equivalent the explosive power of 1,000 tons of TNT.

Precision of the origin time is indicated by their decimal points (whole second or one hundredth of a second). Location accuracies are also indicated by the decimal points.