

Local Earthquakes Recorded by Polish Seismic Stations 2004

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1. General information

The majority of seismic events recorded in Poland are caused by mining activity in the Upper Silesian Coal Basin and Lubin Copper Basin. Induced seismicity is observed less frequently in the Rybnik Coal District and Bełchatów Open-Pit Mining area.

The year 2004 was exceptional due to the occurrence of tectonic earthquakes, which even caused a slight, mainly non-structural damage to buildings. On November 30, 2004, an earthquake of local magnitude $M = 4.4$, macroseismic intensity $I_0 = 7$ in the EMS scale, followed by a long series of aftershocks occurred in the southern margin of the intramontane Orawa-Nowy Targ Basin, Western Carpathians (Guterch 2006). On September 21, 2004, earthquakes of local magnitudes $M = 5.0$, 5.3 , and 4.3 were observed in the Sambia Peninsula, western part of the Kaliningrad enclave, Russia. Two strongest Kaliningrad earthquakes were widely felt in northeastern Poland. The Kaliningrad earthquakes are rare examples of intraplate earthquakes in the low-seismic area.

Eight seismic stations were in operation in 2004 at the Institute of Geophysics, Polish Academy of Sciences: Górka Klasztorna (GKP), Kalwaria Paławska (KWP), Książ (KSP), Niedzica (NIE), Ojców (OJC), Racibórz (RAC), Suwałki (SUW) and Warszawa (WAR). Station parameters are given in Table 1. The location of seismic stations operated by the Institute of Geophysics and by research centers associated with coal mining (Katowice, Bełchatów) and copper mining (Lubin) is presented in Fig. 1.

Table 1

Seismic stations – site information and equipment

Station	Location	Date of opening	Current equipment		Foundation
			Seismometers	DAS	
GKP – Górka Klasztorna	53.2697 N 17.2367 E 115 m	Jun 2004	STS-2 (VBB)	MK-6	Post-glacial sediments
KSP – Książ	50.8428 N 16.2931 E 353 m	Jan 1971	STS-2 (VBB) BB-13 (BB) GS-13 (SP) SM-3 (SP)	MK-6 MK-2 MK-2 analogue	Consolidated sandstone, Lower Carboniferous
KWP – Kalwaria Pałacowska	49.6314 N 22.7075 E 448 m	Jun 1999	STS-2 (VBB)	Quanterra	Carpathian Flysh
NIE – Niedzica	49.4189 N 20.3131 E 649 m	May 1960	SM-3 (SP)	MK-5	Limestone
OJC – Ojców	50.2196 N 19.7984 E 391 m	Sep 1991	STS-2 (VBB) GS-13 (SP) SM-3 (SP)	MK-6 MK-2 analogue	Limestone
RAC – Racibórz	50.0833 N 18.1942 E 209 m	Jan 1948*	KIRNOS (LP) SM-3 (SP)	MK-5 MK-5	Alluvial sands and clay
SUW – Suwałki	54.0125 N 23.1808 E 152 m	Nov 1995	STS-2 (VBB)	Quanterra	Post-glacial sediments
WAR – Warszawa	52.2417 N 21.0236 E 110 m	Jan 1939	STS-2 (VBB)	MK-6	Alluvial sands and clay

Seismometers: SP – short-period, LP – long-period, BB – broadband, VBB – very broadband
 Data acquisition system (DAS): Quanterra Q380 – in cooperation with GEOFON network;
 MK-2, MK-5, and MK-6 described by Wiszniowski (2002)

* Date of reactivation after the World War II

The bulletin contains a list of local earthquakes which occurred in 2004 in Poland. The full description of each earthquake contains: epicentral location (ϕ , λ), time of origin (H), local magnitude (M). The location of events listed in this bulletin is given in Fig. 2. For comparison, location of the same events done by NEIC is presented in Fig. 3.

Magnitudes of all earthquakes listed in this bulletin are based on spectral method. This method allows conversion of the recorded ground particle velocities into ground particle displacements. The modified FFT method has been applied, for which

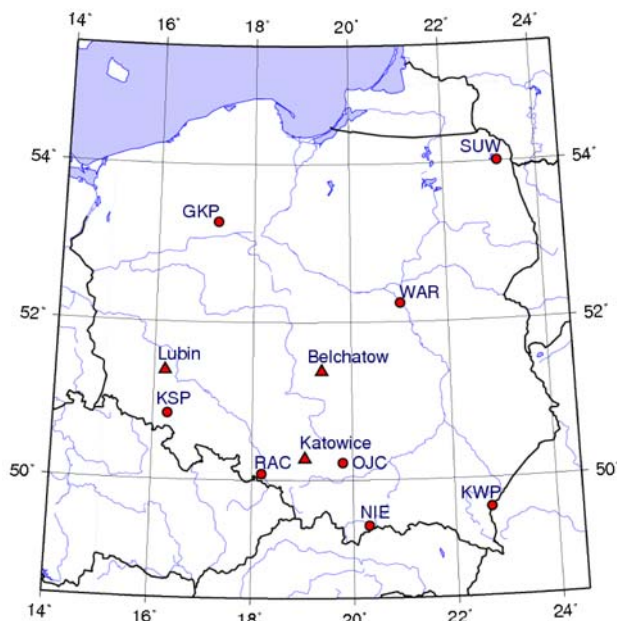


Fig. 1. Seismic stations operated by the Institute of Geophysics, Polish Academy of Sciences (●), and local seismic networks operated by mines (▲).

a multitaper method (Thomson 1982, Park *et al.* 1987) has been used instead of a single taper window. The multitaper method allows for a better and more reliable evaluation of spectrum. The scaling of the calculated spectra has been done using Parseval's theorem for every applied window separately (Niewiadomski 1997). The low frequency spectral level has been used to calculate seismic moment and magnitude (Brune 1970). In order to accelerate magnitude calculation a simple neural network is applied. The network takes filtered and averaged amplitudes of P-wave velocity records as the input data. The training was done on the basis of known examples of several hundred seismograms, where network's weight corrections were calculated by spectral method (Niewiadomski 2000). The performance of the applied neural networks for magnitude calculation is the same as that of multitaper method. The seismic source radiation pattern is not homogeneous, and it is why the magnitudes calculated by different seismic stations are not the same. Average values of magnitudes are presented in the bulletin.

2. Interpretation of P and S waves

In light of results provided by seismic refraction and wide angle reflection experiment CELEBRATION 2000 (Guterch *et al.* 2003), interpretation of seismic waves recorded in Poland at regional distances, between about 180 km and 600 km, should be revised. Seismic record sections of profile CEL05 (Grad *et al.* 2006), the longest seismic profile in Central Europe, extending from the East European Craton

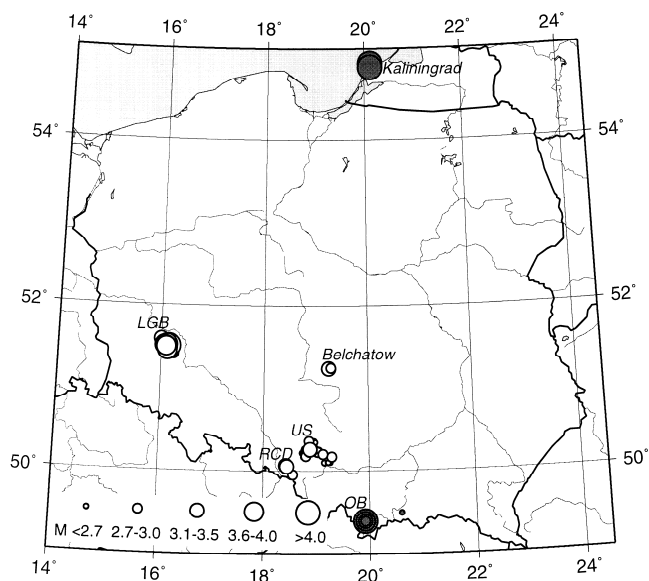


Fig. 2. Epicentres of earthquakes recorded in 2004 by Polish seismic network. ○ – mining induced seismic events: the Upper Silesia Coal Basin (US), Rybnik Coal District (RCD), Lubin-Głogów Copper Basin (LGB), and Belchatów Open-Pit Mining area. ● – tectonic earthquakes recorded in the Orawa-Nowy Targ Basin (OB), Western Carpathians and Sambia Peninsula, Kaliningrad enclave of Russia.

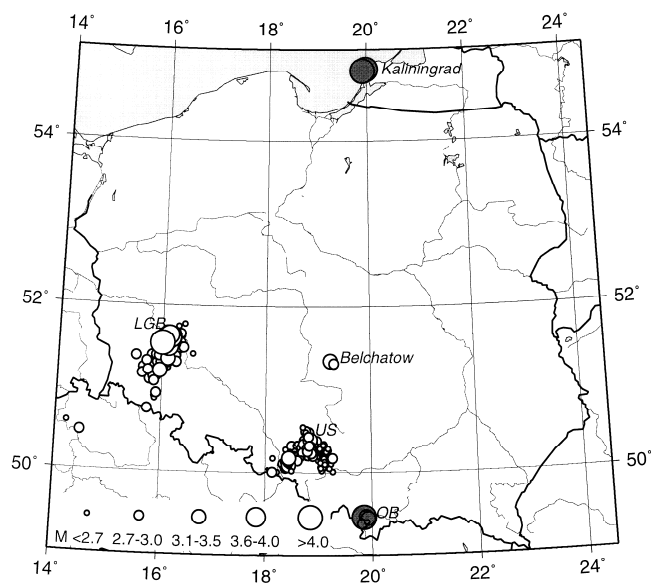


Fig. 3. Epicentres of earthquakes recorded in 2004 by NEIC. ○ – mining induced seismic events: the Upper Silesia Coal Basin (US), Lubin-Głogów Copper Basin (LGB), and Belchatów Open-Pit Mining area. ● – tectonic earthquakes recorded in the Orawa-Nowy Targ Basin (OB), Western Carpathians and Sambia Peninsula, Kaliningrad enclave of Russia.

across the Trans European Suture Zone, Carpathians, to the Panonian Basin, were chosen for travel time comparison. Although the lithosphere structures along seismic ray ways traveling between every source–station positions are different, the main pattern of seismic field of P and S waves, derived from profile CEL05, can be used as the unique source of information, especially for S waves.

Generally, at regional distances of more than about 180 km, the direct Pg wave does not occur in first arrivals and follows the Pn wave. First arrivals of Pn waves are weak and have been recorded in Poland only for earthquakes with magnitude $M > 2.7$. According to record sections along profile CEL05, Pn is usually followed by much stronger reflected wave from the Moho, PmP, or twice reflected wave from the Moho, PmPPmP. These waves are interpreted as Pg in routine seismic bulletins according to the Jeffreys–Bullen or Herrin travel times, available for distances up to about 800 km. Pg waves at these distances, according to record sections of profile CEL05, are too weak to be recorded and are overlaid by much dynamically stronger PmP and PmPPmP waves. At distances of more than about 450–460 km, the P wave, i.e., the lithospheric wave, should be recorded in first arrivals. The same concerns, in general, the S waves. The Sn wave is followed according to CEL05 data by much stronger wave SmS reflected from the Moho, interpreted in routine seismic bulletins according to Jeffreys–Bullen and Herrin travel times as Sg. Wave Sg is too weak to be recorded according to the CEL05 travel sections. At distances of more than 450–460 km, the S wave, i.e., the lithospheric wave, should be recorded in first S arrivals.

Time differences between the first arrivals of Pn and the following waves PmP, PmPPmP, Sn, SmS according to CEL05 data and average time differences between the first arrivals of Pn wave and Pg, Sn, Sg interpreted according to Jeffreys–Bullen travel times for Lubin–Głogów events recorded by a few Polish stations are given in Table 2. It seems that at regional distances of more than about 180 km the onsets interpreted as Pg and Sg phases are probably arrivals of waves PmP, or PmPPmP and SmS i.e. reflected from the Moho. Examples of such interpretation for Lubin–Głogów event recorded by OJC at a distance of 296 km and Kaliningrad earthquake recorded by GKP at a distance of 280 km are presented in Figs. 4 and 5, respectively.

The interpretation of phases given in the bulletin is made according to Jeffreys–Bullen and Herrin travel times. Only for earthquakes near Kaliningrad on September 21, 2004, and in the Orawa Basin, Western Carpathians in November and December 2004 suggested interpretation of waves PmP/PmPPmP and SmS instead of Pg and Sg is done.

3. Induced seismicity

Out of several thousand of seismic events induced by mining in Poland each year, only those with magnitude $M > 2.6$ for the Lubin–Głogów Copper Basin and with $M > 2.0$ for the Upper Silesia Coal Basin and Rybnik Coal District are listed in this bulletin. Occasionally, quakes of lower magnitude for the Lubin–Głogów Copper Basin have been given if the event was recorded by the NEIC Monthly Listing.

Table 2

Time differences between the first arrivals of Pn and the following waves PmP, PmPPmP, Sn, SmS, SmSSmS according to CEL05 data and average time differences between first arrivals of Pn wave and Pg, Sn, Sg waves interpreted according to Jeffreys–Bullen travel times for Lubin-Głogów events, recorded by RAC, OJC, NIE, KWP, and SUW. CEL – CEL05 data after Grad *et al.* (2006), OBS – recorded by seismic stations

Distance [km]		215	300	380	515	555
Time differences Δt [s]	(PmP – Pn) CEL	1.6	3.4	–	–	–
	(PmPPmP – Pn/P) CEL	–	9.1	10.4	12.6	–
	(Pg– Pn) OBS	RAC 3-4.5	OJC 8.5-10	NIE 9.5-10	KWP 12-15	SUW 18-22
	(Sn – Pn) CEL	25.6	32.6	39.6	–	–
	(S – P) CEL	–	–	–	52.5	55.4
	(Sn – Pn) OBS	RAC 23- 25	OJC 30-33	–	KWP 48-55	SUW 55-59
	(SmS – Pn) CEL	27.4	41.6	–	–	–
	(SmSSmS – Pn/P) CEL	–	48.6	57.9	74.8	–
	(Sg – Pn) OBS	RAC 29-31	OJC 43-45	NIE 54-57	KWP 75-87	–

3.1 Upper Silesia and Rybnik Coal District

Epicentral location of Upper Silesian and Rybnik Coal District earthquakes was made by the Central Mining Institute in Katowice. Only if such data were missing, the coordinates were estimated at the Institute of Geophysics. The epicenters determined at the Central Mining Institute are labelled (GIG). The other two source parameters, the time of origin and magnitude, are determined at the Institute of Geophysics. The origin times are based on the Pg and Sg arrivals recorded at stations OJC, NIE, KSP, and RAC. Seismic events with magnitude $M > 2.4$ recorded in the Upper Silesia and Rybnik Coal District in 2004 are presented in Fig. 6.

3.2 Lubin-Głogów Copper Basin

Epicentral locations of tremors from the Lubin-Głogów Copper Basin were made by the Copper Mining-Metallurgical Company in Lubin on the basis of the local seismic networks at Lubin, Polkowice, Rudna and Sieroszowice mines. The average accuracy of epicenter location is about 50 m and occasionally even 20 m. Most of seismic events in the Lubin-Głogów Copper Basin occur at depths between 500 and 1000 m. The other two source parameters, the time of origin and magnitude, are determined at the Institute of Geophysics. The origin times are estimated from the arrival times of the Pg waves recorded by KSP assuming Pg velocity of 6.1 km/s.

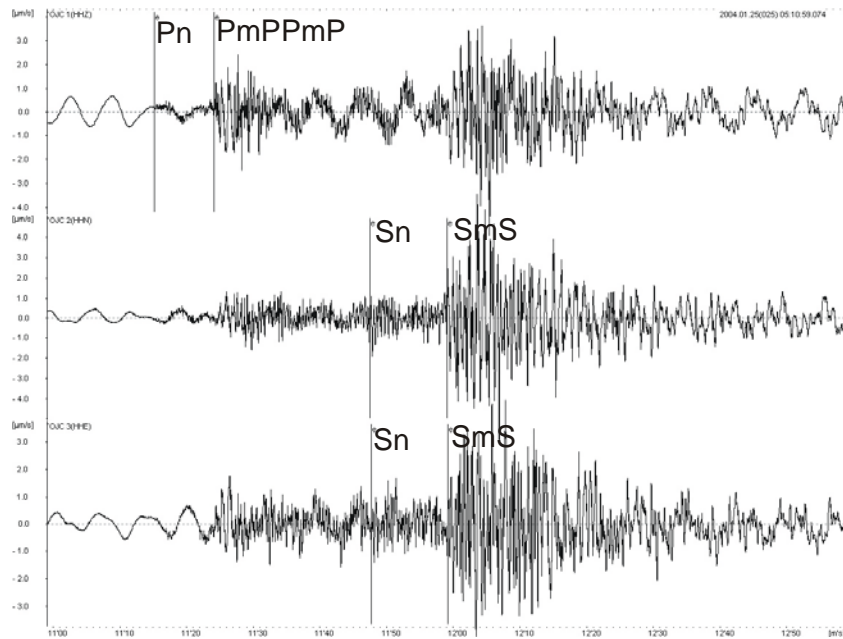


Fig. 4. Lubin-Głogów event on 25 January 2004, of $M = 3.7$ recorded by Ojców (OJC) at a distance of 297 km. PmPPmP – wave P twice reflected from Moho, SmS – wave S reflected from the Moho.

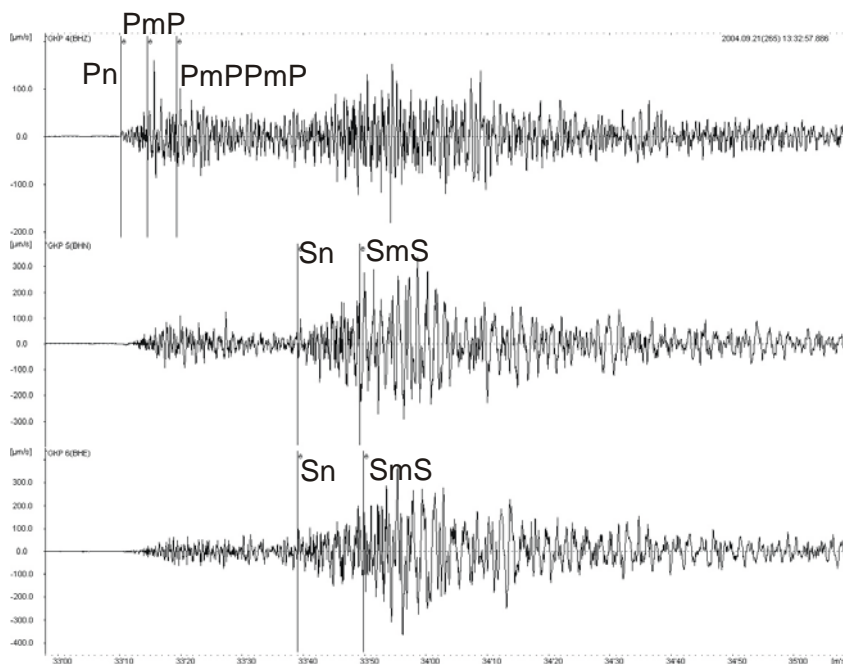


Fig. 5. Kaliningrad earthquake on 21 September 2004, of $M = 5.3$ recorded by Górká Klasztorna (GKP) at a distance of 259 km. PmP, PmPPmP – wave P once and twice reflected from the Moho. SmS – wave S reflected from the Moho.

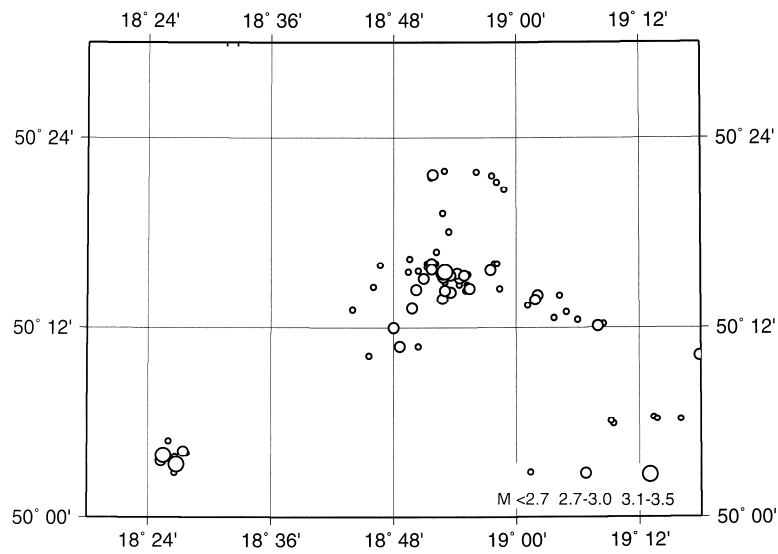


Fig. 6. Mining induced earthquakes recorded in the Upper Silesia and Rybnik Coal District in 2004. Epicentral location of earthquakes made by mining seismic networks of the Central Mining Institute in Katowice.

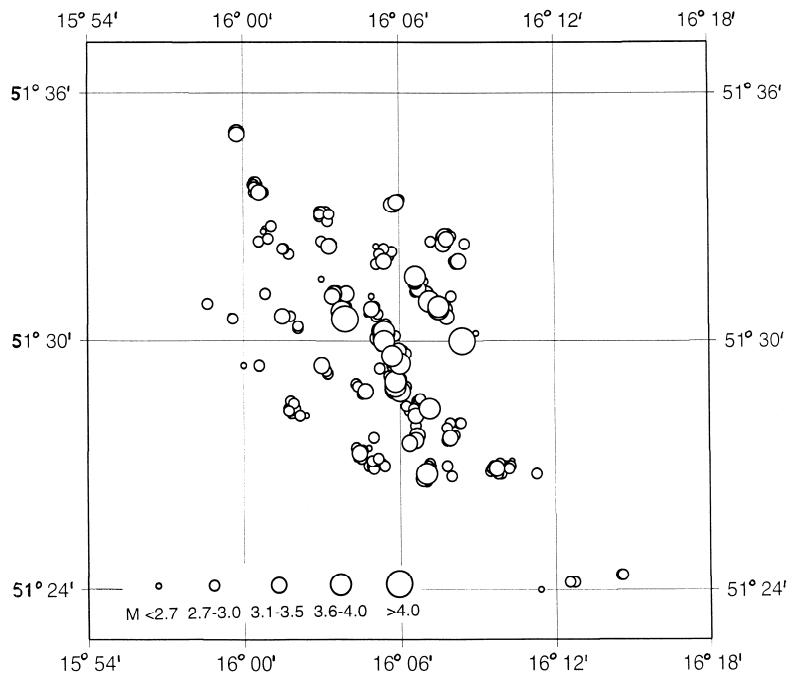


Fig. 7. Mining induced earthquakes recorded in the Lubin-Głogów Copper Basin in 2004. Epicentral location of earthquakes made by mining seismic networks of the Copper Mining-Metallurgical Company in Lubin.

Seismic events with magnitude $M > 2.7$ recorded in the Lubin-Głogów Copper Basin in 2004 are presented in Fig. 7. All these events occurred within the area of the Lubin-Głogów copper mines. Dispersion of epicentres follows NW-SE direction, the area of earthquake occurrences is about 25 km long (see also Fig. 2). NEIC epicentres of events in the Lubin-Głogów Copper Basin are widely dispersed NE-SW and could delineate an artificial seismic line, about 100 km long, in SW Poland (see Fig. 3).

A general interpretation is given of seismic waves of Lubin-Głogów events recorded by NIE and RAC, i.e., phases P and S, and occasionally phases Pn and Sn for stronger events of $M > 2.7$.

3.3 Bełchatów Open-Pit Mining area

Epicentral location and time of origin of the Bełchatów earthquakes were made at the Bełchatów Open-Pit Coal Mine on the basis of the local seismic network.

4. Local tectonic earthquakes

4.1 Orawa-Nowy Targ Basin, Western Carpathians

The series of earthquakes that began on November 30, 2004, occurred in the southern margin of the Orawa-Nowy Targ Basin, in the area where the Pieniny Klippen Belt is expected to be crossed by the Ruženberok-Mszana-Dolna deep fault (Guterch 2006). Seismic events of $M \leq 3.3$ were observed there also on September 11, 1995 (Guterch *et al.* 2005). The main earthquake of November 30, 2004 was followed by long series of aftershocks. The strongest aftershocks occurred on December 2 of $M = 3.6$, December 9 of $M = 3.4$, and in the year 2005 on January 23, January 29, and June 2 of $M = 3.1, 3.4, 3.2$, respectively. Out of 270 events, 44% occurred within 24 hours after the strongest one. The main earthquake was not preceded by any foreshocks.

Every aftershock of magnitude $M_L > 2.5$ was followed by increased seismic activity and was recorded by a sufficient number of stations to determine the epicenter data. Epicenters of seismic events were determined after records of the nearest stations in the Czech Republic, Poland and Slovakia, by Dębski *et al.* (1997) method, assuming the mean Moho depth $h = 35$ km. A dispersion of instrumental epicenters seems to be caused by location errors that reach up to 10 km for weakest events. Seismic events of $M < 2.0$ were recorded only by station NIE. Only two events, on February 18 of $M = 2.7$ and $M = 2.5$, originated from another source, about 7 km west from the epicenter of the main earthquake of November 30, 2004.

The earthquakes were mostly felt in the SE area of Czarny Dunajec bounded by the villages: Bystre Stare Górne, Czerwienne, Ratułów, Sierockie, Skrzypne Dolne, Skrzypne Górne, Ciche Dolne and Ciche Górne. On November 30, 2004, most houses in this area sustained damage of grade 1 and many of grade 2 in the EMS scale. Slight thin cracks in plaster inside and outside the houses commonly occurred. Chimneys were partly damaged in many houses, i.e., twisted and/or cracked above or below the roof, top pieces fell down. Exceptionally, a whole chimney came down. A few buildings sustained moderate structural damage of grade 2-3.

Intensities were strongly attenuated with distance and the earthquake was usually not felt 50 km from the epicenter. Only in cities such as Kraków, Zabrze and Racibórz was the earthquake felt by individuals on high floors, especially strongly if the building was located on poorly consolidated grounds or there was a high level of underground water. Macroseismic intensities are available for events of $M > 2.8$. Macroseismic epicenters are the same for the main earthquake and foreshocks, they are also given in the bulletin. The foci of earthquakes are shallow, less than 5 km, originated in the Podhale Flysch basement of the Orawa-Nowy Targ Basin. The macroseismic map in the EMS-98 scale of the main earthquake is presented in Fig. 8.

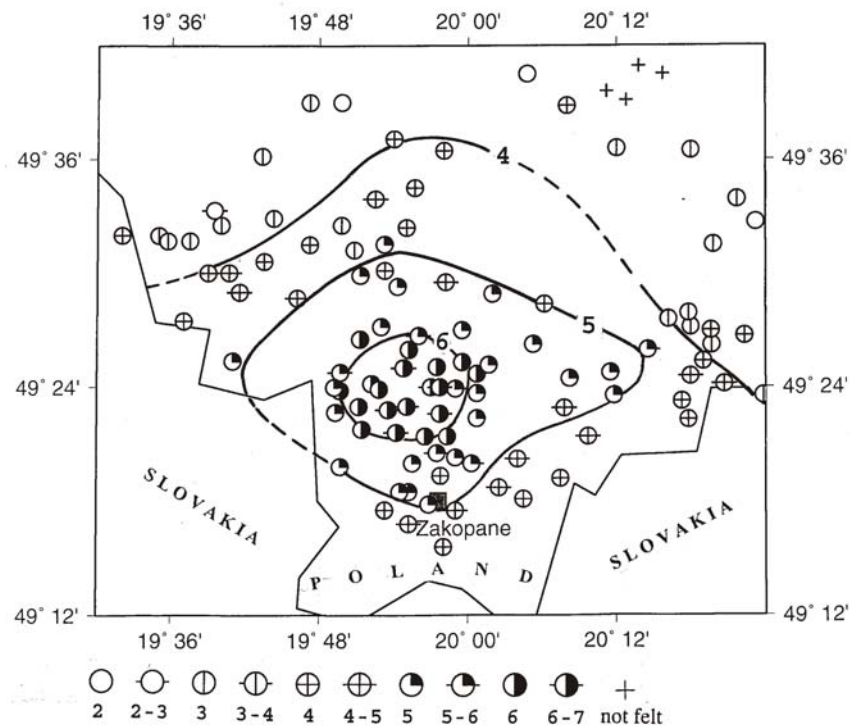


Fig. 8. Macroseismic map in the EMS-98 scale of the main earthquake in the Orawa-Nowy Targ, Western Carpathians, on November 30, 2004.

4.2 Kaliningrad earthquakes recorded in Poland on September 21, 2004

Kaliningrad earthquakes of local magnitudes $M = 5.0$ and $M = 5.3$ recorded on September 21, 2004, on 11:05 UTC and 13:32 UTC were widely felt in northeastern Poland. The second event was felt stronger, but in many cases the differences were almost negligible. It was possible to evaluate intensities for 399 localities recorded the first event, and for 569 localities recorded the second one. Negative responses arrived from 65 localities. The negative responses help to determine perceptibility area of the earthquakes south of the epicentres. Intensities recorded in Poland during both Kaliningrad earthquakes are presented in Figs. 9 and 10.

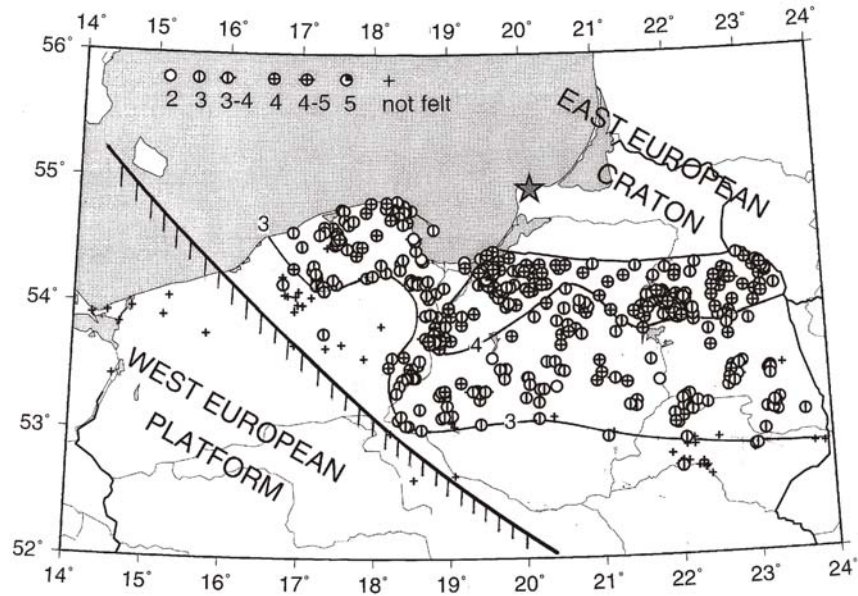


Fig. 9. Intensities of the Kaliningrad earthquake of $M = 5.0$ recorded in Poland on September 21, 2004 at 11:05 UTC. Intensity values in the EMS-98 scale, the Trans European Suture Zone is marked.

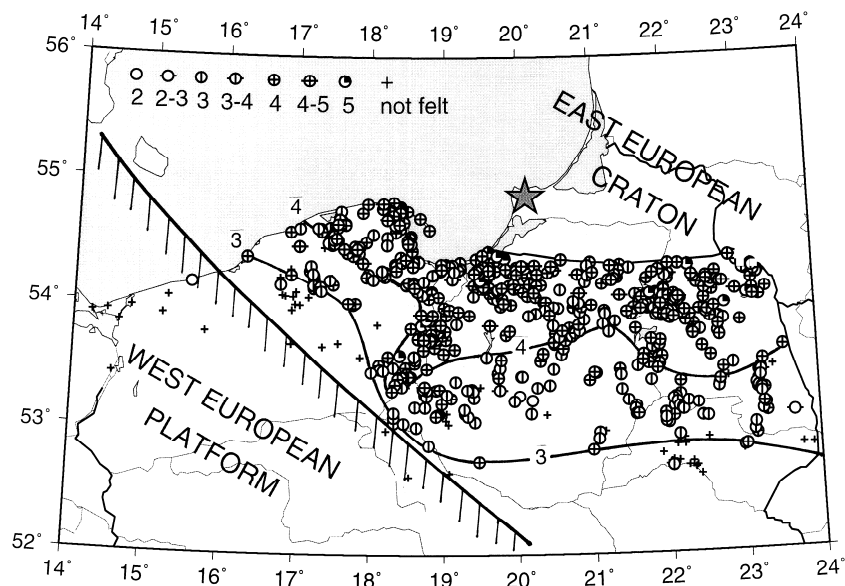


Fig. 10. Intensities of the Kaliningrad earthquake of $M = 5.3$ recorded in Poland on September 21, 2004 at 13:32 UTC. Intensity values in the EMS-98 scale, the Trans European Suture Zone is marked.

Reports about slight damage to individual or a few buildings came from 95 localities mainly in the area southwest from the epicenter. Almost all damages were non-structural, of grade 1 in the EMS scale, and sustained masonry buildings of vulnerability class A-B. The town Suwałki, at a distance of about 220 km from the epicenter, suffered most damage. The local authorities were reported about damage to 44 buildings. The majority of damage in Suwałki was also non-structural but some buildings were in good technical condition, less than 20 years old. A quite extensive damage sustained the XVII century, post Cameldolite complex located at the island of the Wigry Lake, 15 km east of Suwałki. About 120 different outside and inside cracks were found, some of the cracks were new, other were increased by the earthquakes.

In spite of some damage to buildings, the assessed macroseismic intensities reached $I = 5$ EMS only occasionally. Intensity 5 EMS is best confirmed for the strongest event at the western edge of the Polish-Russian border, the area in Poland closest to the epicenter. The earthquakes were not felt at distances of more than 200 km south of the epicenter, in central Poland, while the strongest earthquake was felt at exceptionally long distances up to 800 km north of the epicenter (Gregersen *et al.* 2005). Intensities were strongly attenuated in the edge area of the East European Craton and the earthquakes were not felt in Poland west of the Trans-European Suture Zone.

Epicenter data of the Kaliningrad earthquakes are given in the bulletin after Wiejacz (2006) for the two strongest events and after Nikonov (2004) for the third one.

The bulletin was made by Danuta Cerlica for induced earthquakes in Upper Silesia Coal Basin and by Ewa Tomaszewska in the Lubin-Głogów Copper Basin.

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Upper Silesian Coal Basin 2004

JAN 1

GIG: $\Phi = 50.234^{\circ}\text{N}$, $\lambda = 19.033^{\circ}\text{E}$
H = 16:31:13.0, M = 2.0

OJC $\Delta = 55\text{km}$
 Pg eZ 16 31 22.9
 Sg iN 31 29.8

NIE $\Delta = 130\text{km}$
 Pg eZ 16 31 36.5
 Sg eE 31 52.6

KSP $\Delta = 205\text{km}$
 Pg eNEZ 16 31 47.1
 Sg eNEZ 32 12.6

JAN 2

GIG: $\Phi = 50.234^{\circ}\text{N}$, $\lambda = 19.035^{\circ}\text{E}$
H = 17:16:31.2, M = 2.3

OJC $\Delta = 55\text{km}$
 Pg eZ 17 16 41.3
 Sg eN 16 48.7

NIE $\Delta = 129\text{km}$
 Pg eZ 17 16 54.4

KSP $\Delta = 206\text{km}$
 Pg eNEZ 17 17 05.6
 Sg eNEZ 17 30.8

JAN 2

GIG: $\Phi = 50.235^{\circ}\text{N}$, $\lambda = 19.036^{\circ}\text{E}$
H = 18:29:12.8, M = 2.2

OJC $\Delta = 55\text{km}$
 Pg eZ 18 29 22.7
 Sg eEN 29 30.0

NIE $\Delta = 130\text{km}$
 Pg eZ 18 29 36.0
 (Sg) eEZ 29 52.9

KSP $\Delta = 205\text{km}$
 Pg eNEZ 18 29 47.4
 Sg eNEZ 30 11.8

JAN 4

$\Phi = 50.27^{\circ}\text{N}$, $\lambda = 18.88^{\circ}\text{E}$
H = 14:09:24.6, M = 2.1

OJC $\Delta = 66\text{km}$
 Pg eZ 14 09 36.6
 Sg eE 09 45.0

NIE $\Delta = 140\text{km}$
 Pg eZ 14 09 48.9
 Sg eE 10 06.9

KSP $\Delta = 194\text{km}$
 Pg eNEZ 14 09 57.5
 Sg eNEZ 10 20.4

JAN 4

GIG: $\Phi = 50.264^{\circ}\text{N}$, $\lambda = 18.991^{\circ}\text{E}$
H = 16:01:33.3, M = 2.1

OJC $\Delta = 58\text{km}$
 Pg eZ 16 01 44.0
 Sg eE 01 51.6

NIE $\Delta = 134\text{km}$
 Pg eZ 16 01 57.2
 Sg eN 02 13.6

KSP $\Delta = 201\text{km}$
 Pg eNEZ 16 02 07.2
 Sg eNEZ 02 31.8

JAN 4

$\Phi = 50.37^{\circ}\text{N}$, $\lambda = 18.90^{\circ}\text{E}$
H = 21:36:36.9, M = 2.2

OJC $\Delta = 66\text{km}$
 Pg eZ 21 36 49.1
 Sg eE 36 57.3

NIE $\Delta = 146\text{km}$
 Pg eZ 21 37 03.1
 Sg eE 37 20.8

KSP $\Delta = 192\text{km}$
 Pg eNEZ 21 37 08.9
 (Sg) eNEZ 37 33.5

JAN 4

GIG: $\Phi = 50.234^{\circ}\text{N}$, $\lambda = 19.036^{\circ}\text{E}$
H = 21:44:02.7, M = 2.2

OJC $\Delta = 55\text{km}$
 Pg eZ 21 44 13.1
 Sg eN 44 20.0

NIE $\Delta = 129\text{km}$
 Pg eZ 21 44 25.2
 Sg eEN 44 42.1

KSP $\Delta = 205\text{km}$
 Pg eNEZ 21 44 37.8
 Sg eNEZ 45 01.9

JAN 6

GIG: $\Phi = 50.234^{\circ}\text{N}$, $\lambda = 19.035^{\circ}\text{E}$
H = 17:14:39.6, M = 2.3

OJC $\Delta = 55\text{km}$
 Pg iZ 17 14 49.5 C
 Sg iN 14 56.8

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NIE	$\Delta = 130\text{km}$		
	Pg eZ	17 15 02.5	
	(Sg) eN	15 19.8	
KSP	$\Delta = 205\text{km}$		
	Pg eNEZ	17 15 13.8	
	Sg eNEZ	15 38.4	
<u>JAN 7</u>			
GIG: $\Phi = 50.237^\circ\text{N}$, $\lambda = 18.919^\circ\text{E}$			
H = 02:41:36.4, M = 2.2			
OJC	$\Delta = 63\text{km}$		
	Pg eZ	02 41 47.9	
	Sg eN	41 56.0	
NIE	$\Delta = 136\text{km}$		
	Pg eZ	02 42 00.2	
	(Sg) eE	42 18.3	
KSP	$\Delta = 198\text{km}$		
	Pg eNEZ	02 42 10.3	
	Sg eNEZ	42 33.8	
<u>JAN 8</u>			
$\Phi = 50.35^\circ\text{N}$, $\lambda = 18.92^\circ\text{E}$			
H = 18:44:21.7, M = 2.3			
OJC	$\Delta = 64\text{km}$		
	Pg iZ	18 44 33.0	
	Sg eE	44 40.9	
NIE	$\Delta = 144\text{km}$		
	Pg eZ	18 44 47.4	
	Sg eE	45 05.8	
KSP	$\Delta = 194\text{km}$		
	Pg eNEZ	18 44 55.1	
	(Sg) eNEZ	45 17.0	
<u>JAN 8</u>			
GIG: $\Phi = 50.361^\circ\text{N}$, $\lambda = 18.867^\circ\text{E}$			
H = 20:35:03.8, M = 2.6			
RAC	$\Delta = 57\text{km}$		
	Pg eZ	20 35 14.7	
	Sg eNE	35 22.2	
OJC	$\Delta = 68\text{km}$		
	Pg eZ	20 35 16.3	
	(Sg) eN	35 25.7	
NIE	$\Delta = 147\text{km}$		
	Pg eZ	20 35 29.6	
	Sg eN	35 48.4	
KSP	$\Delta = 190\text{km}$		
	Pg eNEZ	20 35 35.4	
	Sg eNEZ	35 59.4	

JAN 9
GIG: $\Phi = 50.234^\circ\text{N}$, $\lambda = 19.037^\circ\text{E}$
H = 01:36:29.3, M = 2.2

OJC $\Delta = 55\text{km}$

Pg eZ	01 36 39.4
Sg eN	36 46.6

NIE $\Delta = 130\text{km}$

Pg eZ	01 36 52.6
(Sg) eE	37 09.2

KSP $\Delta = 205\text{km}$

Pg eZ	01 37 03.5
Sg eNEZ	37 28.7

JAN 10
GIG: $\Phi = 50.256^\circ\text{N}$, $\lambda = 18.882^\circ\text{E}$
H = 03:15:58.7, M = 2.9

RAC $\Delta = 53\text{km}$

Pg eZ	03 16 09.0
Sg eNE	16 16.4

OJC $\Delta = 65\text{km}$

Pg iZ	03 16 10.7 D
Sg eN	16 18.9

NIE $\Delta = 139\text{km}$

Pg eZ	03 16 22.7
Sg iN	16 40.7

KSP $\Delta = 195\text{km}$

Pn eNEZ	03 16 29.9
Pg eNEZ	16 31.7
Sg eNEZ	16 54.6

JAN 10
 $\Phi = 50.30^\circ\text{N}$, $\lambda = 19.04^\circ\text{Y}$
H = 16:31:14.8, M = 2.1

OJC $\Delta = 55\text{km}$

Pg eZ	16 31 24.6
Sg eN	31 32.2

NIE $\Delta = 134\text{km}$

Pg eZ	16 31 37.9
Sg eE	31 55.6

KSP $\Delta = 204\text{km}$

Pg eE	16 31 49.0
Sg eNEZ	32 14.4

JAN 12
GIG: $\Phi = 50.237^\circ\text{N}$, $\lambda = 19.037^\circ\text{E}$
H = 16:28:19.1, M = 2.2

OJC $\Delta = 55\text{km}$

Pg eZ	16 28 29.3
Sg iN	28 36.4

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NIE	$\Delta = 130\text{km}$		
	Pg eZ	16 28	42.3
	Sg eE	28	58.7
KSP	$\Delta = 205\text{km}$		
	Pg eE	16 28	53.5
	Sg eNEZ	29	18.3
<u>JAN 12</u>			
GIG: $\Phi = 50.235^\circ\text{N}$, $\lambda = 19.035^\circ\text{E}$			
H = 17:31:27.7, M = 2.3			
OJC	$\Delta = 55\text{km}$		
	Pg eZ	17 31	37.6
	Sg eNE	31	44.9
NIE	$\Delta = 130\text{km}$		
	Pg eZ	17 31	50.4
	Sg eN	32	07.3
KSP	$\Delta = 205\text{km}$		
	Pg eNEZ	17 32	02.0
	Sg eNEZ	32	26.5
<u>JAN 12</u>			
GIG: $\Phi = 50.234^\circ\text{N}$, $\lambda = 19.031^\circ\text{E}$			
H = 22:49:02.5, M = 2.3			
OJC	$\Delta = 55\text{km}$		
	Pg eZ	22 49	12.6
	Sg eE	49	19.9
NIE	$\Delta = 130\text{km}$		
	Pg eZ	22 49	25.4
	(Sg) eEN	49	42.7
KSP	$\Delta = 205\text{km}$		
	Pg eNEZ	22 49	37.0
	Sg eNEZ	50	01.5
<u>JAN 13</u>			
$\Phi = 50.30^\circ\text{N}$, $\lambda = 18.90^\circ\text{E}$			
H = 03:46:05.2, M = 2.3			
OJC	$\Delta = 65\text{km}$		
	Pg eZ	03 46	17.2
	Sg eN	46	25.4
NIE	$\Delta = 141\text{km}$		
	Pg eZ	03 46	30.3
	Sg eE	46	47.8
KSP	$\Delta = 194\text{km}$		
	Pg eNEZ	03 46	38.0
	Sg eNEZ	47	01.6
<u>JAN 13</u>			
GIG: $\Phi = 50.235^\circ\text{N}$, $\lambda = 19.035^\circ\text{E}$			
H = 15:47:57.7, M = 2.2			

OJC	$\Delta = 55\text{km}$		
	Pg eZ	15 48	08.0
	Sg eE	48	14.9
NIE	$\Delta = 130\text{km}$		
	Pg eZ	15 48	20.5
KSP	$\Delta = 205\text{km}$		
	Pg eE	15 48	32.3
	Sg eNEZ	48	56.8
<u>JAN 13</u>			
GIG: $\Phi = 50.245^\circ\text{N}$, $\lambda = 18.920^\circ\text{E}$			
H = 16:44:34.8, M = 2.2			
OJC	$\Delta = 63\text{km}$		
	Pg eZ	16 44	46.4
	Sg eE	44	54.1
NIE	$\Delta = 136\text{km}$		
	Pg eZ	16 44	59.3
	Sg eNE	45	16.5
KSP	$\Delta = 197\text{km}$		
	Pg eNEZ	16 45	08.1
	(Sn) eNEZ	45	28.7
	Sg eNEZ	45	31.8
<u>JAN 13</u>			
GIG: $\Phi = 49.975^\circ\text{N}$, $\lambda = 18.573^\circ\text{E}$			
H = 17:23:40.3, M = 2.4			
RAC	$\Delta = 30\text{km}$		
	Pg eZ	17 23	46.4
	Sg eNE	23	50.9
OJC	$\Delta = 91\text{km}$		
	Pg eZ	17 23	56.0
	(Sg) eE	24	07.2
NIE	$\Delta = 140\text{km}$		
	Pg eZ	17 24	04.7
KSP	$\Delta = 188\text{km}$		
	Pg eNEZ	17 24	12.2
	Sg eNEZ	24	35.2
<u>JAN 14</u>			
GIG: $\Phi = 50.234^\circ\text{N}$, $\lambda = 19.035^\circ\text{E}$			
H = 07:33:16.7, M = 2.7			
OJC	$\Delta = 55\text{km}$		
	Pg iZ	07 33	26.9
	Sg eN	33	34.2
NIE	$\Delta = 130\text{km}$		
	Pg eZ	07 33	39.8
	(Sg) eN	33	56.9

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KSP	Δ = 205km				
	Pn eNEZ	07	33	49.1	
	Pg eNEZ		33	51.4	
	Sn eNEZ		34	13.3	
	Sg eNEZ		34	16.2	
JAN 14					
GIG: φ = 50.210°N, λ = 19.083°E					
H = 15:01:43.7, M = 2.3					
OJC	Δ = 51km				
	Pg eZ	15	01	52.9	
	Sg eN		01	59.8	
NIE	Δ = 125km				
	Pg eZ	15	02	06.5	
KSP	Δ = 209km				
	Pg eE	15	02	18.7	
	Sg eNEZ		02	43.7	
JAN 15					
GIG: φ = 50.256°N, λ = 18.883°E					
H = 00:55:31.8, M = 2.3					
OJC	Δ = 66km				
	Pg eZ	00	55	44.1	
	Sg eE		55	51.7	
NIE	Δ = 139km				
	Pg eZ	00	55	55.9	
	Sg eE		56	14.0	
KSP	Δ = 194km				
	Pg eNEZ	00	56	04.6	
	Sg eNEZ		56	27.7	
JAN 15					
GIG: φ = 50.256°N, λ = 18.921°E					
H = 11:13:59.1, M = 2.5					
OJC	Δ = 62km				
	Pg eZ	11	14	10.0	
	Sg eE		14	18.0	
NIE	Δ = 137km				
	Pg iZ	11	14	24.0	
	Sg iE		14	40.0	
KSP	Δ = 197km				
	Pg eNEZ	11	14	32.0	
	Sg eNEZ		14	55.7	
JAN 15					
GIG: φ = 50.268°N, λ = 18.869°E					
H = 18:11:29.8, M = 2.5					
RAC	Δ = 52km				
	Pg eZ	18	11	39.8	
	Sg eNE		11	46.1	

OJC	Δ = 67km				
	Pg eZ	18	11	42.3	
	Sg eE		11	50.8	

NIE	Δ = 140km				
	Pg eZ	18	11	54.6	
	Sg eN		12	12.4	

KSP	Δ = 193km				
	Pn eNEZ	18	12	00.8	
	Pg eNEZ		12	02.8	
	Sg eNEZ		12	25.1	

JAN 15
GIG: φ = 50.256°N, λ = 18.882°E
H = 19:56:02.0, M = 2.2

OJC	Δ = 66km				
	Pg eZ	19	56	13.8	
	Sg eE		56	22.2	

NIE	Δ = 139km				
	Pg eZ	19	56	26.5	
	(Sg) eN		56	45.0	

KSP	Δ = 194km				
	Pg eNEZ	19	56	35.0	
	Sg eNEZ		56	58.5	

JAN 15
GIG: φ = 50.235°N, λ = 19.036°E
H = 23:08:55.0, M = 2.2

OJC	Δ = 55km				
	Pg eZ	23	09	05.2	
	Sg eN		09	12.3	

NIE	Δ = 130km				
	Pg eZ	23	09	18.4	
	Sg eE		09	34.6	

KSP	Δ = 205km				
	Pg eNEZ	23	09	29.6	
	(Sg) eNEZ		09	53.3	

JAN 16
GIG: φ = 50.070°N, λ = 18.464°E
H = 10:17:51.9, M = 2.3

RAC	Δ = 20km				
	Pg eZ	10	17	55.5	
	Sg eNE		17	58.9	

OJC	Δ = 96km				
	Pg eZ	10	18	08.3	
	Sg eE		18	21.8	

NIE	Δ = 152km				
	Pg eZ	10	18	18.1	
	Sg eN		18	37.6	

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JAN 16

GIG: $\Phi = 50.257^\circ\text{N}$, $\lambda = 18.882^\circ\text{E}$
H = 17:49:31.5, M = 2.5

RAC $\Delta = 52\text{km}$
(Pg) eZ 17 49 40.1
Sg eNE 49 47.3

OJC $\Delta = 66\text{km}$
Pg iZ 17 49 43.6 D
Sg iN 49 51.9

NIE $\Delta = 139\text{km}$
Pg eZ 17 49 55.7
Sg eE 50 13.6

KSP $\Delta = 194\text{km}$
(Pn) eNEZ 17 50 03.2
Pg eNEZ 50 04.6
Sg eNEZ 50 27.4

JAN 16

GIG: $\Phi = 50.217^\circ\text{N}$, $\lambda = 19.064^\circ\text{E}$
H = 20:57:10.9, M = 2.1

OJC $\Delta = 52\text{km}$
Pg eZ 20 57 20.4
Sg eN 57 27.6

NIE $\Delta = 127\text{km}$
Pg eZ 20 57 33.6
Sg eN 57 49.5

KSP $\Delta = 208\text{km}$
Pn eNEZ 20 57 44.0
Sg eNEZ 58 10.6

JAN 17

GIG: $\Phi = 50.237^\circ\text{N}$, $\lambda = 18.922^\circ\text{E}$
H = 17:02:46.7, M = 2.4

OJC $\Delta = 62\text{km}$
Pg eZ 17 02 57.9
Sg eE 03 06.6

NIE $\Delta = 135\text{km}$
Pg eZ 17 03 10.7
(Sg) eE 03 28.4

KSP $\Delta = 198\text{km}$
Pn eZ 17 03 18.5
Pg eNEZ 03 19.8
(Sn) eNEZ 03 42.7

JAN 19

GIG: $\Phi = 50.268^\circ\text{N}$, $\lambda = 18.967^\circ\text{E}$
H = 09:41:08.5, M = 2.3

OJC $\Delta = 60\text{km}$
Pg eZ 09 41 19.0
(Sg) eN 41 28.2

NIE $\Delta = 136\text{km}$
Pg eZ 09 41 32.5
Sg eE 41 49.5

KSP $\Delta = 199\text{km}$
Pg eNEZ 09 41 41.8
Sg eNEZ 42 05.9

JAN 19

GIG: $\Phi = 50.205^\circ\text{N}$, $\lambda = 19.100^\circ\text{E}$
H = 16:44:19.5, M = 2.3

OJC $\Delta = 49\text{km}$
Pg eZ 16 44 27.9
Sg eN 44 34.8

NIE $\Delta = 123\text{km}$
Pg eZ 16 44 41.1
Sg eE 44 57.0

KSP $\Delta = 211\text{km}$
Pg eNEZ 16 44 55.3
Sn eNEZ 45 18.8

JAN 21

$\Phi = 50.38^\circ\text{N}$, $\lambda = 19.04^\circ\text{E}$
H = 00:43:56.3, M = 2.3

OJC $\Delta = 56\text{km}$
Pg eZ 00 44 06.2
Sg eN 44 14.0

NIE $\Delta = 140\text{km}$
Pg eZ 00 44 20.9
Sg eE 44 39.3

KSP $\Delta = 201\text{km}$
Pg eNEZ 00 44 30.5
Sn eNEZ 44 52.1

JAN 21

GIG: $\Phi = 50.357^\circ\text{N}$, $\lambda = 18.971^\circ\text{E}$
H = 11:23:23.4, M = 2.2

OJC $\Delta = 61\text{km}$
Pg eZ 11 23 34.4
Sg eN 23 42.5

NIE $\Delta = 143\text{km}$
Pg eZ 11 23 49.0
Sg eE 24 06.5

KSP $\Delta = 197\text{km}$
Pg eNEZ 11 23 56.9
Sg eNZ 24 20.2

JAN 22

GIG: $\Phi = 50.237^\circ\text{N}$, $\lambda = 18.838^\circ\text{E}$
H = 01:43:56.5, M = 2.2

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OJC $\Delta = 69\text{km}$
 Pg eZ 01 44 09.4
 (Sg) eN 44 16.9

NIE $\Delta = 140\text{km}$
 Pg eZ 01 44 21.9
 Sg eE 44 39.3

KSP $\Delta = 192\text{km}$
 Pg eNEZ 01 44 28.6
 Sg eNEZ 44 52.4

JAN 22

**GIG: $\phi = 50.253^\circ\text{N}$, $\lambda = 18.881^\circ\text{E}$
 $H = 06:00:00.2$, $M = 3.0$**

RAC $\Delta = 53\text{km}$
 Pg eZ 06 00 10.6
 (Sg) eNE 00 18.0

OJC $\Delta = 65\text{km}$
 Pg iZ 06 00 12.1
 (Sg) eN 00 19.6

NIE $\Delta = 139\text{km}$
 Pg eZ 06 00 24.1
 Sg eE 00 42.5

KSP $\Delta = 195\text{km}$
 Pn eNEZ 06 00 30.8
 Pg iNEZ 00 33.3
 Sg eNEZ 00 55.9

KWP $\Delta = 282\text{km}$
 Pn eZ 06 00 42.8
 Pg eZ 00 50.2
 Sg eNE 01 27.9

JAN 23

**GIG: $\phi = 50.261^\circ\text{N}$, $\lambda = 18.881^\circ\text{E}$
 $H = 05:08:23.8$, $M = 2.1$**

OJC $\Delta = 66\text{km}$
 Pg eZ 05 08 35.2
 Sg eE 08 43.6

NIE $\Delta = 140\text{km}$
 Pg eZ 05 08 49.1
 Sg eE 09 05.8

KSP $\Delta = 194\text{km}$
 Pg eNEZ 05 08 56.2
 Sg eNEZ 09 19.4

JAN 23

**$\phi = 50.34^\circ\text{N}$, $\lambda = 18.85^\circ\text{E}$
 $H = 18:13:22.2$, $M = 2.3$**

OJC $\Delta = 69\text{km}$
 Pg eZ 18 13 34.4
 Sg eE 13 43.6

NIE $\Delta = 147\text{km}$
 Pg eZ 18 13 48.1
 Sg eE 14 06.6

KSP $\Delta = 189\text{km}$
 Pg eNEZ 18 13 53.8
 (Sg) eNEZ 14 18.1

JAN 23

**$\phi = 50.36^\circ\text{N}$, $\lambda = 18.99^\circ\text{E}$
 $H = 18:31:56.4$, $M = 2.1$**

OJC $\Delta = 60\text{km}$
 Pg eZ 18 32 07.3
 Sg eE 32 14.9

NIE $\Delta = 141\text{km}$
 Pg eZ 18 32 21.5
 Sg eE 32 38.5

KSP $\Delta = 198\text{km}$
 Pg eE 18 32 30.6
 Sg eN 32 53.2

JAN 23

**$\phi = 50.04^\circ\text{N}$, $\lambda = 18.58^\circ\text{E}$
 $H = 22:18:16.1$, $M = 2.1$**

RAC $\Delta = 28\text{km}$
 Pg eZ 22 18 22.5
 Sg eN 18 27.2

OJC $\Delta = 89\text{km}$
 Pg eZ 22 18 31.4
 Sg eN 18 43.1

NIE $\Delta = 143\text{km}$
 Pg eZ 22 18 40.6
 Sg eE 18 59.1

KSP $\Delta = 185\text{km}$
 Pn eZ 22 18 44.8
 Sg eNEZ 19 09.8

JAN 24

**GIG: $\phi = 50.049^\circ\text{N}$, $\lambda = 18.443^\circ\text{E}$
 $H = 06:57:54.3$, $M = 2.4$**

RAC $\Delta = 18\text{km}$
 Pg eZ 06 57 58.1
 (Sg) eN 58 01.4

OJC $\Delta = 98\text{km}$
 Pg eZ 06 58 11.3
 (Sg) eE 58 23.4

NIE $\Delta = 152\text{km}$
 Pg eZ 06 58 20.4
 Sg iN 58 40.6

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KSP	Δ = 176km				
	Pg eE	06	58	24.8	
	(Sg) eNEZ		58	44.6	
<u>JAN 26</u>					
GIG: φ = 50.268°N, λ = 18.964°E					
H = 06:26:39.5, M = 2.6					
OJC	Δ = 60km				
	Pg eZ	06	26	50.5	
	(Sg) eE		26	59.0	
NIE	Δ = 135km				
	Pg eZ	06	27	03.3	
	Sg eN		27	20.4	
KSP	Δ = 199km				
	Pn eNEZ	06	27	11.2	
	Pg eNEZ		27	13.2	
	Sg eNEZ		27	36.9	
<u>JAN 26</u>					
φ = 50.24°N, λ = 19.01°E					
H = 19:55:33.8, M = 2.2					
OJC	Δ = 56km				
	Pg eZ	19	55	44.0	
	Sg eE		55	51.3	
NIE	Δ = 131km				
	Pg eZ	19	55	56.7	
	Sg eN		56	13.7	
KSP	Δ = 204km				
	Pg eNEZ	19	56	08.4	
	Sg eNEZ		56	33.0	
<u>JAN 26</u>					
φ = 50.22°N, λ = 19.09°E					
H = 22:07:30.9, M = 2.2					
OJC	Δ = 50km				
	Pg eZ	22	07	40.0	
	Sg eN		07	46.6	
NIE	Δ = 126km				
	Pg eZ	22	07	52.8	
	Sg eN		08	09.1	
KSP	Δ = 210km				
	Pg eNEZ	22	08	06.6	
	Sg eNEZ		08	31.3	
<u>JAN 27</u>					
φ = 50.25°N, λ = 19.04°E					
H = 19:31:48.9, M = 2.2					
OJC	Δ = 54km				
	Pg eZ	19	31	58.7	
	Sg iN		32	05.4	

NIE	Δ = 130km				
	Pg eZ	19	32	11.6	
	Sg eE		32	28.4	

KSP	Δ = 206km				
	Pg eNEZ	19	32	23.9	
	Sg eNEZ		32	48.5	

<u>JAN 27</u>					
GIG: φ = 50.235°N, λ = 19.037°E					
H = 21:28:45.1, M = 2.0					

OJC	Δ = 55km				
	Pg iZ	21	28	55.3	
	Sg eN		29	02.2	

NIE	Δ = 130km				
	Pg eZ	21	29	08.3	
	Sg eN		29	24.6	

KSP	Δ = 205km				
	Pg eNEZ	21	29	19.6	
	Sg eNEZ		29	44.1	

<u>JAN 27</u>					
GIG: φ = 50.248°N, λ = 18.884°E					
H = 21:45:47.6, M = 2.5					

RAC	Δ = 53km				
	Pg eZ	21	45	58.1	

OJC	Δ = 65km				
	Pg iZ	21	45	59.4	
	Sg iE		46	07.9	

NIE	Δ = 138km				
	Pg eZ	21	46	12.1	
	Sg eE		46	29.4	

KSP	Δ = 195km				
	Pg eNEZ	21	46	20.9	
	Sg eNEZ		46	43.9	

<u>JAN 28</u>					
GIG: φ = 50.235°N, λ = 19.037°E					
H = 06:02:41.1, M = 2.2					

OJC	Δ = 55km				
	Pg eZ	06	02	51.2	
	Sg eE		02	58.5	

NIE	Δ = 129km				
	Pg eZ	06	03	04.2	
	Sg eE		03	20.4	

KSP	Δ = 205km				
	Pg eNEZ	06	03	15.9	
	Sg eNEZ		03	40.2	

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JAN 29

GIG: $\Phi = 50.352^\circ\text{N}$, $\lambda = 18.971^\circ\text{E}$
H = 15:08:13.3, M = 2.4

OJC $\Delta = 61\text{km}$
 Pg eZ 15 08 24.2
 Sg eN 08 32.3

NIE $\Delta = 142\text{km}$
 Pg eZ 15 08 38.6
 Sg eE 08 57.2

KSP $\Delta = 197\text{km}$
 Pg eNEZ 15 08 46.8
 Sg eNEZ 09 10.3

JAN 29

GIG: $\Phi = 50.062^\circ\text{N}$, $\lambda = 18.493^\circ\text{E}$
H = 17:49:48.4, M = 2.2

RAC $\Delta = 22\text{km}$
 Pg eZ 17 49 53.6
 Sg eNE 49 57.1

OJC $\Delta = 95\text{km}$
 Pg eZ 17 50 05.5
 Sg eN 50 17.1

NIE $\Delta = 149\text{km}$
 Pg eZ 17 50 15.5
 (Sg) eNE 50 34.5

KSP $\Delta = 178\text{km}$
 Pn eZ 17 50 16.4
 Sg eNEZ 50 39.8

JAN 30

GIG: $\Phi = 50.349^\circ\text{N}$, $\lambda = 18.964^\circ\text{E}$
H = 07:01:11.2, M = 2.2

OJC $\Delta = 61\text{km}$
 Pg eZ 07 01 22.1
 Sg iE 01 30.6

OJC $\Delta = 61\text{km}$
 Pg eZ 07 01 22.1
 Sg iE 01 30.6

NIE $\Delta = 142\text{km}$
 Pg eZ 07 01 37.0
 Sg iE 01 54.5

KSP $\Delta = 196\text{km}$
 Pg eNEZ 07 01 43.9
 Sg eNEZ 02 07.7

JAN 30

GIG: $\Phi = 50.099^\circ\text{N}$, $\lambda = 19.158^\circ\text{E}$
H = 08:01:54.7, M = 2.5

OJC $\Delta = 47\text{km}$
 Pg eZ 08 02 02.7
 Sg iEN 02 08.9

NIE $\Delta = 112\text{km}$
 (Pg) eZ 08 02 13.3
 (Sg) eE 02 29.4

KSP $\Delta = 220\text{km}$
 Pg (eNEZ) 08 02 33.1
 Sn eNEZ 02 56.4

JAN 30

GIG: $\Phi = 50.353^\circ\text{N}$, $\lambda = 18.968^\circ\text{E}$
H = 18:32:17.0, M = 2.5

OJC $\Delta = 61\text{km}$
 Pg eZ 18 32 27.6
 Sg eE 32 35.7

NIE $\Delta = 142\text{km}$
 Pg eZ 18 32 42.1
 Sg eN 33 00.3

KSP $\Delta = 197\text{km}$
 Pg eNEZ 18 32 49.7
 Sg eNEZ 33 14.5

JAN 30

GIG: $\Phi = 50.252^\circ\text{N}$, $\lambda = 18.849^\circ\text{E}$
H = 23:00:08.9, M = 2.5

RAC $\Delta = 51\text{km}$
 Pg eZ 23 00 18.7
 Sg eN 00 25.6

OJC $\Delta = 67\text{km}$
 Pg eZ 23 00 20.9
 Sg eE 00 29.5

NIE $\Delta = 140\text{km}$
 Pg eZ 23 00 33.1
 Sg eE 00 51.3

KSP $\Delta = 193\text{km}$
 Pg iNEZ 23 00 41.4
 Sn eNEZ 01 02.3
 Sg eNEZ 01 04.2

FEB 2

GIG: $\Phi = 50.206^\circ\text{N}$, $\lambda = 19.102^\circ\text{E}$
H = 18:17:48.3, M = 2.3

OJC $\Delta = 50\text{km}$
 Pg iZ 18 17 57.3 D
 Sg eN 18 04.0

NIE $\Delta = 124\text{km}$
 Pg eZ 18 18 10.9

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KSP	Δ = 211km				
	Pg eNEZ	18	18	23.5	
	(Sg) eNEZ	18	48.1		
<u>FEB 3</u>					
GIG: φ = 50.266°N, λ = 18.967°E					
H = 19:09:59.8, M = 2.4					
OJC	Δ = 60km				
	Pg eZ	19	10	10.7	
	Sg eN		10	18.8	
NIE	Δ = 136km				
	Pg eZ	19	10	23.7	
	Sg eE		10	41.0	
KSP	Δ = 199km				
	Pg eNEZ	19	10	33.4	
	Sg eNEZ		10	57.1	
<u>FEB 3</u>					
φ = 50.38°N, λ = 19.02°E					
H = 19:58:29.2, M = 2.1					
OJC	Δ = 58km				
	Pg eZ	19	58	39.5	
	Sg eN		58	47.0	
NIE	Δ = 142km				
	Pg eZ	19	58	54.0	
	Sg eE		59	12.1	
KSP	Δ = 200km				
	Pg eE	19	59	03.3	
	Sn eNEZ		59	25.1	
<u>FEB 3</u>					
GIG: φ = 50.235°N, λ = 19.037°E					
H = 20:32:56.2, M = 2.4					
OJC	Δ = 55km				
	Pg iZ	20	33	06.2	
	Sg eN		33	13.8	
NIE	Δ = 129km				
	Pg eZ	20	33	18.7	
	(Sg) eN		33	36.2	
KSP	Δ = 205km				
	Pg eNEZ	20	33	30.8	
	Sg eNEZ		33	55.8	
<u>FEB 4</u>					
GIG: φ = 50.353°N, λ = 18.971°E					
H = 14:20:21.9, M = 2.3					
OJC	Δ = 60km				
	Pg eZ	14	20	32.6	
	Sg eN		20	40.4	

NIE	Δ = 142km				
	Pg eZ	14	20	46.9	
	(Sg) eE		21	05.5	

KSP	Δ = 197km				
	Pn eNEZ	14	20	53.4	
	Sg eNEZ		21	19.2	

FEB 5
GIG: φ = 50.045°N, λ = 18.470°E
H = 04:47:57.2, M = 2.3

RAC	Δ = 20km				
	Pg eZ	04	48	01.9	
	Sg eNE		48	05.1	

OJC	Δ = 97km				
	Pg eZ	04	48	14.1	
	Sg eN		48	26.5	

NIE	Δ = 150km				
	Pg eZ	04	48	24.0	
	(Sg) eE		48	43.3	

KSP	Δ = 178km				
	Pg eNEZ	04	48	27.5	
	Sn eNEZ		48	47.2	

FEB 5
φ = 50.10°N, λ = 18.44°E
H = 19:51:08.9, M = 2.1

RAC	Δ = 18km				
	Pg eZ	19	51	12.2	
	Sg eN		51	15.5	

OJC	Δ = 98km				
	Pg eZ	19	51	25.6	
	Sg eN		51	38.9	

NIE	Δ = 154km				
	Pg eZ	19	51	35.5	
	Sg eE		51	56.0	

FEB 6
GIG: φ = 50.268°N, λ = 18.855°E
H = 11:26:12.6, M = 2.4

OJC	Δ = 67km				
	Pg eZ	11	26	25.2	
	Sg eE		26	33.2	

NIE	Δ = 142km				
	Pg eZ	11	26	38.0	

KSP	Δ = 192km				
	Pg eNEZ	11	26	45.5	
	Sg eNEZ		27	07.6	

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FEB 6

GIG: $\Phi = 50.268^\circ\text{N}$, $\lambda = 18.853^\circ\text{E}$
H = 11:26:52.3, M = 2.4

OJC $\Delta = 68\text{km}$
Pg eZ 11 27 04.7
Sg eN 27 12.9

NIE $\Delta = 142\text{km}$
Pg eZ 11 27 18.0
Sg eE 27 35.6

KSP $\Delta = 192\text{km}$
Pg eNEZ 11 27 24.6
Sg eNEZ 27 47.7

FEB 9

GIG: $\Phi = 50.31^\circ\text{N}$, $\lambda = 18.96^\circ\text{E}$
H = 18:03:14.9, M = 2.2

OJC $\Delta = 60\text{km}$
Pg eZ 18 03 25.9
Sg eE 03 33.6

NIE $\Delta = 139\text{km}$
Pg eZ 18 03 39.5
Sg eE 03 56.9

KSP $\Delta = 198\text{km}$
Pg eNEZ 18 03 48.6
Sg eNEZ 04 12.0

FEB 10

GIG: $\Phi = 50.257^\circ\text{N}$, $\lambda = 18.882^\circ\text{E}$
H = 23:59:13.0, M = 2.6

RAC $\Delta = 53\text{km}$
(Pg) eZ 23 59 23.9

OJC $\Delta = 65\text{km}$
Pg iZE 23 59 24.6
Sg iE 59 32.9

NIE $\Delta = 138\text{km}$
Pg eZ 23 59 36.9
Sg eE 59 55.3

KSP $\Delta = 195\text{km}$
Pn eNEZ 23 59 44.3
Pg iNEZ 59 45.8
(Sn) eNEZ 24 00 07.9

FEB 11

GIG: $\Phi = 50.257^\circ\text{N}$, $\lambda = 18.878^\circ\text{E}$
H = 08:24:19.4, M = 2.6

OJC $\Delta = 66\text{km}$
Pg eZ 08 24 31.0
Sg iEN 24 40.2

NIE $\Delta = 140\text{km}$
Pg eZ 08 24 43.5
Sg eE 25 02.0

KSP $\Delta = 194\text{km}$
Pn eNEZ 08 24 50.4
Pg eNEZ 24 52.0
Sn eNEZ 25 12.8
Sg eNEZ 25 14.9

FEB 12

GIG: $\Phi = 50.359^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$
H = 16:33:36.1, M = 2.5

OJC $\Delta = 68\text{km}$
Pg eZ 16 33 48.7
Sg eN 33 57.6

NIE $\Delta = 148\text{km}$
Pg eZ 16 34 02.2
Sg eE 34 20.7

KSP $\Delta = 189\text{km}$
Pg eNEZ 16 34 07.9
Sn eNEZ 34 28.4

FEB 13

GIG: $\Phi = 50.241^\circ\text{N}$, $\lambda = 18.904^\circ\text{E}$
H = 19:22:02.9, M = 2.1

OJC $\Delta = 64\text{km}$
Pg eZ 19 22 14.7
Sg eE 22 22.9

NIE $\Delta = 137\text{km}$
Pg eZ 19 22 27.5
(Sg) eE 22 45.2

KSP $\Delta = 196\text{km}$
Pg eNEZ 19 22 35.9
Sg eNEZ 22 59.5

FEB 15

GIG: $\Phi = 50.268^\circ\text{N}$, $\lambda = 18.969^\circ\text{E}$
H = 17:46:21.8, M = 2.3

OJC $\Delta = 59\text{km}$
Pg eZ 17 46 32.6
Sg eN 46 40.7

NIE $\Delta = 136\text{km}$
Pg eZ 17 46 45.6
Sg eE 47 03.0

KSP $\Delta = 200\text{km}$
Pg eZ 17 46 55.5
Sg eN 47 19.3

FEB 17

GIG: $\Phi = 50.362^\circ\text{N}$, $\lambda = 18.863^\circ\text{E}$
H = 03:30:24.6, M = 2.4

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OJC	$\Delta = 68\text{km}$			
	Pg eZ	03	30	37.5
	Sg eN		30	45.7
NIE	$\Delta = 147\text{km}$			
	Pg eZ	03	30	50.9
	Sg eN		31	08.5
KSP	$\Delta = 190\text{km}$			
	Pn eNEZ	03	30	54.8
	Pg eNEZ		30	56.8
	Sg eNEZ		31	19.5
<u>FEB 18</u>				
	$\Phi = 50.28^\circ\text{N}, \lambda = 18.95^\circ\text{E}$			
	$H = 00:39:21.4, M = 2.0$			
OJC	$\Delta = 61\text{km}$			
	Pg eZ	00	39	32.2
	Sg eE		39	40.9
NIE	$\Delta = 137\text{km}$			
	Pg eZ	00	39	45.5
	Sg eE		40	03.0
KSP	$\Delta = 198\text{km}$			
	Pg eNEZ	00	39	54.8
	Sn eNEZ		40	16.8
	Sg eNEZ		40	18.4
<u>FEB 18</u>				
GIG:	$\Phi = 50.353^\circ\text{N}, \lambda = 18.971^\circ\text{E}$			
	$H = 21:20:10.8, M = 2.4$			
OJC	$\Delta = 61\text{km}$			
	Pg eZ	21	20	21.7
	Sg eE		20	29.4
NIE	$\Delta = 142\text{km}$			
	Pg eZ	21	20	36.0
	Sg eE		20	53.5
KSP	$\Delta = 197\text{km}$			
	Pg eE	21	20	44.6
	(Sn) eN		21	04.6
	Sg eN		21	07.5
<u>FEB 19</u>				
	$\Phi = 50.25^\circ\text{N}, \lambda = 19.14^\circ\text{E}$			
	$H = 00:49:53.7, M = 2.3$			
OJC	$\Delta = 47\text{km}$			
	Pg iZ	00	50	01.9
	Sg eE		50	08.6
NIE	$\Delta = 125\text{km}$			
	Pg eZ	00	50	15.2
	Sg eE		50	32.0

KSP	$\Delta = 212\text{km}$			
	Pn eNEZ	00	50	27.7
	Pg eNEZ		50	29.4
	Sg eNEZ		50	54.6

FEB 19

GIG: $\Phi = 50.056^\circ\text{N}, \lambda = 18.493^\circ\text{E}$
 $H = 16:03:35.5, M = 2.1$

RAC	$\Delta = 22\text{km}$			
	Pg eZ	16	03	40.4
	Sg eN		03	44.0

OJC	$\Delta = 95\text{km}$			
	Pg eZ	16	03	51.8
	Sg eN		04	03.7

NIE	$\Delta = 149\text{km}$			
	Pg eZ	16	04	02.5
	Sg eE		04	21.0

KSP	$\Delta = 179\text{km}$			
	Pg eZ	16	04	06.8
	Sn eNEZ		04	25.6
	Sg eNE		04	26.7

FEB 19

GIG: $\Phi = 50.252^\circ\text{N}, \lambda = 18.851^\circ\text{E}$
 $H = 16:36:51.8, M = 2.5$

OJC	$\Delta = 68\text{km}$			
	Pg eZ	16	37	04.3
	Sg eE		37	12.7

NIE	$\Delta = 140\text{km}$			
	Pg eZ	16	37	16.4
	(Sg) eE		37	35.2

KSP	$\Delta = 192\text{km}$			
	Pg eNEZ	16	37	24.7
	Sn eNEZ		37	44.5
	Sg eNEZ		37	47.2

FEB 20

GIG: $\Phi = 50.361^\circ\text{N}, \lambda = 18.862^\circ\text{E}$
 $H = 21:45:50.1, M = 2.5$

OJC	$\Delta = 68\text{km}$			
	Pg iZ	21	46	02.1 D
	Sg iN		46	10.6

NIE	$\Delta = 147\text{km}$			
	Pg eZ	21	46	15.5
	Sg eN		46	33.8

KSP	$\Delta = 190\text{km}$			
	Pn eNEZ	21	46	20.3
	(Pg) eZ		46	23.3
	(Sg) eE		46	44.2

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FEB 21

$\Phi = 50.09^{\circ}\text{N}$, $\lambda = 18.45^{\circ}\text{E}$
H = 01:36:42.6, M = 2.2

RAC $\Delta = 18\text{km}$
 Pg eZ 01 36 46.1
 Sg eN 36 49.2

OJC $\Delta = 97\text{km}$
 Pg eZ 01 36 59.3
 Sg eN 37 12.6

NIE $\Delta = 154\text{km}$
 Pg eZ 01 37 09.5
 Sg eNE 37 29.5

FEB 23

GIG: $\Phi = 50.346^{\circ}\text{N}$, $\lambda = 18.954^{\circ}\text{E}$
H = 15:56:39.6, M = 2.2

OJC $\Delta = 62\text{km}$
 Pg iZ 15 56 51.1
 Sg eE 56 59.2

NIE $\Delta = 143\text{km}$
 Pg eZ 15 57 05.5
 Sg eE 57 23.1

KSP $\Delta = 196\text{km}$
 Pg eNEZ 15 57 12.1
 Sg eNEZ 57 36.6

FEB 24

GIG: $\Phi = 50.361^{\circ}\text{N}$, $\lambda = 18.864^{\circ}\text{E}$
H = 18:36:38.8, M = 2.8

RAC $\Delta = 58\text{km}$
 Pg eZ 18 36 50.0
 (Sg) eN 36 58.0

OJC $\Delta = 68\text{km}$
 Pg eZ 18 36 51.3
 Sg eN 37 00.5

NIE $\Delta = 148\text{km}$
 Pg eZ 18 37 04.5
 Sg eN 37 22.8

KSP $\Delta = 190\text{km}$
 Pn eNEZ 18 37 08.7
 Pg eNEZ 37 10.6
 Sg eNEZ 37 33.3

KWP $\Delta = 286\text{km}$
 Pg eZ 18 37 27.7
 S eNE 38 11.2

FEB 26

GIG: $\Phi = 50.215^{\circ}\text{N}$, $\lambda = 19.064^{\circ}\text{E}$
H = 00:25:46.6, M = 2.3

OJC $\Delta = 52\text{km}$
 Pg eZ 00 25 55.8
 Sg eN 26 03.0

NIE $\Delta = 126\text{km}$
 Pg eZ 00 26 09.2

KSP $\Delta = 209\text{km}$
 Pg eNEZ 00 26 22.1
 Sg eNEZ 26 46.9

FEB 26

GIG: $\Phi = 50.353^{\circ}\text{N}$, $\lambda = 18.973^{\circ}\text{E}$
H = 12:48:12.1, M = 2.3

OJC $\Delta = 60\text{km}$
 Pg eZ 12 48 22.5
 Sg eN 48 30.6

NIE $\Delta = 142\text{km}$
 Pg eZ 12 48 37.2
 Sg eE 48 55.5

KSP $\Delta = 197\text{km}$
 Pg eNEZ 12 48 46.2
 (Sg) eNEZ 49 08.4

FEB 26

GIG: $\Phi = 50.268^{\circ}\text{N}$, $\lambda = 18.969^{\circ}\text{E}$
H = 17:10:34.5, M = 2.5

OJC $\Delta = 59\text{km}$
 Pg eZ 17 10 45.3
 Sg iN 10 53.0

RAC $\Delta = 60\text{km}$
 (Pg) eZ 17 10 46.6
 Sg eN 10 53.4

NIE $\Delta = 135\text{km}$
 Pg eZ 17 10 58.3
 Sg eE 11 15.7

KSP $\Delta = 200\text{km}$
 Pg eNEZ 17 11 08.1
 Sn eNEZ 11 29.5

FEB 26

$\Phi = 50.20^{\circ}\text{N}$, $\lambda = 19.30^{\circ}\text{E}$
H = 19:07:52.9, M = 2.3

OJC $\Delta = 35\text{km}$
 Pg eZ 19 07 58.7
 Sg iN 08 03.2

NIE $\Delta = 114\text{km}$
 Pg eZ 19 08 12.5
 Sg eNE 08 27.4

KSP $\Delta = 225\text{km}$
 Pg eE 19 08 31.6

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KSP Sg eN 19 08 57.5

FEB 27
GIG: $\phi = 50.047^{\circ}\text{N}$, $\lambda = 18.443^{\circ}\text{E}$
H = 01:50:49.2, M = 2.6

RAC $\Delta = 18\text{km}$
Pg iZ 01 50 53.3 D
(Sg) eNE 50 56.3

OJC $\Delta = 98\text{km}$
Pg eZ 01 51 06.1
(Sg) iNE 51 18.5

NIE $\Delta = 152\text{km}$
Pg eZ 01 51 15.6
Sg iE 51 35.4

KSP $\Delta = 176\text{km}$
Pn eNEZ 01 51 17.1
Sn eNEZ 51 38.5

FEB 28
GIG: $\phi = 50.101^{\circ}\text{N}$, $\lambda = 19.155^{\circ}\text{E}$
H = 08:35:46.6, M = 2.2

OJC $\Delta = 48\text{km}$
Pg eZ 08 35 55.3
Sg eNE 36 01.5

NIE $\Delta = 113\text{km}$
Pg eZ 08 36 06.8

FEB 29
GIG: $\phi = 50.268^{\circ}\text{N}$, $\lambda = 18.855^{\circ}\text{E}$
H = 06:34:40.4, M = 2.5

RAC $\Delta = 52\text{km}$
Pg eZ 06 34 50.5
(Sg) eNE 34 57.8

OJC $\Delta = 67\text{km}$
Pg eZ 06 34 52.8
Sg eE 35 00.7

NIE $\Delta = 141\text{km}$
Pg eZ 06 35 05.1
Sg eNE 35 23.3

KSP $\Delta = 192\text{km}$
Pn eNEZ 06 35 11.2
Pg eNEZ 35 13.1
Sg eNEZ 35 35.9

MAR 2
 $\phi = 50.27^{\circ}\text{N}$, $\lambda = 18.71^{\circ}\text{E}$
H = 01:03:00.8, M = 2.0

OJC $\Delta = 78\text{km}$
Pg eZ 01 03 14.8
Sg eN 03 25.4

NIE $\Delta = 149\text{km}$
Pg eZ 01 03 26.5
Sg eE 03 46.1

KSP $\Delta = 183\text{km}$
Pg eNEZ 01 03 31.4
Sg eNEZ 03 54.2

MAR 2
GIG: $\phi = 50.361^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
H = 01:53:32.0, M = 2.5

OJC $\Delta = 68\text{km}$
Pg eZ 01 53 44.8
Sg eEN 53 53.2

NIE $\Delta = 147\text{km}$
Pg eZ 01 53 58.2
Sg eE 54 15.8

KSP $\Delta = 189\text{km}$
Pg eNEZ 01 54 03.9
Sg eNEZ 54 27.0

MAR 2
GIG: $\phi = 50.257^{\circ}\text{N}$, $\lambda = 18.880^{\circ}\text{E}$
H = 17:38:45.8, M = 2.3

OJC $\Delta = 66\text{km}$
Pg eZ 17 38 57.4
Sg eE 39 06.4

NIE $\Delta = 139\text{km}$
Pg eZ 17 39 10.2

KSP $\Delta = 194\text{km}$
Pg eNEZ 17 39 18.4
Sn eNEZ 39 39.6

MAR 5
GIG: $\phi = 50.095^{\circ}\text{N}$, $\lambda = 19.196^{\circ}\text{E}$
H = 16:26:35.2, M = 2.2

OJC $\Delta = 45\text{km}$
Pg eZ 16 26 42.9
Sg eN 26 49.0

NIE $\Delta = 111\text{km}$
Pg eZ 16 26 55.4

MAR 5
GIG: $\phi = 50.236^{\circ}\text{N}$, $\lambda = 19.035^{\circ}\text{E}$
H = 17:42:47.7, M = 2.3

OJC $\Delta = 54\text{km}$
Pg eZ 17 42 57.0
Sg eE 43 04.3

NIE $\Delta = 130\text{km}$
Pg eZ 17 43 10.3

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NIE Sg eE 17 43 27.3

MAR 5
GIG: $\Phi = 50.058^{\circ}\text{N}$, $\lambda = 18.420^{\circ}\text{E}$
H = 21:32:42.3, M = 2.2

RAC $\Delta = 16\text{km}$
Pg iZ 21 32 46.4 D
Sg eN 32 49.1

OJC $\Delta = 100\text{km}$
Pg eZ 21 32 59.6
Sg eN 33 11.9

NIE $\Delta = 154\text{km}$
Pg eZ 21 33 09.4
Sg iN 33 28.8

KSP $\Delta = 174\text{km}$
Pn eNZ 21 33 10.5
Pg eNEZ 33 12.8
Sg eNEZ 33 32.2

MAR 6
GIG: $\Phi = 50.361^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
H = 00:43:58.6, M = 2.5

RAC $\Delta = 58\text{km}$
Pg eZ 00 44 09.5
Sg eN 44 16.9

OJC $\Delta = 68\text{km}$
Pg eZ 00 44 11.4
Sg eN 44 19.9

NIE $\Delta = 148\text{km}$
Pg eZ 00 44 24.8
Sg eE 44 42.5

KSP $\Delta = 190\text{km}$
Pg eE 00 44 30.6
Sg eNEZ 44 54.2

MAR 6
GIG: $\Phi = 50.100^{\circ}\text{N}$, $\lambda = 19.153^{\circ}\text{E}$
H = 05:22:43.8, M = 2.3

OJC $\Delta = 47\text{km}$
Pg eZ 05 22 52.2
Sg iN 22 58.8

NIE $\Delta = 113\text{km}$
Pg eZ 05 23 03.9

MAR 6
GIG: $\Phi = 50.205^{\circ}\text{N}$, $\lambda = 19.129^{\circ}\text{E}$
H = 16:45:41.2, M = 2.1

OJC $\Delta = 48\text{km}$
Pg eZ 16 45 49.4
Sg eN 45 55.7

NIE $\Delta = 122\text{km}$
Pg eZ 16 46 03.1
Sg eZ 46 18.7

MAR 8
GIG: $\Phi = 50.064^{\circ}\text{N}$, $\lambda = 18.423^{\circ}\text{E}$
H = 15:36:23.6, M = 2.2

RAC $\Delta = 16\text{km}$
Pg iZ 15 36 27.3 C
Sg eNE 36 30.1

OJC $\Delta = 100\text{km}$
Pg eZ 15 36 40.7
Sg eE 36 53.5

NIE $\Delta = 154\text{km}$
Pg eZ 15 36 50.5

MAR 9
GIG: $\Phi = 50.10^{\circ}\text{N}$, $\lambda = 18.46^{\circ}\text{E}$
H = 05:32:05.3, M = 1.9

RAC $\Delta = 19\text{km}$
Pg eZ 05 32 08.7
Sg eNE 32 11.9

OJC $\Delta = 97\text{km}$
Pg eZ 05 32 22.1
Sg eN 32 34.8

NIE $\Delta = 154\text{km}$
Pg eZ 05 32 32.0
Sg eE 32 52.1

MAR 9
GIG: $\Phi = 50.358^{\circ}\text{N}$, $\lambda = 18.861^{\circ}\text{E}$
H = 18:55:48.8, M = 2.4

OJC $\Delta = 69\text{km}$
Pg iZ 18 56 01.7
Sg iN 56 10.0

NIE $\Delta = 148\text{km}$
Pg eZ 18 56 15.1
Sg eE 56 33.7

KSP $\Delta = 189\text{km}$
Pg eNEZ 18 56 20.4
Sg eNEZ 56 43.3

MAR 10
GIG: $\Phi = 50.252^{\circ}\text{N}$, $\lambda = 18.849^{\circ}\text{E}$
H = 04:44:50.6, M = 2.8

RAC $\Delta = 51\text{km}$
Pg eZ 04 45 00.5
(Sg) eN 45 07.5

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OJC	$\Delta = 68\text{km}$			
	Pg eZ	04	45	03.1
	Sg eE		45	11.5
NIE	$\Delta = 140\text{km}$			
	Pg eZ	04	45	15.0
	(Sg) eE		45	33.9
KSP	$\Delta = 192\text{km}$			
	Pg iNEZ	04	45	23.3
	Sn eNEZ		45	43.9
	Sg eNEZ		45	46.1
KWP	$\Delta = 284\text{km}$			
	Pg eZ	04	45	42.3
	Sg eNE		46	21.6
<u>MAR 12</u>				
$\Phi = 50.23^\circ\text{N}, \lambda = 19.12^\circ\text{E}$				
$\text{H} = 01:51:12.7, \text{M} = 2.2$				
OJC	$\Delta = 48\text{km}$			
	Pg eZ	01	51	21.5
	Sg eN		51	27.9
NIE	$\Delta = 125\text{km}$			
	Pg eZ	01	51	34.5
	Sg eN		51	51.0
KSP	$\Delta = 211\text{km}$			
	Pg eNEZ	01	51	48.6
	Sg eNEZ		52	13.7
<u>MAR 12</u>				
GIG: $\Phi = 50.241^\circ\text{N}, \lambda = 18.973^\circ\text{E}$				
$\text{H} = 12:43:06.4, \text{M} = 2.6$				
OJC	$\Delta = 59\text{km}$			
	Pg iZ	12	43	17.2
	Sg iE		43	24.8
NIE	$\Delta = 134\text{km}$			
	Pg eZ	12	43	29.5
	(Sg) eE		43	47.7
KSP	$\Delta = 201\text{km}$			
	Pg eNEZ	12	43	40.1
	Sg eNEZ		44	04.2
<u>MAR 12</u>				
GIG: $\Phi = 50.352^\circ\text{N}, \lambda = 18.969^\circ\text{E}$				
$\text{H} = 18:35:39.0, \text{M} = 2.4$				
OJC	$\Delta = 61\text{km}$			
	Pg eZ	18	35	49.6
	Sg iN		35	57.9
NIE	$\Delta = 142\text{km}$			
	Pg eZ	18	36	03.5
	(Sg) eE		36	22.7

KSP	$\Delta = 197\text{km}$			
	Pg eNEZ	18	36	13.1
	(Sg) eNEZ		36	35.0

MAR 13

GIG: $\Phi = 50.256^\circ\text{N}, \lambda = 18.881^\circ\text{E}$
 $\text{H} = 01:11:24.3, \text{M} = 2.8$

RAC	$\Delta = 52\text{km}$			
	Pg eZ	01	11	33.6
	(Sg) eN		11	39.7

OJC	$\Delta = 66\text{km}$			
	Pg eZ	01	11	36.3
	Sg eN		11	44.3

NIE	$\Delta = 139\text{km}$			
	Pg eE	01	11	48.7
	(Sg) eN		12	07.4

KSP	$\Delta = 194\text{km}$			
	Pn eNEZ	01	11	55.1
	Pg iNEZ		11	57.3
	Sg eNEZ		12	20.3

KWP	$\Delta = 282\text{km}$			
	Pn eZ	01	12	05.5
	Pg eZ		12	14.4
	Sg eNE		12	45.6

MAR 13

$\Phi = 50.28^\circ\text{N}, \lambda = 18.77^\circ\text{E}$
 $\text{H} = 18:41:53.3, \text{M} = 2.2$

OJC	$\Delta = 74\text{km}$			
	Pg eZ	18	42	06.9
	Sg eN		42	16.5

NIE	$\Delta = 147\text{km}$			
	Pg eZ	18	42	19.5
	Sg eE		42	37.5

KSP	$\Delta = 186\text{km}$			
	Pg eE	18	42	24.9
	Sg eN		42	46.9

MAR 14

GIG: $\Phi = 50.060^\circ\text{N}, \lambda = 18.425^\circ\text{E}$
 $\text{H} = 15:19:36.6, \text{M} = 2.1$

RAC	$\Delta = 16\text{km}$			
	Pg eZ	15	19	40.0
	Sg eN		19	43.1

OJC	$\Delta = 100\text{km}$			
	Pg eZ	15	19	53.5
	Sg eNE		20	07.3

NIE	$\Delta = 154\text{km}$			
	Pg eZ	15	20	02.9
	Sg eN		20	23.0

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KSP	Δ = 174km				
	Pn eNEZ	15	20	04.7	
	Pg eNEZ		20	06.8	
	Sg eNEZ		20	26.4	
<u>MAR 14</u>					
Φ = 50.29°N, λ = 18.78°E					
H = 22:28:43.2, M = 2.1					
OJC	Δ = 73km				
	Pg eZ	22	28	56.9	
	Sg eE		29	05.9	
NIE	Δ = 146km				
	Pg eZ	22	29	08.5	
	Sg eN		29	27.9	
KSP	Δ = 186km				
	Pg eNEZ	22	29	14.3	
	(Sg) eNEZ		29	38.2	
<u>MAR 15</u>					
Φ = 50.34°N, λ = 18.98°E					
H = 12:07:53.9, M = 2.1					
OJC	Δ = 60km				
	Pg eZ	12	08	04.7	
	Sg eE		08	12.6	
NIE	Δ = 139km				
	Pg eZ	12	08	18.5	
	Sg eE		08	36.0	
KSP	Δ = 198km				
	Pg eNEZ	12	08	27.6	
	Sg eNEZ		08	51.6	
<u>MAR 15</u>					
Φ = 50.29°N, λ = 18.88°E					
H = 23:58:15.2, M = 2.1					
OJC	Δ = 66km				
	Pg eZ	23	58	27.3	
	Sg eE		58	35.8	
NIE	Δ = 141km				
	Pg eZ	23	58	39.7	
	Sg iE		58	58.0	
KSP	Δ = 193km				
	Pg eNEZ	23	58	48.1	
	Sg eNEZ		59	11.4	
<u>MAR 17</u>					
GIG: Φ = 50.360°N, λ = 18.861°E					
H = 01:45:32.6, M = 2.5					
OJC	Δ = 69km				
	Pg eZ	01	45	45.5	
	Sg eN		45	53.6	

NIE	Δ = 148km				
	Pg eZ	01	45	59.0	
	Sg eE		46	16.5	
KSP	Δ = 189km				
	Pg eNEZ	01	46	04.5	
	Sg eNEZ		46	28.0	
<u>MAR 17</u>					
Φ = 50.33°N, λ = 18.85°E					
H = 15:03:04.3, M = 2.1					
OJC	Δ = 69km				
	Pg iZ	15	03	17.2	
	Sg eE		03	25.4	
NIE	Δ = 145km				
	Pg eZ	15	03	30.0	
	Sg eE		03	48.2	
KSP	Δ = 190km				
	Pn iNEZ	15	03	34.4	
	Pg eNEZ		03	36.3	
<u>MAR 18</u>					
GIG: Φ = 50.100°N, λ = 19.154°E					
H = 22:18:44.0, M = 2.2					
OJC	Δ = 48km				
	Pg eZ	22	18	52.8	
	Sg eN		18	59.0	
<u>MAR 18</u>					
GIG: Φ = 50.353°N, λ = 18.972°E					
H = 23:36:21.0, M = 2.4					
OJC	Δ = 61km				
	Pg eZ	23	36	32.3	
	Sg eN		36	40.2	
NIE	Δ = 142km				
	Pg eZ	23	36	46.0	
	Sg eE		37	04.0	
KSP	Δ = 197km				
	Pn eNEZ	23	36	52.3	
	Pg eNEZ		36	54.6	
	Sn eNEZ		37	15.4	
	Sg eNEZ		37	18.1	
<u>MAR 19</u>					
GIG: Φ = 50.267°N, λ = 18.851°E					
H = 03:30:37.1, M = 2.1					
OJC	Δ = 68km				
	Pg eZ	03	30	50.1	
	Sg iE		30	58.8	
NIE	Δ = 142km				
	Pg eZ	03	31	02.0	

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NIE	Sg eN	03 31 20.1
KSP	$\Delta = 192\text{km}$	
	Pg eNEZ	03 31 09.0
	Sg eNEZ	31 32.3
<u>MAR 20</u>		
GIG: $\Phi = 50.252^\circ\text{N}$, $\lambda = 18.847^\circ\text{E}$		
H = 03:12:04.1, M = 2.6		
RAC	$\Delta = 50\text{km}$	
	Pg eZ	03 12 13.4
	Sg eNE	12 19.5
OJC	$\Delta = 68\text{km}$	
	Pg eZ	03 12 16.7
	Sg eE	12 25.1
NIE	$\Delta = 140\text{km}$	
	Pg eZ	03 12 28.6
	Sg eE	12 46.9
KSP	$\Delta = 192\text{km}$	
	Pg iNEZ	03 12 36.9
	Sg iNEZ	12 59.4
<u>MAR 20</u>		
GIG: $\Phi = 50.251^\circ\text{N}$, $\lambda = 18.850^\circ\text{E}$		
H = 03:12:29.4, M = 2.4		
OJC	$\Delta = 68\text{km}$	
	Pg eZ	03 12 42.3
	Sg eE	12 50.0
<u>MAR 22</u>		
$\Phi = 50.36^\circ\text{N}$, $\lambda = 18.96^\circ\text{E}$		
H = 10:26:10.3, M = 2.5		
OJC	$\Delta = 62\text{km}$	
	Pg iZ	10 26 21.5
	Sg iE	26 29.7
NIE	$\Delta = 144\text{km}$	
	Pg eZ	10 26 35.9
	Sg eE	26 53.4
KSP	$\Delta = 196\text{km}$	
	Pg eNEZ	10 26 43.5
	Sg eNEZ	27 07.1
<u>MAR 22</u>		
GIG: $\Phi = 50.254^\circ\text{N}$, $\lambda = 18.900^\circ\text{E}$		
H = 18:58:02.1, M = 2.6		
RAC	$\Delta = 54\text{km}$	
	Pg eZ	18 58 12.6
	Sg eNE	58 19.9
OJC	$\Delta = 64\text{km}$	
	Pg eZ	18 58 14.0
	Sg eN	58 22.3

NIE	$\Delta = 138\text{km}$	
	Pg eZ	18 58 26.4
	Sg eE	58 43.9
KSP	$\Delta = 196\text{km}$	
	Pg eNEZ	18 58 35.2
	Sg eNEZ	58 58.9

MAR 23
GIG: $\Phi = 50.361^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$
H = 06:11:26.9, M = 2.4

OJC	$\Delta = 69\text{km}$	
	Pg eZ	06 11 39.9
	Sg eN	11 48.1
NIE	$\Delta = 148\text{km}$	
	Pg eZ	06 11 53.6
	Sg eE	12 11.0

MAR 23
GIG: $\Phi = 50.358^\circ\text{N}$, $\lambda = 18.859^\circ\text{E}$
H = 20:21:17.4, M = 2.4

OJC	$\Delta = 69\text{km}$	
	Pg eZ	20 21 29.8
	Sg eN	21 38.7
NIE	$\Delta = 148\text{km}$	
	Pg eZ	20 21 43.9
	Sg eN	22 01.9

KSP	$\Delta = 189\text{km}$	
	Pg eNEZ	20 21 49.4
	Sg eNEZ	22 12.3

MAR 24
GIG: $\Phi = 49.959^\circ\text{N}$, $\lambda = 18.563^\circ\text{E}$
H = 09:21:10.4, M = 2.2

RAC	$\Delta = 30\text{km}$	
	Pg eZ	09 21 16.1
	Sg eNE	21 20.1
OJC	$\Delta = 93\text{km}$	
	Pg eZ	09 21 26.4
	Sg eN	21 38.0

NIE	$\Delta = 140\text{km}$	
	Pg eZ	09 21 35.5
	Sg eE	21 53.0

KSP	$\Delta = 189\text{km}$	
	Pg eNEZ	09 21 41.2
	Sg eNEZ	22 04.3

MAR 24
 $\Phi = 50.28^\circ\text{N}$, $\lambda = 18.95^\circ\text{E}$
H = 14:23:14.0 M = 2.1

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OJC	$\Delta = 61\text{km}$			
	Pg eZ	14	23	25.2
	Sg eE		23	33.4
NIE	$\Delta = 137\text{km}$			
	Pg eZ	14	23	38.5
	Sg eE		23	55.4
KSP	$\Delta = 198\text{km}$			
	Pg eNEZ	14	23	47.8
	Sg eN		23	11.3
<u>MAR 24</u>				
GIG:	$\Phi = 50.257^\circ\text{N}, \lambda = 18.878^\circ\text{E}$			
	H = 18:45:40.5, M = 2.7			
RAC	$\Delta = 53\text{km}$			
	Pg eZ	18	45	50.6
	Sg eNE		45	57.1
OJC	$\Delta = 66\text{km}$			
	Pg iZ	18	45	52.4 D
	Sg eN		46	00.1
NIE	$\Delta = 139\text{km}$			
	Pg eZ	18	46	04.8
	Sg eE		46	22.9
KSP	$\Delta = 194\text{km}$			
	Pn eNEZ	18	46	11.7
	Pg iNEZ		46	13.5
	(Sn) eNEZ		46	33.4
	Sg eNEZ		46	36.1
KWP	$\Delta = 282\text{km}$			
	Pg eZ	18	46	31.0
	Sg eNE		47	09.3
<u>MAR 26</u>				
GIG:	$\Phi = 50.210^\circ\text{N}, \lambda = 19.080^\circ\text{E}$			
	H = 02:35:18.8, M = 2.4			
OJC	$\Delta = 52\text{km}$			
	Pg eZ	02	35	27.9
	Sg eE		35	35.3
NIE	$\Delta = 126\text{km}$			
	Pg eZ	02	35	41.0
	Sg eN		35	57.3
KSP	$\Delta = 209\text{km}$			
	Pg eNEZ	02	35	53.7
	Sg eNEZ		36	18.8
<u>MAR 26</u>				
GIG:	$\Phi = 50.359^\circ\text{N}, \lambda = 18.862^\circ\text{E}$			
	H = 05:33:25.0, M = 2.4			
OJC	$\Delta = 69\text{km}$			
	Pg eZ	05	33	38.2
	Sg iN		33	46.6

NIE	$\Delta = 148\text{km}$			
	Pg eZ	05	33	51.9
	Sg eN		34	10.0

KSP	$\Delta = 189\text{km}$			
	Pg eNEZ	05	33	56.8
	Sg eNEZ		34	19.1

MAR 26

$\Phi = 50.31^\circ\text{N}, \lambda = 18.96^\circ\text{E}$
H = 23:15:42.1, M = 2.0

OJC	$\Delta = 61\text{km}$			
	Pg eZ	23	15	53.0
	Sg eE		16	01.1

NIE	$\Delta = 139\text{km}$			
	Pg eZ	23	16	06.5
	Sg eN		16	24.0

KSP	$\Delta = 198\text{km}$			
	Pg eNEZ	23	16	15.5
	Sg eNEZ		16	39.5

MAR 29

$\Phi = 50.252^\circ\text{N}, \lambda = 18.847^\circ\text{E}$
H = 06:10:41.5, M = 2.8

RAC	$\Delta = 51\text{km}$			
	Pg eZ	06	10	51.4
	(Sg) eNE		10	58.4

OJC	$\Delta = 68\text{km}$			
	Pg eZ	06	10	53.8
	Sg iE		11	02.4

NIE	$\Delta = 141\text{km}$			
	Pg eZ	06	11	05.8
	Sg eE		11	24.6

KSP	$\Delta = 192\text{km}$			
	Pg iNEZ	06	11	14.2
	Sg eNEZ		11	36.5

KWP	$\Delta = 284\text{km}$			
	Pg eZ	06	11	30.4
	Sn eNE		12	01.9

MAR 31

$\Phi = 50.254^\circ\text{N}, \lambda = 18.902^\circ\text{E}$
H = 13:03:21.9, M = 2.5

RAC	$\Delta = 55\text{km}$			
	Pg eZ	13	03	32.4
	Sg eN		03	39.4

OJC	$\Delta = 64\text{km}$			
	Pg iZ	13	03	33.4
	Sg eN		03	41.2

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<p>NIE $\Delta = 138\text{km}$ Pg eZ 13 03 46.2 Sg eE 04 03.8</p> <p>KSP $\Delta = 196\text{km}$ Pg eNEZ 13 03 54.8 (Sn) eNEZ 04 17.3</p> <p><u>APR 1</u> GIG: $\Phi = 50.069^\circ\text{N}$, $\lambda = 18.457^\circ\text{E}$ H = 14:40:18.4, M = 2.2</p> <p>RAC $\Delta = 19\text{km}$ Pg eZ 14 40 22.5 Sg eNE 40 25.8</p> <p>OJC $\Delta = 97\text{km}$ Pg eZ 14 40 35.2 Sg eE 40 47.6</p> <p>NIE $\Delta = 152\text{km}$ Pg eZ 14 40 44.6 Sg eN 41 04.5</p> <p><u>APR 2</u> GIG: $\Phi = 49.959^\circ\text{N}$, $\lambda = 18.562^\circ\text{E}$ H = 07:35:45.6, M = 2.4</p> <p>RAC $\Delta = 30\text{km}$ Pg eZ 07 35 52.0 Sg eNE 35 56.5</p> <p>OJC $\Delta = 93\text{km}$ Pg eZ 07 36 01.7 Sg eN 36 13.1</p> <p>NIE $\Delta = 140\text{km}$ Pg eZ 07 36 10.3 (Sg) eE 36 29.0</p> <p>KSP $\Delta = 188\text{km}$ Pg eNEZ 07 36 17.0</p> <p><u>APR 2</u> GIG: $\Phi = 50.059^\circ\text{N}$, $\lambda = 18.421^\circ\text{E}$ H = 12:07:52.3, M = 2.4</p> <p>RAC $\Delta = 16\text{km}$ Pg eZ 12 07 56.0 Sg eNE 07 59.1</p> <p>OJC $\Delta = 100\text{km}$ Pg eZ 12 08 09.1 Sg eN 08 22.0</p> <p>NIE $\Delta = 154\text{km}$ Pg eZ 12 08 19.0 Sg eN 08 39.1</p>	<p>KSP $\Delta = 174\text{km}$ Pn eNEZ 12 08 20.6 Sg eNEZ 08 42.6</p> <p><u>APR 2</u> GIG: $\Phi = 50.062^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$ H = 14:11:31.6, M = 2.1</p> <p>RAC $\Delta = 16\text{km}$ Pg eZ 14 11 35.2 Sg eNE 11 38.3</p> <p>OJC $\Delta = 100\text{km}$ Pg eZ 14 11 48.4 Sg eE 12 01.4</p> <p>NIE $\Delta = 154\text{km}$ Pg eZ 14 11 58.2 (Sg) eE 12 19.0</p> <p><u>APR 3</u> GIG: $\Phi = 50.256^\circ\text{N}$, $\lambda = 18.881^\circ\text{E}$ H = 07:20:18.0, M = 2.5</p> <p>RAC $\Delta = 53\text{km}$ Pg eZ 07 20 28.2 Sg eNE 20 35.3</p> <p>OJC $\Delta = 65\text{km}$ Pg eZ 07 20 29.9 Sg eE 20 38.2</p> <p>NIE $\Delta = 139\text{km}$ Pg eZ 07 20 42.0 (Sg) eE 21 00.9</p> <p>KSP $\Delta = 194\text{km}$ Pg iNEZ 07 20 51.0 Sg eNEZ 21 13.7</p> <p><u>APR 4</u> GIG: $\Phi = 50.206^\circ\text{N}$, $\lambda = 19.139^\circ\text{E}$ H = 11:31:42.7, M = 2.2</p> <p>OJC $\Delta = 47\text{km}$ Pg iZ 11 31 50.8 Sg eN 31 57.0</p> <p>NIE $\Delta = 122\text{km}$ Pg eZ 11 32 04.5 Sg eZ 32 19.9</p> <p>KSP $\Delta = 214\text{km}$ Pn eNEZ 11 32 15.9 Pg eZ 32 19.0 Sn eNEZ 32 42.3</p> <p><u>APR 6</u> GIG: $\Phi = 50.358^\circ\text{N}$, $\lambda = 18.861^\circ\text{E}$ H = 16:07:48.4, M = 2.6</p>
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OJC	$\Delta = 69\text{km}$		
	Pg eZ	16 08 01.3	
	Sg eN	08 09.8	
NIE	$\Delta = 148\text{km}$		
	Pg eZ	16 08 15.0	
	(Sg) eN	08 33.9	
KSP	$\Delta = 189\text{km}$		
	Pg eNEZ	16 08 19.8	
	Sg eNEZ	08 43.4	
<u>APR 7</u>			
GIG: $\Phi = 50.039^\circ\text{N}$, $\lambda = 18.459^\circ\text{E}$			
H = 14:30:42.6, M = 2.2			
RAC	$\Delta = 20\text{km}$		
	Pg eZ	14 30 47.1	
	Sg eN	30 50.5	
OJC	$\Delta = 98\text{km}$		
	Pg eZ	14 30 59.9	
	Sg eE	31 11.7	
NIE	$\Delta = 150\text{km}$		
	Pg eZ	14 31 08.8	
	Sg eE	31 28.1	
<u>APR 7</u>			
GIG: $\Phi = 50.102^\circ\text{N}$, $\lambda = 19.154^\circ\text{E}$			
H = 22:10:16.1, M = 2.5			
OJC	$\Delta = 48\text{km}$		
	Pg eZ	22 10 24.9	
	Sg iN	10 31.5	
NIE	$\Delta = 113\text{km}$		
	Pg eZ	22 10 36.1	
	(Sg) eE	10 51.2	
KSP	$\Delta = 218\text{km}$		
	Pg eNEZ	22 10 52.5	
	(Sn) eNEZ	11 15.8	
<u>APR 8</u>			
GIG: $\Phi = 50.259^\circ\text{N}$, $\lambda = 18.885^\circ\text{E}$			
H = 12:23:49.6, M = 2.6			
RAC	$\Delta = 54\text{km}$		
	Pg eZ	12 24 00.0	
	(Sg) eN	24 07.4	
OJC	$\Delta = 65\text{km}$		
	Pg eZ	12 24 01.5	
	Sg iN	24 09.7	
NIE	$\Delta = 139\text{km}$		
	Pg eZ	12 24 13.7	
	Sg eE	24 31.7	

KSP	$\Delta = 195\text{km}$		
	Pg eNEZ	12 24 22.5	
	Sn eEZ	24 43.5	
	Sg eNEZ	24 45.7	

APR 8

GIG: $\Phi = 50.062^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$
H = 14:49:04.7, M = 2.3

RAC	$\Delta = 17\text{km}$		
	Pg eZ	14 49 08.2	
	Sg eN	49 11.4	

OJC	$\Delta = 100\text{km}$		
	Pg eZ	14 49 21.5	
	Sg eN	49 35.4	

NIE	$\Delta = 154\text{km}$		
	Pg eZ	14 49 31.1	
	Sg eE	49 50.7	

KSP	$\Delta = 174\text{km}$		
	Pg eNEZ	14 49 34.9	
	Sg eNEZ	49 55.2	

APR 9

GIG: $\Phi = 50.257^\circ\text{N}$, $\lambda = 18.881^\circ\text{E}$
H = 03:34:07.6, M = 2.5

RAC	$\Delta = 52\text{km}$		
	Pg eZ	03 34 16.9	
	Sg eNE	34 23.6	

OJC	$\Delta = 66\text{km}$		
	Pg eZ	03 34 19.7	
	Sg eE	34 28.1	

NIE	$\Delta = 139\text{km}$		
	Pg eZ	03 34 31.7	
	Sg eE	34 50.1	

KSP	$\Delta = 194\text{km}$		
	Pg eNEZ	03 34 40.7	
	Sg eNEZ	35 03.3	

APR 13

GIG: $\Phi = 50.054^\circ\text{N}$, $\lambda = 18.443^\circ\text{E}$
H = 20:26:47.3, M = 2.3

RAC	$\Delta = 18\text{km}$		
	Pg eZ	20 26 51.3	
	Sg eNE	26 54.3	

OJC	$\Delta = 98\text{km}$		
	Pg eZ	20 27 04.5	
	Sg eN	27 16.7	

NIE	$\Delta = 152\text{km}$		
	Pg eZ	20 27 13.7	
	Sg eE	27 33.4	

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KSP	$\Delta = 176\text{km}$			
	Pn eNEZ	20	27	15.6
	Sg eNEZ		27	37.9
<u>APR 14</u>				
GIG: $\phi = 50.208^\circ\text{N}$, $\lambda = 19.100^\circ\text{E}$				
H = 00:44:29.8, M = 2.5				
OJC	$\Delta = 50\text{km}$			
	Pg eZ	00	44	39.0
	Sg eN		44	45.5
RAC	$\Delta = 66\text{km}$			
	Pg eZ	00	44	41.4
	Sg eN		44	50.1
NIE	$\Delta = 124\text{km}$			
	Pg eZ	00	44	52.5
KSP	$\Delta = 210\text{km}$			
	Pg eNEZ	00	45	05.1
	Sg eNEZ		45	30.2
<u>APR 14</u>				
GIG: $\phi = 50.044^\circ\text{N}$, $\lambda = 18.466^\circ\text{E}$				
H = 11:45:15.6, M = 2.4				
RAC	$\Delta = 20\text{km}$			
	Pg eZ	11	45	19.8
	Sg eNE		45	23.1
OJC	$\Delta = 97\text{km}$			
	Pg eZ	11	45	32.3
	Sg eE		45	44.5
NIE	$\Delta = 150\text{km}$			
	Pg eZ	11	45	41.4
	Sg eE		46	01.3
KSP	$\Delta = 178\text{km}$			
	Pg eNEZ	11	45	45.9
	Sg eNEZ		46	07.7
<u>APR 14</u>				
$\phi = 50.07^\circ\text{N}$, $\lambda = 18.46^\circ\text{E}$				
H = 13:48:01.1, M = 2.2				
RAC	$\Delta = 19\text{km}$			
	Pg eZ	13	48	04.6
	Sg eN		48	07.7
OJC	$\Delta = 97\text{km}$			
	Pg eZ	13	48	18.1
	Sg eN		48	31.1
NIE	$\Delta = 152\text{km}$			
	Pg eZ	13	48	28.0
	Sg eN		48	46.6

<u>APR 14</u>				
GIG: $\phi = 50.254^\circ\text{N}$, $\lambda = 18.901^\circ\text{E}$				
H = 15:02:28.6, M = 2.4				
OJC	$\Delta = 64\text{km}$			
	Pg eZ	15	02	40.5
	Sg eN		02	48.7
NIE	$\Delta = 138\text{km}$			
	Pg eZ	15	02	52.8
	Sg eE		03	10.5
KSP	$\Delta = 196\text{km}$			
	Pg eNEZ	15	03	02.0
	Sg eNEZ		03	24.7
<u>APR 14</u>				
GIG: $\phi = 50.061^\circ\text{N}$, $\lambda = 18.425^\circ\text{E}$				
H = 16:31:07.3, M = 2.1				
RAC	$\Delta = 17\text{km}$			
	Pg eZ	16	31	10.9
	Sg eNE		31	14.1
OJC	$\Delta = 99\text{km}$			
	Pg eZ	16	31	24.1
	Sg eN		31	36.9
NIE	$\Delta = 153\text{km}$			
	Pg eZ	16	31	33.7
	Sg eN		31	53.0
KSP	$\Delta = 175\text{km}$			
	Pg eNEZ	16	31	37.7
	Sg eNEZ		31	57.3
<u>APR 14</u>				
$\phi = 50.31^\circ\text{N}$, $\lambda = 18.91^\circ\text{E}$				
H = 20:20:30.6, M = 2.0				
OJC	$\Delta = 64\text{km}$			
	Pg eZ	20	20	42.0
	Sg eN		20	50.6
NIE	$\Delta = 141\text{km}$			
	Pg eZ	20	20	55.0
	Sg eN		21	13.5
KSP	$\Delta = 195\text{km}$			
	Pg eNEZ	20	21	04.1
	Sn eNEZ		21	24.2
<u>APR 15</u>				
$\phi = 50.26^\circ\text{N}$, $\lambda = 18.87^\circ\text{E}$				
H = 03:33:41.6, M = 2.1				
OJC	$\Delta = 66\text{km}$			
	Pg eZ	03	33	53.6
	Sg eE		34	02.0

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NIE	$\Delta = 140\text{km}$			
	Pg eZ	03	34	06.1
	Sg eE		34	24.1
KSP	$\Delta = 194\text{km}$			
	Pg eNEZ	03	34	14.5
	Sg eNEZ		34	37.4
<u>APR 15</u>				
GIG:	$\Phi = 50.365^\circ\text{N}, \lambda = 18.883^\circ\text{E}$			
	$\text{H} = 04:21:15.2, \text{M} = 2.6$			
RAC	$\Delta = 58\text{km}$			
	Pg eZ	04	21	26.3
	(Sg) eN		21	34.5
OJC	$\Delta = 67\text{km}$			
	Pg eZ	04	21	27.9
	Sg iN		21	36.5
NIE	$\Delta = 147\text{km}$			
	Pg eZ	04	21	40.6
	Sg eE		21	59.2
KSP	$\Delta = 191\text{km}$			
	Pg eNEZ	04	21	47.3
	Sg eNEZ		22	10.6
<u>APR 15</u>				
GIG:	$\Phi = 50.084^\circ\text{N}, \lambda = 18.433^\circ\text{E}$			
	$\text{H} = 15:54:02.5, \text{M} = 2.1$			
RAC	$\Delta = 17\text{km}$			
	Pg eZ	15	54	06.2
	Sg eN		54	09.7
OJC	$\Delta = 98\text{km}$			
	Pg eZ	15	54	19.2
	Sg eN		54	32.4
NIE	$\Delta = 154\text{km}$			
	Pg eZ	15	54	30.0
	Sg eE		54	49.6
<u>APR 15</u>				
GIG:	$\Phi = 50.106^\circ\text{N}, \lambda = 19.223^\circ\text{E}$			
	$\text{H} = 20:05:38.3, \text{M} = 2.6$			
OJC	$\Delta = 43\text{km}$			
	Pg eZ	20	05	46.2
	Sg iN		05	51.9
NIE	$\Delta = 110\text{km}$			
	Pg eZ	20	05	57.3
	Sg eE		06	11.9
KSP	$\Delta = 223\text{km}$			
	Pg eNEZ	20	06	16.0
	Sn eNEZ		06	41.6

<u>APR 16</u>				
	$\Phi = 50.08^\circ\text{N}, \lambda = 18.47^\circ\text{E}$			
	$\text{H} = 03:10:06.2, \text{M} = 2.0$			
RAC	$\Delta = 20\text{km}$			
	Pg eN	03	10	10.9
	Sg eN		10	14.0
OJC	$\Delta = 96\text{km}$			
	Pg eZ	03	10	22.8
	Sg eE		10	34.5
NIE	$\Delta = 152\text{km}$			
	Pg eZ	03	10	33.9
	Sg eE		10	51.3
<u>APR 16</u>				
GIG:	$\Phi = 50.256^\circ\text{N}, \lambda = 18.882^\circ\text{E}$			
	$\text{H} = 17:18:40.5, \text{M} = 2.4$			
OJC	$\Delta = 65\text{km}$			
	Pg eZ	17	18	51.9
	(Sg) eN		19	01.8
KSP	$\Delta = 194\text{km}$			
	Pg eNEZ	17	19	12.9
	Sn eNEZ		19	34.9
<u>APR 16</u>				
GIG:	$\Phi = 50.200^\circ\text{N}, \lambda = 19.139^\circ\text{E}$			
	$\text{H} = 21:14:17.7, \text{M} = 2.2$			
OJC	$\Delta = 47\text{km}$			
	Pg eZ	21	14	26.5
	Sg eN		14	32.9
NIE	$\Delta = 122\text{km}$			
	Pg eZ	21	14	39.6
	(Sg) eE		14	55.5
KSP	$\Delta = 214\text{km}$			
	Pg eNEZ	21	14	53.6
	Sg eNEZ		15	18.6
<u>APR 17</u>				
GIG:	$\Phi = 50.254^\circ\text{N}, \lambda = 18.900^\circ\text{E}$			
	$\text{H} = 00:48:07.4, \text{M} = 2.2$			
RAC	$\Delta = 54\text{km}$			
	Pg eZ	00	48	17.8
	Sg eNE		48	25.0
OJC	$\Delta = 64\text{km}$			
	Pg eZ	00	48	19.3
	Sg iE		48	27.5
NIE	$\Delta = 138\text{km}$			
	Pg eZ	00	48	31.4
	Sg eE		48	48.7

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APR 19

GIG: $\Phi = 50.059^{\circ}\text{N}$, $\lambda = 18.419^{\circ}\text{E}$
H = 14:05:27.4, M = 2.3

RAC $\Delta = 16\text{km}$
 Pg eZ 14 05 30.7
 Sg eNE 05 34.3

OJC $\Delta = 100\text{km}$
 Pg eZ 14 05 44.1
 Sg eN 05 57.8

NIE $\Delta = 154\text{km}$
 Pg eZ 14 05 54.2
 Sg eN 06 13.7

APR 19

GIG: $\Phi = 50.253^{\circ}\text{N}$, $\lambda = 18.900^{\circ}\text{E}$
H = 20:13:02.0, M = 2.1

OJC $\Delta = 64\text{km}$
 Pg eZ 20 13 14.4
 Sg eE 13 22.1

NIE $\Delta = 138\text{km}$
 Pg eZ 20 13 25.9
 Sg eE 13 44.0

KSP $\Delta = 196\text{km}$
 Pg eNEZ 20 13 34.9
 Sg eNEZ 13 58.1

APR 20

GIG: $\Phi = 50.085^{\circ}\text{N}$, $\lambda = 18.436^{\circ}\text{E}$
H = 01:14:22.5, M = 1.9

RAC $\Delta = 17\text{km}$
 Pg eN 01 14 25.8
 Sg eN 14 29.0

OJC $\Delta = 99\text{km}$
 Pg eZ 01 14 40.0
 Sg eNE 14 52.4

NIE $\Delta = 154\text{km}$
 Pg eZ 01 14 49.2
 Sg eE 15 09.2

APR 20

GIG: $\Phi = 50.212^{\circ}\text{N}$, $\lambda = 19.063^{\circ}\text{E}$
H = 22:28:01.5, M = 2.0

OJC $\Delta = 52\text{km}$
 Pg eZ 22 28 10.2
 Sg eN 28 17.3

NIE $\Delta = 126\text{km}$
 Pg eZ 22 28 23.0
 Sg eN 28 40.0

KSP $\Delta = 208\text{km}$
 Pn eNEZ 22 28 34.9
 Sn eNEZ 28 58.8

APR 21

GIG: $\Phi = 50.20^{\circ}\text{N}$, $\lambda = 18.80^{\circ}\text{E}$
H = 12:38:11.6, M = 2.7

RAC $\Delta = 46\text{km}$
 Pg eZ 12 38 19.9
 Sg eNE 38 26.0

OJC $\Delta = 71\text{km}$
 Pg eZ 12 38 24.5
 Sg eN 38 33.8

NIE $\Delta = 139\text{km}$
 Pg eZ 12 38 35.7
 Sg eN 38 54.1

KSP $\Delta = 192\text{km}$
 Pn eNEZ 12 38 42.1
 Pg iNEZ 38 44.2
 Sg eNEZ 39 06.6

APR 21

GIG: $\Phi = 50.104^{\circ}\text{N}$, $\lambda = 19.267^{\circ}\text{E}$
H = 16:29:41.0, M = 2.6

OJC $\Delta = 39\text{km}$
 Pg eZ 16 29 47.9
 Sg iN 29 53.7

NIE $\Delta = 107\text{km}$
 Pg eZ 16 29 59.0
 Sg eE 30 13.6

KSP $\Delta = 226\text{km}$
 Pg eNEZ 16 30 19.9
 Sn eNEZ 30 43.4

APR 22

GIG: $\Phi = 50.267^{\circ}\text{N}$, $\lambda = 18.863^{\circ}\text{E}$
H = 08:53:51.4, M = 2.5

OJC $\Delta = 67\text{km}$
 Pg eZ 08 54 03.9
 Sg eN 54 12.3

NIE $\Delta = 140\text{km}$
 Pg eZ 08 54 15.9
 Sg eN 54 33.7

KSP $\Delta = 193\text{km}$
 Pg eNEZ 08 54 24.5
 Sg eNEZ 54 46.8

APR 22

GIG: $\Phi = 50.262^{\circ}\text{N}$, $\lambda = 18.891^{\circ}\text{E}$
H = 11:57:43.0, M = 2.3

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OJC	$\Delta = 65\text{km}$			
	Pg eZ	11	57	55.0
	Sg eE		58	03.4
NIE	$\Delta = 139\text{km}$			
	Pg eZ	11	58	07.2
	Sg eE		58	25.3
KSP	$\Delta = 195\text{km}$			
	Pg eNEZ	11	58	15.8
	Sg eNEZ		58	39.2
<u>APR 23</u>				
GIG: $\Phi = 50.273^\circ\text{N}$, $\lambda = 18.826^\circ\text{E}$				
H = 02:24:07.0, M = 2.5				
RAC	$\Delta = 50\text{km}$			
	Pg eZ	02	24	15.6
	Sg eNE		24	22.4
OJC	$\Delta = 70\text{km}$			
	Pg eZ	02	24	20.3
	Sg eN		24	28.4
NIE	$\Delta = 143\text{km}$			
	Pg eZ	02	24	32.8
	Sg eN		24	50.5
KSP	$\Delta = 190\text{km}$			
	Pn eEZ	02	24	37.5
	Pg eNEZ		24	39.3
	Sg eNEZ		25	01.9
<u>APR 23</u>				
GIG: $\Phi = 50.103^\circ\text{N}$, $\lambda = 19.224^\circ\text{E}$				
H = 15:29:23.2, M = 2.0				
OJC	$\Delta = 43\text{km}$			
	Pg eZ	15	29	30.5
	Sg eN		29	36.2
NIE	$\Delta = 110\text{km}$			
	Pg eZ	15	29	43.0
	Sg eN		29	56.9
<u>APR 23</u>				
GIG: $\Phi = 50.345^\circ\text{N}$, $\lambda = 18.954^\circ\text{E}$				
H = 18:08:25.7, M = 2.3				
OJC	$\Delta = 62\text{km}$			
	Pg eZ	18	08	36.9
	Sg eE		08	45.1
NIE	$\Delta = 142\text{km}$			
	Pg eZ	18	08	51.1
	Sg eE		09	08.8
KSP	$\Delta = 196\text{km}$			
	Pg eNEZ	18	08	58.4
	Sg eNEZ		09	22.9

<u>APR 23</u>				
GIG: $\Phi = 50.363^\circ\text{N}$, $\lambda = 18.863^\circ\text{E}$				
H = 20:50:53.7, M = 2.6				
RAC	$\Delta = 57\text{km}$			
	Pg eZ	20	51	04.2
	Sg eNE		51	12.0
OJC	$\Delta = 68\text{km}$			
	Pg eZ	20	51	06.1
	Sg eN		51	15.6
NIE	$\Delta = 148\text{km}$			
	Pg eZ	20	51	19.2
	Sg eE		51	38.7
KSP	$\Delta = 190\text{km}$			
	Pn eNEZ	20	51	24.2
	Sg eNEZ		51	48.1
KWP	$\Delta = 286\text{km}$			
	Pg eZ	20	51	43.9
<u>APR 23</u>				
GIG: $\Phi = 50.25^\circ\text{N}$, $\lambda = 18.78^\circ\text{E}$				
H = 23:20:04.7, M = 2.1				
OJC	$\Delta = 73\text{km}$			
	Pg eZ	23	20	17.9
	Sg eN		20	27.6
NIE	$\Delta = 144\text{km}$			
	Pg eZ	23	20	30.0
	Sg eE		20	48.3
KSP	$\Delta = 188\text{km}$			
	Pg eNEZ	23	20	36.8
	Sg eNEZ		20	58.9
<u>APR 25</u>				
GIG: $\Phi = 50.363^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$				
H = 09:10:36.7, M = 2.7				
RAC	$\Delta = 58\text{km}$			
	Pg eZ	09	10	47.4
	Sg eNE		10	55.3
OJC	$\Delta = 68\text{km}$			
	Pg eZ	09	10	49.2
	Sg iE		10	57.8
NIE	$\Delta = 148\text{km}$			
	Pg eZ	09	11	02.5
	Sg eEN		11	21.7
KSP	$\Delta = 190\text{km}$			
	Pg eNEZ	09	11	08.8
	Sg eNEZ		11	31.5

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APR 26

GIG: $\Phi = 50.104^\circ\text{N}$, $\lambda = 19.224^\circ\text{E}$
H = 22:33:47.2, M = 2.6

OJC $\Delta = 43\text{km}$
Pg eZ 22 33 54.3
Sg iN 34 00.1

NIE $\Delta = 109\text{km}$
Pg eZ 22 34 05.4
Sg eE 34 20.0

KSP $\Delta = 224\text{km}$
Pn eNEZ 22 34 23.3
Pg eNEZ 34 26.1
Sn eE 34 50.3

KWP $\Delta = 254.8\text{km}$
Pg eZ 22 34 28.9

APR 27

GIG: $\Phi = 50.060^\circ\text{N}$, $\lambda = 18.419^\circ\text{E}$
H = 05:17:00.0, M = 2.1

RAC $\Delta = 16\text{km}$
Pg eZ 05 17 03.1
Sg eNE 17 06.4

OJC $\Delta = 100\text{km}$
Pg eZ 05 17 17.5
Sg eN 17 30.8

NIE $\Delta = 154\text{km}$
Pg eZ 05 17 27.3
(Sg) eNE 17 47.5

APR 27

GIG: $\Phi = 50.210^\circ\text{N}$, $\lambda = 19.139^\circ\text{E}$
H = 09:52:48.4, M = 2.4

OJC $\Delta = 47\text{km}$
Pg iZ 09 52 57.1 D
Sg iN 53 03.5

NIE $\Delta = 122\text{km}$
Pg eZ 09 53 10.2
(Sg) eN 53 26.4

KSP $\Delta = 213\text{km}$
Pg eNEZ 09 53 24.3
Sg eNEZ 53 49.8

APR 28

GIG: $\Phi = 50.27^\circ\text{N}$, $\lambda = 18.92^\circ\text{E}$
H = 02:00:23.3, M = 2.0

OJC $\Delta = 63\text{km}$
Pg eZ 02 00 34.7
Sg eE 00 42.9

NIE $\Delta = 137\text{km}$
Pg eZ 02 00 47.1
Sg eE 01 04.8

KSP $\Delta = 197\text{km}$
Pg eNEZ 02 00 57.0
Sg eNEZ 01 20.3

APR 29

GIG: $\Phi = 50.060^\circ\text{N}$, $\lambda = 18.421^\circ\text{E}$
H = 14:40:17.2, M = 2.4

RAC $\Delta = 16\text{km}$
Pg eZ 14 40 20.9
Sg eNE 40 23.6

OJC $\Delta = 100\text{km}$
Pg eZ 14 40 34.2
Sg eN 40 47.6

NIE $\Delta = 154\text{km}$
Pg eZ 14 40 44.2
(Sg) iE 41 04.5

KSP $\Delta = 174\text{km}$
Pg eNEZ 14 40 46.6
Sg eNEZ 41 07.6

APR 29

GIG: $\Phi = 50.256^\circ\text{N}$, $\lambda = 18.877^\circ\text{E}$
H = 21:23:25.7, M = 2.2

OJC $\Delta = 66\text{km}$
Pg eZ 21 23 37.6
Sg eE 23 46.2

NIE $\Delta = 139\text{km}$
Pg eZ 21 23 50.1
Sg eE 24 08.0

KSP $\Delta = 194\text{km}$
Pg eNEZ 21 23 59.1
Sg eNEZ 24 22.2

MAY 1

GIG: $\Phi = 50.206^\circ\text{N}$, $\lambda = 19.100^\circ\text{E}$
H = 09:10:46.8, M = 2.5

OJC $\Delta = 50\text{km}$
Pg eZ 09 10 56.4
Sg iN 11 03.0

NIE $\Delta = 124\text{km}$
Pg eZ 09 11 09.2
Sg eN 11 24.4

KSP $\Delta = 211\text{km}$
Pn eZ 09 11 20.4
Pg eEZ 11 23.1
Sg eNEZ 11 47.2

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MAY 3

GIG: $\phi = 50.261^{\circ}\text{N}$, $\lambda = 18.958^{\circ}\text{E}$
H = 23:40:28.3, M = 2.3

RAC $\Delta = 58\text{km}$
 Pg eZ 23 40 39.3
 Sg eNE 40 46.8

OJC $\Delta = 60\text{km}$
 Pg eZ 23 40 39.5
 Sg eE 40 47.3

NIE $\Delta = 136\text{km}$
 Pg eZ 23 40 51.9
 Sg eN 41 09.0

KSP $\Delta = 199\text{km}$
 Pg iNEZ 23 41 01.9
 Sg eNEZ 41 25.9

MAY 5

GIG: $\phi = 50.257^{\circ}\text{N}$, $\lambda = 18.875^{\circ}\text{E}$
H = 00:33:09.1, M = 2.4

RAC $\Delta = 53\text{km}$
 Pg eZ 00 33 19.4
 (Sg) eNE 33 26.6

OJC $\Delta = 66\text{km}$
 Pg iZ 00 33 21.0 D
 Sg iE 33 30.1

NIE $\Delta = 140\text{km}$
 Pg eZ 00 33 33.2
 Sg eE 33 51.2

KSP $\Delta = 194\text{km}$
 Pg eNEZ 00 33 42.1
 (Sg) eNEZ 34 04.4

MAY 5

GIG: $\phi = 50.038^{\circ}\text{N}$, $\lambda = 18.463^{\circ}\text{E}$
H = 06:14:55.9, M = 2.1

RAC $\Delta = 20\text{km}$
 Pg eZ 06 15 00.4
 Sg eNE 15 03.7

OJC $\Delta = 98\text{km}$
 Pg eZ 06 15 13.3
 Sg eE 15 25.2

NIE $\Delta = 150\text{km}$
 Pg eZ 06 15 22.6
 Sg eE 15 40.6

MAY 5

GIG: $\phi = 50.104^{\circ}\text{N}$, $\lambda = 19.229^{\circ}\text{E}$
H = 08:11:11.9, M = 2.5

OJC $\Delta = 42\text{km}$
 Pg eZ 08 11 19.1
 Sg iN 11 24.9

NIE $\Delta = 108\text{km}$
 Pg eZ 08 11 30.5
 Sg eE 11 44.8

KSP $\Delta = 224\text{km}$
 Pg eZ 08 11 50.7
 Sn eNEZ 12 14.7

MAY 5

GIG: $\phi = 50.068^{\circ}\text{N}$, $\lambda = 18.419^{\circ}\text{E}$
H = 09:12:54.7, M = 2.4

RAC $\Delta = 16\text{km}$
 Pg eZ 09 12 58.5
 Sg eNE 13 01.5

OJC $\Delta = 100\text{km}$
 Pg eZ 09 13 11.7
 Sg eN 13 25.3

NIE $\Delta = 154\text{km}$
 Pg eZ 09 13 21.0
 Sg eN 13 40.4

KSP $\Delta = 174\text{km}$
 Pg eNEZ 09 13 23.8
 Sg eNEZ 13 45.8

MAY 6

GIG: $\phi = 50.060^{\circ}\text{N}$, $\lambda = 18.421^{\circ}\text{E}$
H = 16:38:29.4, M = 2.7

RAC $\Delta = 16\text{km}$
 Pg iZ 16 38 33.2 D
 Sg eNE 38 35.9

OJC $\Delta = 100\text{km}$
 Pg eZ 16 38 46.5
 Sg iE 38 59.6

NIE $\Delta = 154\text{km}$
 Pg eZ 16 38 55.9
 Sg eN 39 15.1

KSP $\Delta = 174\text{km}$
 Pn eNEZ 16 38 57.3
 Sn eNEZ 39 18.7

MAY 7

GIG: $\phi = 50.207^{\circ}\text{N}$, $\lambda = 19.099^{\circ}\text{E}$
H = 02:04:09.4, M = 2.2

OJC $\Delta = 50\text{km}$
 Pg eZ 02 04 18.2
 Sg eN 04 24.7

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NIE	Δ = 123km				
	Pg eZ	02	04	31.2	
	Sg eZ		04	46.4	
KSP	Δ = 211km				
	Pg eNEZ	02	04	45.5	
	Sn eNEZ		05	08.4	
<u>MAY 7</u>					
Φ = 50.08°N, λ = 18.43°E					
H = 15:25:08.3, M = 2.0					
RAC	Δ = 16km				
	Pg eZ	15	25	11.8	
	Sg eN		25	14.9	
OJC	Δ = 99km				
	Pg eZ	15	25	25.5	
	Sg eN		25	37.5	
NIE	Δ = 154km				
	Pg eZ	15	25	35.0	
	Sg eE		25	55.5	
<u>MAY 7</u>					
Φ = 50.28°N, λ = 18.89°E					
H = 23:46:02.6, M = 2.0					
OJC	Δ = 65km				
	Pg eZ	23	46	14.7	
	Sg eN		46	22.6	
NIE	Δ = 140km				
	Pg eZ	23	46	27.3	
	Sg eE		46	44.9	
KSP	Δ = 194km				
	Pg eNEZ	23	46	35.5	
	Sg eNEZ		46	58.9	
<u>MAY 8</u>					
GIG: Φ = 50.260°N, λ = 18.958°E					
H = 23:58:38.7, M = 2.3					
RAC	Δ = 58km				
	Pg eZ	23	58	49.1	
	Sg eNE		58	56.5	
OJC	Δ = 60km				
	Pg eZ	23	58	50.0	
	Sg eN		58	57.8	
NIE	Δ = 135km				
	Pg eZ	23	59	02.5	
	Sg eEN		59	19.4	
<u>MAY 10</u>					
GIG: Φ = 50.104°N, λ = 19.227°E					
H = 08:41:30.6, M = 2.5					

OJC	Δ = 42km				
	Pg iZ	08	41	37.8	
	Sg iN		41	43.5	
NIE	Δ = 109km				
	Pg eZ	08	41	49.0	
	Sg eE		42	03.4	
KSP	Δ = 224km				
	Pg eNEZ	08	42	09.6	
	Sn eNEZ		42	33.3	

MAY 10
GIG: Φ = 50.252°N, λ = 18.902°E
H = 21:25:36.1, M = 2.3

OJC	Δ = 64km				
	Pg eZ	21	25	48.0	
	Sg eN		25	56.0	
NIE	Δ = 137km				
	Pg eZ	21	26	00.6	
	Sg eE		26	17.9	
KSP	Δ = 196km				
	Pg eNEZ	21	26	09.7	
	Sn eNEZ	21	26	30.3	
	Sg eNEZ		26	33.0	

MAY 11
GIG: Φ = 50.258°N, λ = 18.905°E
H = 00:53:08.4, M = 2.4

OJC	Δ = 64km				
	Pg eZ	00	53	20.3	
	Sg eE		53	28.6	
NIE	Δ = 137km				
	Pg eZ	00	53	32.3	
	Sg eE		53	50.3	
KSP	Δ = 196km				
	Pn eNEZ	00	53	39.9	
	Pg eNEZ		53	41.6	
	Sn eNEZ		54	02.9	
	Sg eNEZ		54	05.1	

MAY 11
Φ = 50.25°N, λ = 18.71°E
H = 01:24:56.3, M = 2.0

OJC	Δ = 78km				
	Pg eZ	01	25	11.0	
	Sg eE		25	20.5	
NIE	Δ = 148km				
	Pg eZ	01	25	21.9	
	Sg eE		25	41.5	

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KSP $\Delta = 183\text{km}$
 Pg eNEZ 01 25 27.0
 Sg eNEZ 25 49.5

MAY 11
GIG: $\phi = 50.254^\circ\text{N}$, $\lambda = 18.878^\circ\text{E}$
H = 15:45:03.3, M = 2.5

OJC $\Delta = 66\text{km}$
 Pg eZ 15 45 15.6
 Sg eE 45 24.0

NIE $\Delta = 139\text{km}$
 Pg eZ 15 45 28.2
 Sg eE 45 45.8

KSP $\Delta = 194\text{km}$
 Pg eNEZ 15 45 36.3
 Sg eNEZ 45 59.1

MAY 12
GIG: $\phi = 50.060^\circ\text{N}$, $\lambda = 18.419^\circ\text{E}$
H = 05:00:58.2, M = 2.2

RAC $\Delta = 16\text{km}$
 Pg eZ 05 01 01.9
 Sg eNE 01 04.6

OJC $\Delta = 100\text{km}$
 Pg eZ 05 01 15.1
 Sg eE 01 28.7

NIE $\Delta = 154\text{km}$
 Pg eZ 05 01 24.6
 Sg eN 01 44.1

KSP $\Delta = 174\text{km}$
 Pn eNEZ 05 01 25.4
 Sn eNEZ 01 47.0

MAY 12
GIG: $\phi = 50.273^\circ\text{N}$, $\lambda = 18.822^\circ\text{E}$
H = 10:51:28.0, M = 2.5

OJC $\Delta = 70\text{km}$
 Pg eZ 10 51 41.4
 Sg eE 51 49.8

NIE $\Delta = 143\text{km}$
 Pg eZ 10 51 53.2
 Sg eZ 52 11.8

KSP $\Delta = 189\text{km}$
 Pn eNEZ 10 51 57.3
 Pg eNEZ 52 00.7
 Sg eNEZ 52 23.3

MAY 12
GIG: $\phi = 50.207^\circ\text{N}$, $\lambda = 19.101^\circ\text{E}$
H = 13:35:01.6, M = 2.3

OJC $\Delta = 49\text{km}$
 Pg eZ 13 35 10.3
 Sg iN 35 16.8

NIE $\Delta = 123\text{km}$
 Pg eZ 13 35 23.2
 Sg eN 35 38.4

KSP $\Delta = 212\text{km}$
 Pg eNEZ 13 35 38.2
 (Sg) eNEZ 36 01.8

MAY 12
GIG: $\phi = 50.242^\circ\text{N}$, $\lambda = 18.971^\circ\text{E}$
H = 16:18:49.5, M = 2.5

OJC $\Delta = 59\text{km}$
 Pg eZ 16 19 00.4
 Sg eE 19 08.2

NIE $\Delta = 134\text{km}$
 Pg eZ 16 19 13.6
 (Sg) eE 19 30.7

KSP $\Delta = 201\text{km}$
 Pn eNEZ 16 19 21.3
 Pg eNEZ 19 23.5
 Sg eNEZ 19 47.3

MAY 14
 $\phi = 50.22^\circ\text{N}$, $\lambda = 18.83^\circ\text{E}$
H = 00:06:10.3, M = 2.7

RAC $\Delta = 48\text{km}$
 Pg eZ 00 06 19.4
 Sg eNE 06 25.9

OJC $\Delta = 69\text{km}$
 Pg eZ 00 06 23.3
 Sg iE 06 32.3

NIE $\Delta = 139\text{km}$
 Pg eZ 00 06 34.3
 Sg eE 06 52.0

KSP $\Delta = 193\text{km}$
 Pn eNEZ 00 06 40.8
 Pg eNEZ 06 43.0
 Sg eNEZ 07 05.7

MAY 14
GIG: $\phi = 50.051^\circ\text{N}$, $\lambda = 18.444^\circ\text{E}$
H = 02:57:33.6, M = 2.1

RAC $\Delta = 18\text{km}$
 Pg eZ 02 57 37.8
 Sg eNE 57 40.7

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OJC	$\Delta = 99\text{km}$		
	Pg eZ	02 57	50.9
	Sg eN	58	03.5
NIE	$\Delta = 152\text{km}$		
	Pg eZ	02 57	59.8
	Sg eE	58	19.6
KSP	$\Delta = 176\text{km}$		
	Pg eNEZ	02 58	02.9
	Sg eNEZ	58	24.7
<u>MAY 14</u>			
GIG: $\phi = 50.207^\circ\text{N}$, $\lambda = 19.101^\circ\text{E}$			
H = 13:41:33.2, M = 2.2			
OJC	$\Delta = 49\text{km}$		
	Pg eZ	13 41	42.5
	Sg iN	41	49.0
NIE	$\Delta = 123\text{km}$		
	Pg eZ	13 41	55.4
	Sg eN	42	10.6
KSP	$\Delta = 211\text{km}$		
	Pg eNEZ	13 42	09.6
	Sg eNEZ	42	34.0
<u>MAY 15</u>			
$\phi = 50.07^\circ\text{N}$, $\lambda = 18.47^\circ\text{E}$			
H = 00:26:31.6, M = 2.0			
RAC	$\Delta = 20\text{km}$		
	Pg eZ	00 26	35.3
	Sg eNE	26	38.3
OJC	$\Delta = 96\text{km}$		
	Pg eZ	00 26	48.7
	Sg eN	27	01.2
NIE	$\Delta = 151\text{km}$		
	Pg eZ	00 26	57.8
	Sg eN	27	17.5
<u>MAY 17</u>			
GIG: $\phi = 50.207^\circ\text{N}$, $\lambda = 19.099^\circ\text{E}$			
H = 16:20:13.0, M = 2.6			
OJC	$\Delta = 50\text{km}$		
	Pg eZ	16 20	22.0
	Sg iN	20	28.5
NIE	$\Delta = 124\text{km}$		
	Pg eZ	16 20	34.9
	Sg eN	20	50.1
KSP	$\Delta = 211\text{km}$		
	Pn eZ	16 20	47.0
	Pg eEZ	20	49.4
	(Sg) eNEZ	21	13.3

<u>MAY 18</u>			
GIG: $\phi = 50.102^\circ\text{N}$, $\lambda = 19.227^\circ\text{E}$			
H = 07:29:36.2, M = 2.5			
OJC	$\Delta = 43\text{km}$		
	Pg eZ	07 29	43.6
	Sg iNE	29	49.4
NIE	$\Delta = 110\text{km}$		
	Pg eZ	07 29	54.9
KSP	$\Delta = 223\text{km}$		
	Pn eZ	07 30	12.3
	Sg eNE	30	40.1
<u>MAY 18</u>			
GIG: $\phi = 50.359^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$			
H = 07:32:52.9, M = 2.5			
OJC	$\Delta = 69\text{km}$		
	Pg eZ	07 33	05.3
	Sg eN	33	14.0
NIE	$\Delta = 148\text{km}$		
	Pg eZ	07 33	19.1
	Sg eE	33	38.1
KSP	$\Delta = 189\text{km}$		
	Pg eNEZ	07 33	24.5
	Sg eNEZ	33	48.2
<u>MAY 18</u>			
GIG: $\phi = 50.084^\circ\text{N}$, $\lambda = 18.434^\circ\text{E}$			
H = 14:13:58.5, M = 2.1			
RAC	$\Delta = 17\text{km}$		
	Pg eZ	14 14	01.5
	Sg eNE	14	04.3
OJC	$\Delta = 98\text{km}$		
	Pg eZ	14 14	14.8
	Sg eN	14	29.3
NIE	$\Delta = 154\text{km}$		
	Pg eZ	14 14	25.5
	Sg eNE	14	45.0
<u>MAY 18</u>			
$\phi = 50.21^\circ\text{N}$, $\lambda = 18.86^\circ\text{E}$			
H = 23:17:15.9, M = 2.3			
OJC	$\Delta = 68\text{km}$		
	Pg eZ	23 17	28.7
	Sg eN	17	36.7
NIE	$\Delta = 136\text{km}$		
	Pg eZ	23 17	39.5

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KSP	Δ = 195km				
	Pg eNEZ	23	17	49.4	
	Sg eNEZ	18	11.7		
<u>MAY 19</u>					
GIG: φ = 50.255°N, λ = 18.878°E					
H = 06:24:17.4, M = 2.5					
OJC	Δ = 66km				
	Pg eZ	06	24	29.6	
	Sg eE	24	37.6		
NIE	Δ = 139km				
	Pg eZ	06	24	42.2	
	Sg eE	24	59.7		
KSP	Δ = 194km				
	Pg eNEZ	06	24	50.6	
	Sn eNEZ	25	10.8		
	Sg eNEZ	25	13.5		
<u>MAY 19</u>					
GIG: φ = 50.362°N, λ = 18.863°E					
H = 21:57:50.4, M = 2.3					
OJC	Δ = 68km				
	Pg eZ	21	58	03.2	
	Sg eN	58	11.7		
NIE	Δ = 147km				
	Pg eZ	21	58	16.1	
	Sg eN	58	34.8		
KSP	Δ = 190km				
	Pg eNEZ	21	58	23.1	
	Sg eNEZ	58	45.4		
<u>MAY 20</u>					
GIG: φ = 50.104°N, λ = 19.228°E					
H = 16:41:54.9, M = 2.4					
OJC	Δ = 42km				
	Pg eZ	16	42	02.2	
	Sg eN	42	07.9		
NIE	Δ = 110km				
	Pg eZ	16	42	13.4	
	Sg eN	42	28.4		
KSP	Δ = 224km				
	Pg eNEZ	16	42	32.1	
	Sn eNEZ	42	57.6		
<u>MAY 21</u>					
GIG: φ = 50.255°N, λ = 18.880°E					
H = 03:52:43.8, M = 2.1					
OJC	Δ = 65km				
	Pg eZ	03	52	55.7	
	Sg eE	53	03.7		

NIE	Δ = 138km				
	Pg eZ	03	53	07.7	
	Sg eE	53	25.3		
KSP	Δ = 195km				
	Pg eNEZ	03	53	17.5	
	(Sg) eNEZ	53	41.2		
<u>MAY 21</u>					
φ = 50.09°N, λ = 18.48°E					
H = 23:00:21.5, M = 1.9					
RAC	Δ = 20km				
	Pg eZ	23	00	25.1	
	Sg eNE	00	28.3		
OJC	Δ = 96km				
	Pg eZ	23	00	38.0	
	Sg eN	00	50.9		
NIE	Δ = 152km				
	Pg eZ	23	00	48.2	
	Sg eE	01	07.6		
<u>MAY 22</u>					
GIG: φ = 50.083°N, λ = 18.433°E					
H = 00:23:32.4, M = 2.0					
RAC	Δ = 17km				
	Pg eZ	00	23	36.6	
	Sg eNE	23	39.4		
OJC	Δ = 98km				
	Pg eZ	00	23	50.0	
	Sg eN	24	01.7		
NIE	Δ = 154km				
	Pg eZ	00	23	59.1	
	Sg eE	24	19.2		
<u>MAY 22</u>					
φ = 50.07°N, λ = 18.49°E					
H = 04:15:46.0, M = 1.9					
RAC	Δ = 22km				
	Pg eZ	04	15	50.2	
	Sg eNE	15	53.2		
OJC	Δ = 94km				
	Pg eZ	04	16	02.1	
	Sg eE	16	15.2		
NIE	Δ = 150km				
	Pg eZ	04	16	11.9	
	Sg eE	16	31.2		
<u>MAY 22</u>					
GIG: φ = 50.254°N, λ = 18.880°E					
H = 05:26:21.6, M = 2.5					

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OJC $\Delta = 66\text{km}$
 Pg eZ 05 26 33.6
 Sg eE 26 41.8

NIE $\Delta = 138\text{km}$
 Pg eZ 05 26 45.7
 Sg eE 27 03.7

KSP $\Delta = 195\text{km}$
 Pn eNEZ 05 26 53.4
 Pg eNEZ 26 54.8
 Sg eNEZ 27 17.5

MAY 22

**GIG: $\phi = 50.038^\circ\text{N}$, $\lambda = 18.463^\circ\text{E}$
 $H = 11:20:07.5$, $M = 2.1$**

RAC $\Delta = 20\text{km}$
 Pg eZ 11 20 12.0
 Sg eNE 20 15.3

OJC $\Delta = 97\text{km}$
 Pg eZ 11 20 24.4
 Sg eE 20 36.5

NIE $\Delta = 150\text{km}$
 Pg eZ 11 20 34.3
 Sg eE 20 52.5

MAY 23

**GIG: $\phi = 50.261^\circ\text{N}$, $\lambda = 18.958^\circ\text{E}$
 $H = 07:36:37.3$, $M = 2.7$**

RAC $\Delta = 58\text{km}$
 Pg eZ 07 36 48.0
 Sg eE 36 55.8

OJC $\Delta = 60\text{km}$
 Pg iZ 07 36 48.5
 Sg iE 36 56.2

NIE $\Delta = 136\text{km}$
 Pg eZ 07 37 00.7
 Sg eE 37 18.2

KSP $\Delta = 199\text{km}$
 Pg iNEZ 07 37 10.8
 Sg eNEZ 37 34.8

KWP $\Delta = 277\text{km}$
 Pn eZ 07 37 17.6
 Pg eZ 37 27.2
 Sg eNE 37 57.6

MAY 23

**GIG: $\phi = 50.241^\circ\text{N}$, $\lambda = 18.905^\circ\text{E}$
 $H = 09:29:25.2$, $M = 2.3$**

OJC $\Delta = 64\text{km}$
 Pg iZ 09 29 37.4
 Sg iN 29 44.9

NIE $\Delta = 137\text{km}$
 Pg eZ 09 29 49.5
 Sg eN 30 06.5

KSP $\Delta = 196\text{km}$
 Pg eNEZ 09 29 58.4
 (Sg) eNEZ 30 21.0

MAY 23

**GIG: $\phi = 50.239^\circ\text{N}$, $\lambda = 18.922^\circ\text{E}$
 $H = 16:31:54.8$, $M = 2.4$**

OJC $\Delta = 63\text{km}$
 Pg eZ 16 32 05.5
 Sg eE 32 13.9

RAC $\Delta = 55\text{km}$
 Pg eZ 16 32 05.6
 (Sg) eNE 32 14.0

NIE $\Delta = 136\text{km}$
 Pg eZ 16 32 18.0
 Sg eN 32 36.3

KSP $\Delta = 198\text{km}$
 Pg eNEZ 16 32 27.7
 Sg eNEZ 32 51.3

MAY 24

**GIG: $\phi = 50.360^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$
 $H = 18:53:25.2$, $M = 2.4$**

OJC $\Delta = 69\text{km}$
 Pg eZ 18 53 37.7
 Sg eN 53 46.4

NIE $\Delta = 148\text{km}$
 Pg eZ 18 53 52.1
 Sg eE 54 09.3

KSP $\Delta = 189\text{km}$
 Pg eNEZ 18 53 56.6
 (Sg) eNEZ 54 19.0

MAY 25

**$\phi = 50.10^\circ\text{N}$, $\lambda = 18.47^\circ\text{E}$
 $H = 02:58:23.7$, $M = 2.0$**

RAC $\Delta = 20\text{km}$
 Pg eZ 02 58 27.1
 Sg eNE 58 30.3

OJC $\Delta = 96\text{km}$
 Pg eZ 02 58 39.9
 Sg eE 58 52.0

NIE $\Delta = 152\text{km}$
 Pg eZ 02 58 50.5
 Sg eE 59 10.2

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KSP $\Delta = 176\text{km}$
 Pg eNEZ 02 58 53.5
 Sg eNEZ 59 14.5

MAY 25
GIG: $\phi = 50.104^\circ\text{N}$, $\lambda = 19.226^\circ\text{E}$
H = 11:01:45.3, M = 2.6

OJC $\Delta = 43\text{km}$
 Pg eZ 11 01 52.4
 Sg eN 01 58.2

NIE $\Delta = 109\text{km}$
 Pg eZ 11 02 03.5
 Sg eN 02 18.7

KSP $\Delta = 224\text{km}$
 Pn eNEZ 11 02 21.6
 Pg eZ 02 24.1
 Sn eNEZ 02 48.0

MAY 26
GIG: $\phi = 50.268^\circ\text{N}$, $\lambda = 18.849^\circ\text{E}$
H = 00:49:36.5, M = 2.3

RAC $\Delta = 52\text{km}$
 Pg eZ 00 49 46.6
 (Sg) eNE 49 53.7

OJC $\Delta = 67\text{km}$
 Pg eZ 00 49 49.0
 Sg eN 49 57.4

NIE $\Delta = 141\text{km}$
 Pg eZ 00 50 00.9
 Sg eE 50 19.1

KSP $\Delta = 192\text{km}$
 Pg eNEZ 00 50 09.3
 Sg eNEZ 50 31.6

MAY 26
 $\phi = 50.28^\circ\text{N}$, $\lambda = 18.93^\circ\text{E}$
H = 04:54:01.3, M = 2.1

OJC $\Delta = 62\text{km}$
 Pg eZ 04 54 12.9
 Sg eE 54 20.4

NIE $\Delta = 138\text{km}$
 Pg eZ 04 54 26.0
 Sg e(E) 54 42.6

KSP $\Delta = 197\text{km}$
 Pg eE 04 54 34.8
 Sg eNEZ 54 58.2

MAY 26
GIG: $\phi = 50.084^\circ\text{N}$, $\lambda = 18.432^\circ\text{E}$
H = 22:04:53.2, M = 2.1

RAC $\Delta = 17\text{km}$
 Pg eZ 22 04 57.2
 Sg eNE 05 00.0

OJC $\Delta = 98\text{km}$
 Pg eZ 22 05 10.3
 Sg eN 05 22.5

NIE $\Delta = 154\text{km}$
 Pg eZ 22 05 19.9
 Sg eN 05 39.6

KSP $\Delta = 173\text{km}$
 Pg eNEZ 22 05 23.1
 Sg eNEZ 05 42.9

MAY 27
GIG: $\phi = 50.254^\circ\text{N}$, $\lambda = 18.881^\circ\text{E}$
H = 02:08:48.9, M = 2.4

RAC $\Delta = 53\text{km}$
 Pg eZ 02 08 59.4
 Sg eNE 09 06.2

OJC $\Delta = 65\text{km}$
 Pg eZ 02 09 00.9
 Sg eE 09 09.8

NIE $\Delta = 139\text{km}$
 Pg eZ 02 09 12.9
 Sg eE 09 30.9

KSP $\Delta = 194\text{km}$
 Pg eNEZ 02 09 21.8
 Sg eNEZ 09 44.7

MAY 27
 $\phi = 50.21^\circ\text{N}$, $\lambda = 18.91^\circ\text{E}$
H = 04:08:53.2, M = 2.0

OJC $\Delta = 63\text{km}$
 Pg eZ 04 09 03.7
 Sg eNE 09 13.3

NIE $\Delta = 135\text{km}$
 Pg eZ 04 09 15.8
 Sg eN 09 34.0

KSP $\Delta = 198\text{km}$
 Pg eNEZ 04 09 27.0
 Sn eNEZ 09 49.1

MAY 27
GIG: $\phi = 50.359^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$
H = 12:12:25.9, M = 2.4

OJC $\Delta = 69\text{km}$
 Pg eZ 12 12 38.7
 Sg eN 12 47.5

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NIE	$\Delta = 148\text{km}$			
	Pg eZ	12	12	51.8
	Sg eN		13	10.1
<u>MAY 27</u>				
GIG: $\Phi = 50.240^\circ\text{N}$, $\lambda = 18.837^\circ\text{E}$				
H = 13:24:29.5, M = 2.7				
RAC	$\Delta = 49\text{km}$			
	Pg eZ	13	24	38.7
	Sg eNE		24	45.1
OJC	$\Delta = 69\text{km}$			
	Pg eZ	13	24	42.4
	Sg eE		24	51.4
NIE	$\Delta = 140\text{km}$			
	Pg eZ	13	24	53.4
	Sg eE		25	11.2
KSP	$\Delta = 192\text{km}$			
	Pn eNZ	13	24	59.3
	Pg eNEZ		25	01.6
	Sg eNEZ		25	24.9
<u>MAY 27</u>				
GIG: $\Phi = 50.226^\circ\text{N}$, $\lambda = 19.033^\circ\text{E}$				
H = 13:31:47.0, M = 2.4				
OJC	$\Delta = 55\text{km}$			
	Pg eZ	13	31	57.4
	Sg eE		32	04.5
NIE	$\Delta = 129\text{km}$			
	Pg eZ	13	32	09.6
	Sg eN		32	26.3
KSP	$\Delta = 206\text{km}$			
	Pg eNEZ	13	32	21.8
	Sg eNEZ		32	46.5
<u>MAY 28</u>				
GIG: $\Phi = 50.070^\circ\text{N}$, $\lambda = 18.457^\circ\text{E}$				
H = 00:17:35.0, M = 2.7				
RAC	$\Delta = 19\text{km}$			
	Pg iZ	00	17	39.4 D
	Sg eNE		17	42.5
OJC	$\Delta = 97\text{km}$			
	Pg eZ	00	17	51.8
	Sg eN		18	04.7
NIE	$\Delta = 152\text{km}$			
	Pg eZ	00	18	01.0
	Sg iN		18	21.1
KSP	$\Delta = 176\text{km}$			
	Pn eNEZ	00	18	03.5
	Pg eNEZ		18	05.4
	Sg eNEZ		18	25.0

KWP	$\Delta = 308\text{km}$			
	Pn eZ	00	18	23.6
	Pg eZ		18	32.1
	Sn eNE		18	57.4
	Sg eNE		19	10.7

MAY 28
GIG: $\Phi = 49.959^\circ\text{N}$, $\lambda = 18.562^\circ\text{E}$
H = 05:31:18.0, M = 2.6

RAC	$\Delta = 30\text{km}$			
	Pg eZ	05	31	23.7
	Sg eNE		31	28.0
OJC	$\Delta = 93\text{km}$			
	Pg eZ	05	31	33.9
	Sg eE		31	46.8
NIE	$\Delta = 140\text{km}$			
	Pg eZ	05	31	41.8
	Sg eE		32	00.7
KSP	$\Delta = 189\text{km}$			
	Pg eNEZ	05	31	49.4
	Sg eNEZ		32	12.2

MAY 28
GIG: $\Phi = 50.208^\circ\text{N}$, $\lambda = 19.100^\circ\text{E}$
H = 21:55:30.7, M = 2.2

OJC	$\Delta = 50\text{km}$			
	Pg eZ	21	55	39.5
	Sg eN		55	46.0
NIE	$\Delta = 124\text{km}$			
	Pg eE	21	55	52.3
	(Sg) eN		56	09.0
KSP	$\Delta = 211\text{km}$			
	Pg eE	21	56	07.0
	(Sg) eNEZ		56	30.7

MAY 29
GIG: $\Phi = 50.081^\circ\text{N}$, $\lambda = 18.432^\circ\text{E}$
H = 05:24:44.5, M = 2.0

RAC	$\Delta = 17\text{km}$			
	Pg eZ	05	24	47.5
	Sg eNE		24	50.3
OJC	$\Delta = 99\text{km}$			
	Pg eZ	05	25	01.4
	Sg eN		25	14.5
NIE	$\Delta = 154\text{km}$			
	Pg eZ	05	25	10.5
	Sg eE		25	31.2

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MAY 30

GIG: $\Phi = 50.207^\circ\text{N}$, $\lambda = 19.101^\circ\text{E}$
H = 13:59:37.8, M = 2.3

OJC $\Delta = 50\text{km}$
 Pg eZ 13 59 46.8
 Sg iN 59 53.2

NIE $\Delta = 124\text{km}$
 Pg eZ 13 59 59.5
 (Sg) eN 14 00 16.3

KSP $\Delta = 211\text{km}$
 Pg eZ 14 00 13.4
 Sn eN 00 35.9

MAY 31

GIG: $\Phi = 50.239^\circ\text{N}$, $\lambda = 18.922^\circ\text{E}$
H = 00:24:31.7, M = 2.2

RAC $\Delta = 55\text{km}$
 Pg eZ 00 24 42.1
 Sg eNE 24 49.2

OJC $\Delta = 63\text{km}$
 Pg eZ 00 24 43.4
 Sg eE 24 51.6

NIE $\Delta = 136\text{km}$
 Pg eZ 00 24 55.7
 Sg eE 25 13.0

KSP $\Delta = 197\text{km}$
 Pg eNEZ 00 25 04.7
 Sg eNEZ 25 28.7

MAY 31

GIG: $\Phi = 50.18^\circ\text{N}$, $\lambda = 18.81^\circ\text{E}$
H = 13:19:17.2, M = 2.4

OJC $\Delta = 71\text{km}$
 Pg eZ 13 19 30.0
 Sg iN 19 39.6

NIE $\Delta = 138\text{km}$
 Pg eZ 13 19 41.4
 Sg iE 19 59.1

KSP $\Delta = 192\text{km}$
 Pg eNEZ 13 19 49.9
 Sg eNEZ 20 12.8

MAY 31

GIG: $\Phi = 50.255^\circ\text{N}$, $\lambda = 18.880^\circ\text{E}$
H = 20:56:46.7, M = 2.5

RAC $\Delta = 52\text{km}$
 Pg eZ 20 56 57.5
 Sg eNE 57 04.5

OJC $\Delta = 66\text{km}$
 Pg eZ 20 56 59.0
 Sg eE 57 07.5

NIE $\Delta = 138\text{km}$
 Pg eZ 20 57 11.0
 Sg eE 57 28.5

KSP $\Delta = 195\text{km}$
 Pg eNEZ 20 57 20.1
 Sg eNEZ 57 42.5

JUN 1

GIG: $\Phi = 50.35^\circ\text{N}$, $\lambda = 18.88^\circ\text{E}$
H = 01:58:30.6, M = 2.3

OJC $\Delta = 67\text{km}$
 Pg eZ 01 58 43.0
 Sg eE 58 51.4

NIE $\Delta = 147\text{km}$
 Pg eZ 01 58 56.4
 Sg eN 59 15.2

KSP $\Delta = 191\text{km}$
 Pg eNEZ 01 59 02.9
 Sg eNEZ 59 25.8

JUN 1

GIG: $\Phi = 50.104^\circ\text{N}$, $\lambda = 19.229^\circ\text{E}$
H = 09:53:26.2, M = 2.3

OJC $\Delta = 42\text{km}$
 Pg eZ 09 53 33.5
 Sg eN 53 39.3

NIE $\Delta = 109\text{km}$
 Pg eZ 09 53 44.4
 (Sg) eE 53 59.9

KSP $\Delta = 224\text{km}$
 Pn eE 09 54 01.4
 Pg eE 54 05.2
 Sn eN 54 29.0
 Sg eNEZ 54 30.1

JUN 1

GIG: $\Phi = 50.362^\circ\text{N}$, $\lambda = 18.863^\circ\text{E}$
H = 14:09:28.6, M = 2.4

OJC $\Delta = 68\text{km}$
 Pg eZ 14 09 41.5
 Sg eN 09 50.0

NIE $\Delta = 147\text{km}$
 Pg eZ 14 09 54.2
 Sg eN 10 12.6

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JUN 2

GIG: $\phi = 50.245^{\circ}\text{N}$, $\lambda = 18.920^{\circ}\text{E}$
H = 03:49:43.6, M = 2.5

RAC	$\Delta = 55\text{km}$		
	Pg eZ	03 49 54.4	
	Sg eNE	50 01.6	
OJC	$\Delta = 62\text{km}$		
	Pg iZ	03 49 55.4	D
	Sg iE	50 03.6	
NIE	$\Delta = 136\text{km}$		
	Pg eZ	03 50 07.4	
	Sg eE	50 25.0	
KSP	$\Delta = 197\text{km}$		
	Pg eNEZ	03 50 17.2	
	Sg eNEZ	50 40.3	

JUN 2

GIG: $\phi = 49.957^{\circ}\text{N}$, $\lambda = 18.562^{\circ}\text{E}$
H = 18:31:46.8, M = 2.0

RAC	$\Delta = 30\text{km}$		
	Pg eZ	18 31 52.9	
	Sg eNE	31 58.3	
OJC	$\Delta = 93\text{km}$		
	Pg eZ	18 32 02.6	
	(Sg) eN	32 14.0	
NIE	$\Delta = 140\text{km}$		
	Pg eZ	18 32 12.2	
	(Sg) eE	32 30.0	

JUN 3

GIG: $\phi = 50.060^{\circ}\text{N}$, $\lambda = 18.447^{\circ}\text{E}$
H = 14:48:36.2, M = 2.4

RAC	$\Delta = 18\text{km}$		
	Pg iZ	14 48 40.4	D
	Sg eNE	48 43.6	
OJC	$\Delta = 98\text{km}$		
	Pg eZ	14 48 53.3	
	Sg eN	49 05.5	
NIE	$\Delta = 152\text{km}$		
	Pg eZ	14 49 02.9	
	Sg eN	49 21.8	
KSP	$\Delta = 176\text{km}$		
	Pn eNEZ	14 49 04.4	
	Sg eNEZ	49 26.4	

JUN 3

GIG: $\phi = 50.255^{\circ}\text{N}$, $\lambda = 18.878^{\circ}\text{E}$
H = 15:20:32.0, M = 2.3

OJC	$\Delta = 66\text{km}$		
	Pg eZ	15 20 44.1	
	Sg eE	20 52.8	

NIE	$\Delta = 138\text{km}$		
	Pg eZ	15 20 56.1	
	Sg eE	21 14.1	

KSP	$\Delta = 194\text{km}$		
	Pn eNEZ	15 21 03.3	
	Pg eNEZ	21 05.2	
	Sg eNEZ	21 27.9	

JUN 4

GIG: $\phi = 50.261^{\circ}\text{N}$, $\lambda = 18.958^{\circ}\text{E}$
H = 01:31:02.5, M = 2.0

OJC	$\Delta = 60\text{km}$		
	Pg eZ	01 31 13.7	
	Sg eN	31 21.7	

NIE	$\Delta = 135\text{km}$		
	Pg eZ	01 31 26.2	
	Sg eE	31 43.5	

KSP	$\Delta = 199\text{km}$		
	Pn eEZ	01 31 33.8	
	Pg eNEZ	31 36.5	
	Sg eNEZ	32 00.4	

JUN 4

GIG: $\phi = 50.085^{\circ}\text{N}$, $\lambda = 18.434^{\circ}\text{E}$
H = 02:38:38.5, M = 2.0

RAC	$\Delta = 17\text{km}$		
	Pg eZ	02 38 42.7	
	Sg eNE	38 45.6	

OJC	$\Delta = 98\text{km}$		
	Pg eZ	02 38 55.7	
	Sg eE	39 07.7	

NIE	$\Delta = 154\text{km}$		
	Pg eZ	02 39 05.1	
	Sg eE	39 25.2	

JUN 5

GIG: $\phi = 50.03^{\circ}\text{N}$, $\lambda = 18.46^{\circ}\text{E}$
H = 12:23:24.3, M = 2.2

RAC	$\Delta = 20\text{km}$		
	Pg eZ	12 23 28.4	
	Sg eNE	23 32.2	

OJC	$\Delta = 98\text{km}$		
	Pg eZ	12 23 40.4	
	Sg eE	23 54.4	

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NIE	$\Delta = 150\text{km}$			
	Pg eZ	12	23	49.5
	Sg eE		24	09.8
KSP	$\Delta = 178\text{km}$			
	Pn eNEZ	12	23	52.8
	Sn eNEZ		24	13.7
<u>JUN 7</u>				
GIG: $\Phi = 50.038^\circ\text{N}$, $\lambda = 18.462^\circ\text{E}$				
H = 12:24:46.1, M = 2.2				
RAC	$\Delta = 20\text{km}$			
	Pg eZ	12	24	50.3
	Sg eNE		24	53.5
OJC	$\Delta = 98\text{km}$			
	Pg eZ	12	25	03.0
	Sg eE		25	15.2
NIE	$\Delta = 150\text{km}$			
	Pg eZ	12	25	11.5
	Sg eE		25	31.9
KSP	$\Delta = 178\text{km}$			
	Pn eNEZ	12	25	14.3
	Sn eNEZ		25	35.8
<u>JUN 7</u>				
GIG: $\Phi = 50.208^\circ\text{N}$, $\lambda = 19.100^\circ\text{E}$				
H = 16:17:45.6, M = 2.6				
OJC	$\Delta = 50\text{km}$			
	Pg eZ	16	17	53.9
	Sg eN		18	00.3
NIE	$\Delta = 124\text{km}$			
	Pg eZ	16	18	06.6
	Sg eN		18	23.4
KSP	$\Delta = 211\text{km}$			
	Pn eNEZ	16	18	20.0
	Pg eNEZ		18	21.7
	Sn eNEZ		18	44.7
<u>JUN 7</u>				
GIG: $\Phi = 50.255^\circ\text{N}$, $\lambda = 18.880^\circ\text{E}$				
H = 23:48:05.1, M = 2.5				
OJC	$\Delta = 66\text{km}$			
	Pg eZ	23	48	17.3
	Sg eE		48	25.6
NIE	$\Delta = 139\text{km}$			
	Pg eZ	23	48	29.2
	Sg eE		48	47.3
KSP	$\Delta = 194\text{km}$			
	Pg eNEZ	23	48	38.4
	Sg eNEZ		49	01.2

<u>JUN 8</u>				
GIG: $\Phi = 50.362^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$				
H = 07:26:58.5, M = 2.4				
OJC	$\Delta = 68\text{km}$			
	Pg eZ		07	27 10.9
	Sg eN		27	19.2
NIE	$\Delta = 148\text{km}$			
	Pg eZ		07	27 25.0
	Sg eE		27	43.3
<u>JUN 8</u>				
$\Phi = 50.17^\circ\text{N}$, $\lambda = 18.76^\circ\text{E}$				
H = 09:38:37.7, M = 2.6				
OJC	$\Delta = 74\text{km}$			
	Pg eZ		09	38 51.4
	Sg eE		39	00.4
NIE	$\Delta = 140\text{km}$			
	Pg eZ		09	39 02.0
	Sg eE		39	20.4
KSP	$\Delta = 190\text{km}$			
	Pg eNEZ		09	39 09.7
	Sg eNEZ		39	32.8
<u>JUN 8</u>				
GIG: $\Phi = 50.102^\circ\text{N}$, $\lambda = 19.229^\circ\text{E}$				
H = 14:10:02.6, M = 2.4				
OJC	$\Delta = 42\text{km}$			
	Pg iZ		14	10 09.6
	Sg iN		10	15.3
NIE	$\Delta = 109\text{km}$			
	Pg eZ		14	10 20.8
	Sg eE		10	35.7
KSP	$\Delta = 224\text{km}$			
	Pg eNEZ		14	10 41.4
	(Sn) eNEZ		11	04.8
<u>JUN 8</u>				
$\Phi = 50.27^\circ\text{N}$, $\lambda = 18.92^\circ\text{E}$				
H = 16:00:48.3, M = 2.2				
OJC	$\Delta = 63\text{km}$			
	Pg eZ		16	00 59.8
	Sg eN		01	08.0
NIE	$\Delta = 138\text{km}$			
	Pg eZ		16	01 12.5
	Sg eE		01	30.0
KSP	$\Delta = 196\text{km}$			
	Pg eNEZ		16	01 21.8
	Sg eNEZ		01	44.9

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JUN 8

$\Phi = 49.97^{\circ}\text{N}$, $\lambda = 18.52^{\circ}\text{E}$
H = 19:41:58.1, M = 2.1

RAC $\Delta = 26\text{km}$
 Pg eZ 19 42 03.8
 Sg eNE 42 08.9

OJC $\Delta = 95\text{km}$
 Pg eZ 19 42 14.9
 Sg eE 42 27.4

NIE $\Delta = 143\text{km}$
 Pg eZ 19 42 22.0
 Sg eE 42 41.0

KSP $\Delta = 186\text{km}$
 Pg eNEZ 19 42 28.9
 (Sg) eNEZ 42 52.8

JUN 9

$\Phi = 50.10^{\circ}\text{N}$, $\lambda = 18.48^{\circ}\text{E}$
H = 02:13:37.4, M = 2.0

RAC $\Delta = 21\text{km}$
 Pg eZ 02 13 41.7
 Sg eNE 13 44.9

OJC $\Delta = 94\text{km}$
 Pg eZ 02 13 54.3
 Sg eE 14 06.2

NIE $\Delta = 152\text{km}$
 Pg eZ 02 14 03.5
 Sg eE 14 23.3

KSP $\Delta = 176\text{km}$
 Pg eE 02 14 07.2
 Sg eNEZ 14 27.9

JUN 10

$\Phi = 50.06^{\circ}\text{N}$, $\lambda = 18.47^{\circ}\text{E}$
H = 01:28:13.3, M = 2.0

RAC $\Delta = 20\text{km}$
 Pg eZ 01 28 17.3
 Sg eNE 28 20.2

OJC $\Delta = 96\text{km}$
 Pg eZ 01 28 30.4
 Sg eN 28 43.2

NIE $\Delta = 150\text{km}$
 Pg iZ 01 28 39.5 D
 Sg eN 28 58.9

KSP $\Delta = 178\text{km}$
 Pn eNEZ 01 28 41.1
 Sn eNEZ 29 02.7

JUN 10

GIG: $\Phi = 50.256^{\circ}\text{N}$, $\lambda = 18.879^{\circ}\text{E}$
H = 04:54:30.6, M = 2.1

OJC $\Delta = 66\text{km}$
 Pg eZ 04 54 42.9
 Sg eEZ 54 51.5

NIE $\Delta = 139\text{km}$
 Pg eZ 04 54 54.8
 Sg eE 55 12.8

KSP $\Delta = 194\text{km}$
 Pg eNEZ 04 55 04.0
 Sg eNEZ 55 26.7

JUN 11

$\Phi = 49.92^{\circ}\text{N}$, $\lambda = 18.52^{\circ}\text{E}$
H = 03:14:59.9, M = 2.0

OJC $\Delta = 97\text{km}$
 Pg eZ 03 15 16.5
 Sg eE 15 29.9

NIE $\Delta = 141\text{km}$
 Pg eZ 03 15 23.3
 Sg eE 15 42.2

KSP $\Delta = 189\text{km}$
 Pn eNEZ 03 15 30.5
 Sg eNEZ 15 54.0

JUN 13

$\Phi = 49.93^{\circ}\text{N}$, $\lambda = 18.51^{\circ}\text{E}$
H = 08:05:59.9, M = 2.2

OJC $\Delta = 98\text{km}$
 Pg eZ 08 06 16.7
 Sg eN 06 29.7

NIE $\Delta = 142\text{km}$
 Pg eZ 08 06 23.6
 Sg eN 06 43.0

KSP $\Delta = 188\text{km}$
 Pg eNEZ 08 06 31.8
 Sg eNEZ 06 54.1

JUN 13

GIG: $\Phi = 50.261^{\circ}\text{N}$, $\lambda = 18.960^{\circ}\text{E}$
H = 19:09:22.1, M = 2.6

OJC $\Delta = 60\text{km}$
 Pg eZ 19 09 32.7
 Sg eN 09 40.2

NIE $\Delta = 136\text{km}$
 Pg eZ 19 09 46.9
 Sg eN 10 03.7

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KSP $\Delta = 199\text{km}$
 Pg iNEZ 19 09 55.1
 Sg eNEZ 10 18.9

JUN 15
GIG: $\Phi = 50.252^\circ\text{N}$, $\lambda = 18.911^\circ\text{E}$
H = 01:30:31.0, M = 2.2

OJC $\Delta = 64\text{km}$
 Pg eZ 01 30 42.8
 Sg eE 30 51.0

NIE $\Delta = 137\text{km}$
 Pg eZ 01 30 55.0
 Sg eE 31 12.8

KSP $\Delta = 196\text{km}$
 Pg eNEZ 01 31 04.2
 Sg eNEZ 31 27.9

JUN 15
GIG: $\Phi = 50.245^\circ\text{N}$, $\lambda = 18.907^\circ\text{E}$
H = 02:47:08.9, M = 2.5

OJC $\Delta = 64\text{km}$
 Pg eZ 02 47 20.7
 Sg eE 47 28.6

NIE $\Delta = 136\text{km}$
 Pg eZ 02 47 32.6
 Sg eE 47 50.3

KSP $\Delta = 197\text{km}$
 Pg eNEZ 02 47 42.6
 Sg eNEZ 48 05.7

JUN 15
 $\Phi = 50.10^\circ\text{N}$, $\lambda = 18.47^\circ\text{E}$
H = 15:04:45.4, M = 2.2

RAC $\Delta = 20\text{km}$
 Pg eZ 15 04 49.0
 Sg eNE 04 52.4

OJC $\Delta = 96\text{km}$
 Pg eZ 15 05 02.0
 Sg eN 05 14.9

NIE $\Delta = 153\text{km}$
 Pg eZ 15 05 12.0
 Sg eNE 05 31.6

JUN 15
 $\Phi = 50.28^\circ\text{N}$, $\lambda = 18.86^\circ\text{E}$
H = 18:20:45.8, M = 2.5

OJC $\Delta = 68\text{km}$
 Pg eZ 18 20 58.8
 Sg eE 21 06.8

NIE $\Delta = 142\text{km}$
 (Pg) eZ 18 21 13.5
 Sg iE 21 28.1

KSP $\Delta = 192\text{km}$
 Pg eNEZ 18 21 18.4
 Sg eNEZ 21 40.8

JUN 16
GIG: $\Phi = 50.255^\circ\text{N}$, $\lambda = 18.880^\circ\text{E}$
H = 03:18:10.8, M = 2.2

OJC $\Delta = 66\text{km}$
 Pg eZ 03 18 22.7
 Sg eN 18 31.6

NIE $\Delta = 139\text{km}$
 Pg eZ 03 18 34.8
 Sg eE 18 53.3

KSP $\Delta = 194\text{km}$
 Pg eNEZ 03 18 43.5
 Sg eNEZ 19 06.6

JUN 16
GIG: $\Phi = 50.255^\circ\text{N}$, $\lambda = 18.882^\circ\text{E}$
H = 21:18:31.7, M = 2.0

OJC $\Delta = 65\text{km}$
 Pg eZ 21 18 43.6
 Sg eE 18 51.8

NIE $\Delta = 138\text{km}$
 Pg eZ 21 18 55.5
 Sg eE 19 13.4

KSP $\Delta = 195\text{km}$
 Pg eNEZ 21 19 05.5
 Sg eNEZ 19 28.4

JUN 17
GIG: $\Phi = 50.102^\circ\text{N}$, $\lambda = 19.222^\circ\text{E}$
H = 15:16:31.4, M = 2.3

OJC $\Delta = 44\text{km}$
 Pg iZ 15 16 39.8
 Sg iN 16 45.6

NIE $\Delta = 110\text{km}$
 Pg eZ 15 16 50.9
 (Sg) eE 17 05.9

KSP $\Delta = 223\text{km}$
 Pg eE 15 17 08.6
 Sg eNEZ 17 36.3

JUN 18
GIG: $\Phi = 50.253^\circ\text{N}$, $\lambda = 18.910^\circ\text{E}$
H = 16:25:38.7, M = 2.5

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RAC	$\Delta = 54\text{km}$		
	Pg eZ	16 25 49.3	
	(Sg) eNE	25 54.9	
OJC	$\Delta = 63\text{km}$		
	Pg eZ	16 25 50.5	
	Sg eN	25 58.0	
NIE	$\Delta = 137\text{km}$		
	Pg eZ	16 26 02.4	
	Sg eE	26 19.6	
KSP	$\Delta = 197\text{km}$		
	Pn eNEZ	16 26 09.7	
	Pg eNEZ	26 12.1	
	Sg eNEZ	26 35.0	
<u>JUN 18</u>			
	$\Phi = 50.27^\circ\text{N}, \lambda = 18.81^\circ\text{E}$		
	H = 19:44:35.3, M = 2.3		
OJC	$\Delta = 70\text{km}$		
	Pg iZ	19 44 47.7	
	Sg iE	44 57.3	
NIE	$\Delta = 143\text{km}$		
	Pg eZ	19 45 00.0	
	Sg eE	45 18.5	
KSP	$\Delta = 190\text{km}$		
	Pg eNEZ	19 45 07.4	
	Sg eNEZ	45 30.7	
<u>JUN 18</u>			
	GIG: $\Phi = 50.359^\circ\text{N}, \lambda = 18.863^\circ\text{E}$		
	H = 22:47:11.8, M = 2.4		
RAC	$\Delta = 57\text{km}$		
	Pg eZ	22 47 22.9	
	Sg eNE	47 30.3	
OJC	$\Delta = 68\text{km}$		
	Pg eZ	22 47 24.6	
	Sg eN	47 33.2	
NIE	$\Delta = 147\text{km}$		
	Pg eZ	22 47 36.8	
	Sg eE	47 55.5	
KSP	$\Delta = 190\text{km}$		
	Pg eNEZ	22 47 43.7	
	Sn eNEZ	48 04.9	
	(Sg) eNEZ	48 07.7	
<u>JUN 22</u>			
	GIG: $\Phi = 50.103^\circ\text{N}, \lambda = 19.229^\circ\text{E}$		
	H = 08:22:55.2, M = 2.4		
OJC	$\Delta = 42\text{km}$		
	Pg eZ	08 23 02.3	
	Sg eE	23 08.1	

NIE	$\Delta = 109\text{km}$		
	Pg eZ	08 23 13.7	
	Sg eE	23 28.6	
KSP	$\Delta = 224\text{km}$		
	Pg eEZ	08 23 33.9	
	Sn eNEZ	23 57.9	
<u>JUN 22</u>			
	GIG: $\Phi = 50.050^\circ\text{N}, \lambda = 18.447^\circ\text{E}$		
	H = 19:04:02.8, M = 2.0		
RAC	$\Delta = 18\text{km}$		
	Pg eZ	19 04 06.3	
	Sg eNE	04 09.4	
OJC	$\Delta = 98\text{km}$		
	Pg eZ	19 04 19.3	
	Sg eN	04 32.3	
NIE	$\Delta = 152\text{km}$		
	Pg eZ	19 04 29.6	
	Sg eE	04 49.0	
<u>JUN 23</u>			
	$\Phi = 50.22^\circ\text{N}, \lambda = 18.84^\circ\text{E}$		
	H = 00:41:19.2, M = 2.0		
OJC	$\Delta = 68\text{km}$		
	Pg eZ	00 41 32.2	
	Sg eE	41 40.5	
NIE	$\Delta = 138\text{km}$		
	Pg eZ	00 41 43.8	
	Sg eN	42 01.4	
KSP	$\Delta = 193\text{km}$		
	Pg eZ	00 41 52.0	
	Sg eN	42 14.7	
<u>JUN 23</u>			
	GIG: $\Phi = 50.208^\circ\text{N}, \lambda = 19.098^\circ\text{E}$		
	H = 15:37:09.1, M = 2.5		
OJC	$\Delta = 50\text{km}$		
	Pg eZ	15 37 17.7	
	Sg iN	37 24.3	
RAC	$\Delta = 66\text{km}$		
	Pg eZ	15 37 20.7	
	Sg eNE	37 29.7	
NIE	$\Delta = 124\text{km}$		
	Pg eZ	15 37 30.4	
	Sg eN	37 47.2	
KSP	$\Delta = 210\text{km}$		
	Pn eZ	15 37 42.5	
	Pg eNEZ	37 45.6	
	Sn eN	38 08.6	

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JUN 23

GIG: $\Phi = 50.252^{\circ}\text{N}$, $\lambda = 18.908^{\circ}\text{E}$
H = 17:36:42.5, M = 2.7

RAC $\Delta = 55\text{km}$
Pg eZ 17 36 53.1
Sg eNE 37 00.3

OJC $\Delta = 63\text{km}$
Pg iZ 17 36 54.3 D
Sg iE 37 02.5

NIE $\Delta = 137\text{km}$
Pg eZ 17 37 06.1
Sg eE 37 23.2

KSP $\Delta = 197\text{km}$
Pg eNEZ 17 37 15.7
Sg eNEZ 37 39.1

JUN 23

GIG: $\Phi = 50.38^{\circ}\text{N}$, $\lambda = 18.82^{\circ}\text{E}$
H = 18:03:00.0, M = 2.4

OJC $\Delta = 72\text{km}$
Pg eZ 18 03 13.5
Sg eN 03 22.0

NIE $\Delta = 152\text{km}$
Pg eZ 18 03 27.5
Sg eE 03 45.1

KSP $\Delta = 186\text{km}$
Pg eNEZ 18 03 32.0
Sg eNEZ 03 53.4

JUN 23

GIG: $\Phi = 50.16^{\circ}\text{N}$, $\lambda = 18.99^{\circ}\text{E}$
H = 22:13:17.0, M = 2.4

RAC $\Delta = 58\text{km}$
Pg eZ 22 13 27.2
Sg eNE 13 34.6

OJC $\Delta = 58\text{km}$
Pg iZ 22 13 27.3 D
Sg iN 13 34.5

NIE $\Delta = 126\text{km}$
Pg eZ 22 13 39.4
(Sg) eN 13 55.8

KSP $\Delta = 206\text{km}$
Pg eNEZ 22 13 52.4
Sg eNEZ 14 17.1

JUN 25

GIG: $\Phi = 50.22^{\circ}\text{N}$, $\lambda = 18.83^{\circ}\text{E}$
H = 04:40:31.1, M = 2.2

OJC $\Delta = 69\text{km}$
Pg eZ 04 40 43.9
Sg eN 40 52.2

NIE $\Delta = 138\text{km}$
Pg iZ 04 40 55.5
Sg eN 41 12.9

KSP $\Delta = 193\text{km}$
Pg eNEZ 04 41 03.9
Sg eNEZ 41 27.0

JUN 25

GIG: $\Phi = 50.064^{\circ}\text{N}$, $\lambda = 18.424^{\circ}\text{E}$
H = 07:32:33.5, M = 2.6

RAC $\Delta = 17\text{km}$
Pg iZ 07 32 37.4 D
Sg eNE 32 40.2

OJC $\Delta = 100\text{km}$
Pg eZ 07 32 50.5
Sg eE 33 03.4

NIE $\Delta = 154\text{km}$
Pg eZ 07 32 59.6
Sg eE 33 19.4

KSP $\Delta = 174\text{km}$
Pn eNEZ 07 33 01.5
Sg eNEZ 33 24.1

JUN 25

GIG: $\Phi = 50.245^{\circ}\text{N}$, $\lambda = 18.907^{\circ}\text{E}$
H = 23:16:34.3, M = 2.4

RAC $\Delta = 54\text{km}$
Pg eZ 23 16 44.3
Sg eNE 16 51.3

OJC $\Delta = 64\text{km}$
Pg eZ 23 16 46.0
Sg eE 16 54.3

NIE $\Delta = 137\text{km}$
Pg eZ 23 16 58.4
Sg eE 17 15.5

KSP $\Delta = 196\text{km}$
Pg eNEZ 23 17 07.7
Sg eNEZ 17 31.1

JUN 26

GIG: $\Phi = 49.960^{\circ}\text{N}$, $\lambda = 18.562^{\circ}\text{E}$
H = 08:15:13.0, M = 2.5

OJC $\Delta = 93\text{km}$
Pg eZ 08 15 29.1
Sg eN 15 40.7

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NIE	$\Delta = 140\text{km}$		
	Pg eZ	08 15	37.3
	Sg eE	15	55.8
KSP	$\Delta = 188\text{km}$		
	Pg eNEZ	08 15	44.5
<u>JUN 26</u>			
$\Phi = 50.21^\circ\text{N}, \lambda = 18.88^\circ\text{E}$			
$\text{H} = 13:24:34.9, \text{M} = 2.1$			
OJC	$\Delta = 66\text{km}$		
	Pg eZ	13 24	47.3
	Sg eE	24	55.3
NIE	$\Delta = 136\text{km}$		
	Pg eZ	13 24	58.5
	Sg eE	25	16.4
KSP	$\Delta = 196\text{km}$		
	Pg eNEZ	13 25	07.8
	Sg eNEZ	25	31.3
<u>JUN 27</u>			
$\Phi = 50.37^\circ\text{N}, \lambda = 18.91^\circ\text{E}$			
$\text{H} = 11:47:58.3, \text{M} = 2.3$			
OJC	$\Delta = 65\text{km}$		
	Pg eZ	11 48	09.9
	Sg eNE	48	18.7
NIE	$\Delta = 145\text{km}$		
	Pg eZ	11 48	23.5
	Sg eE	48	42.5
KSP	$\Delta = 193\text{km}$		
	Pg eNEZ	11 48	31.2
	Sg eNEZ	48	54.0
<u>JUN 28</u>			
GIG: $\Phi = 50.104^\circ\text{N}, \lambda = 19.227^\circ\text{E}$			
$\text{H} = 09:07:40.7, \text{M} = 2.0$			
OJC	$\Delta = 44\text{km}$		
	Pg eZ	09 07	48.5
	Sg eNE	07	54.5
<u>JUN 29</u>			
GIG: $\Phi = 50.072^\circ\text{N}, \lambda = 18.461^\circ\text{E}$			
$\text{H} = 21:08:40.6, \text{M} = 2.2$			
RAC	$\Delta = 19\text{km}$		
	Pg eZ	21 08	45.1
	Sg eNE	08	48.2
OJC	$\Delta = 97\text{km}$		
	Pg eZ	21 08	57.7
	Sg eN	09	09.7

NIE	$\Delta = 152\text{km}$		
	Pg eZ	21 09	06.7
	Sg eE	09	25.9

JUN 30

GIG: $\Phi = 50.270^\circ\text{N}, \lambda = 18.859^\circ\text{E}$
 $\text{H} = 03:38:58.2, \text{M} = 2.0$

OJC	$\Delta = 67\text{km}$		
	Pg eZ	03 39	10.6
	Sg eE	39	18.8

NIE	$\Delta = 140\text{km}$		
	Pg eZ	03 39	22.5
	Sg eE	39	40.4

KSP	$\Delta = 193\text{km}$		
	Pg eZ	03 39	31.3
	(Sg) eE	39	55.1

JUN 30

GIG: $\Phi = 50.345^\circ\text{N}, \lambda = 18.980^\circ\text{E}$
 $\text{H} = 17:13:42.8, \text{M} = 2.5$

OJC	$\Delta = 60\text{km}$		
	Pg eZ	17 13	53.8
	Sg iN	14	01.7

NIE	$\Delta = 140\text{km}$		
	Pg eZ	17 14	07.5
	Sg eN	14	24.5

KSP	$\Delta = 198\text{km}$		
	Pg eNEZ	17 14	16.5
	Sg eNEZ	14	40.3

JUL 1

GIG: $\Phi = 50.257^\circ\text{N}, \lambda = 18.904^\circ\text{E}$
 $\text{H} = 11:57:27.3, \text{M} = 2.7$

OJC	$\Delta = 64\text{km}$		
	Pg iZ	11 57	39.4
	Sg iE	57	47.7

NIE	$\Delta = 137\text{km}$		
	Pg eZ	11 57	51.1
	Sg eE	58	08.0

KSP	$\Delta = 196\text{km}$		
	Pg eEZ	11 58	00.7
	Sg eNEZ	58	24.7

JUL 1

GIG: $\Phi = 50.257^\circ\text{N}, \lambda = 18.904^\circ\text{E}$
 $\text{H} = 17:02:35.7, \text{M} = 2.5$

OJC	$\Delta = 64\text{km}$		
	Pg iZ	17 02	47.6
	Sg iE	02	55.7

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NIE	$\Delta = 137\text{km}$		
	Pg eZ	17 03 00.1	
	Sg eE	03 16.8	
KSP	$\Delta = 196\text{km}$		
	Pg eNEZ	17 03 09.1	
	Sg eNEZ	03 32.4	
<u>JUL 1</u>			
GIG: $\Phi = 50.038^\circ\text{N}$, $\lambda = 18.463^\circ\text{E}$			
H = 20:59:34.6, M = 2.1			
RAC	$\Delta = 20\text{km}$		
	Pg eZ	20 59 39.4	
	Sg eNE	59 42.8	
OJC	$\Delta = 97\text{km}$		
	Pg eZ	20 59 52.0	
	Sg eN	21 00 04.3	
NIE	$\Delta = 150\text{km}$		
	Pg eZ	21 00 01.7	
	Sg eE	00 20.4	
KSP	$\Delta = 178\text{km}$		
	Pg eNEZ	21 00 05.0	
	(Sg) eNEZ	00 25.1	
<u>JUL 2</u>			
GIG: $\Phi = 50.061^\circ\text{N}$, $\lambda = 18.421^\circ\text{E}$			
H = 08:22:28.1, M = 2.0			
RAC	$\Delta = 16\text{km}$		
	Pg eZ	08 22 31.4	
	Sg eNE	22 34.3	
OJC	$\Delta = 100\text{km}$		
	Pg eZ	08 22 44.9	
	Sg eE	22 58.1	
NIE	$\Delta = 154\text{km}$		
	Pg eZ	08 22 54.8	
	Sg eE	23 15.0	
<u>JUL 2</u>			
GIG: $\Phi = 50.345^\circ\text{N}$, $\lambda = 18.978^\circ\text{E}$			
H = 12:52:07.4, M = 2.3			
OJC	$\Delta = 60\text{km}$		
	Pg eZ	12 52 18.7	
	Sg iN	52 26.6	
NIE	$\Delta = 140\text{km}$		
	Pg eZ	12 52 31.7	
	Sg eN	52 48.9	
KSP	$\Delta = 198\text{km}$		
	Pg eNEZ	12 52 40.8	
	(Sg) eNEZ	53 05.8	

<u>JUL 2</u>			
GIG: $\Phi = 50.258^\circ\text{N}$, $\lambda = 18.906^\circ\text{E}$			
H = 17:53:44.3, M = 2.4			
OJC	$\Delta = 64\text{km}$		
	Pg eZ	17 53 55.5	
	Sg eN	54 03.9	
NIE	$\Delta = 138\text{km}$		
	Pg eZ	17 54 09.0	
	Sg eE	54 25.6	
KSP	$\Delta = 196\text{km}$		
	Pg eNEZ	17 54 17.6	
	Sg eNEZ	54 41.0	
<u>JUL 3</u>			
GIG: $\Phi = 50.053^\circ\text{N}$, $\lambda = 18.446^\circ\text{E}$			
H = 07:33:43.3, M = 2.5			
RAC	$\Delta = 18\text{km}$		
	Pg eZ	07 33 47.7	
	Sg eNE	33 50.7	
OJC	$\Delta = 98\text{km}$		
	Pg eZ	07 34 00.2	
	Sg eN	34 12.6	
NIE	$\Delta = 152\text{km}$		
	Pg eZ	07 34 10.5	
	Sg eE	34 29.0	
KSP	$\Delta = 176\text{km}$		
	Pn eZ	07 34 11.7	
	Pg eNEZ	34 12.4	
	Sg eNEZ	34 33.9	
<u>JUL 4</u>			
GIG: $\Phi = 50.228^\circ\text{N}$, $\lambda = 19.120^\circ\text{E}$			
H = 11:11:33.9, M = 2.4			
OJC	$\Delta = 49\text{km}$		
	Pg eZ	11 11 42.9	
	Sg eE	11 49.6	
NIE	$\Delta = 124\text{km}$		
	Pg eZ	11 11 55.9	
	Sg eE	12 11.4	
KSP	$\Delta = 211\text{km}$		
	Pg eNEZ	11 12 09.6	
	Sg eNEZ	12 34.5	
<u>JUL 5</u>			
$\Phi = 50.30^\circ\text{N}$, $\lambda = 18.95^\circ\text{E}$			
H = 19:37:40.0, M = 2.0			
OJC	$\Delta = 61\text{km}$		
	Pg eZ	19 37 51.3	
	Sg eE	37 59.1	

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NIE	$\Delta = 139\text{km}$		
	Pg eZ	19 38 05.2	
	Sg eE	38 21.2	
KSP	$\Delta = 197\text{km}$		
	Pg eNEZ	19 38 13.3	
	Sg eNEZ	38 37.0	
<u>JUL 7</u>			
GIG:	$\Phi = 50.268^\circ\text{N}, \lambda = 18.862^\circ\text{E}$		
	H = 08:34:36.4, M = 2.9		
RAC	$\Delta = 53\text{km}$		
	Pg eZ	08 34 46.7	
	Sg eNE	34 53.5	
OJC	$\Delta = 66\text{km}$		
	Pg iZ	08 34 49.1 D	
	Sg iE	34 57.5	
NIE	$\Delta = 141\text{km}$		
	Pg eZ	08 35 00.6	
	Sg eN	35 18.7	
KSP	$\Delta = 193\text{km}$		
	Pn eNEZ	08 35 06.3	
	Pg eNEZ	35 09.6	
	Sg eNEZ	35 32.4	
KWP	$\Delta = 284\text{km}$		
	Pn eZ	08 35 21.6	
	Pg eZ	35 27.7	
	S eNE	35 58.5	
<u>JUL 8</u>			
GIG:	$\Phi = 50.050^\circ\text{N}, \lambda = 18.448^\circ\text{E}$		
	H = 11:52:11.7, M = 2.1		
RAC	$\Delta = 18\text{km}$		
	Pg eZ	11 52 15.7	
	Sg eNE	52 18.9	
OJC	$\Delta = 98\text{km}$		
	Pg eZ	11 52 28.4	
	Sg eN	52 41.6	
NIE	$\Delta = 152\text{km}$		
	Pg eZ	11 52 38.5	
	Sg eN	52 58.0	
<u>JUL 9</u>			
	$\Phi = 50.29^\circ\text{N}, \lambda = 18.86^\circ\text{E}$		
	H = 02:33:54.9, M = 2.4		
OJC	$\Delta = 67\text{km}$		
	Pg eZ	02 34 07.2	
	Sg eN	34 15.9	
NIE	$\Delta = 142\text{km}$		
	Pg eZ	02 34 20.1	
	Sg eE	34 37.9	

KSP	$\Delta = 192\text{km}$		
	Pg eNEZ	02 34 27.8	
	Sn eNEZ	34 47.9	

JUL 9

$\Phi = 50.18^\circ\text{N}, \lambda = 18.81^\circ\text{E}$
H = 03:26:00.4, M = 2.7

RAC	$\Delta = 46\text{km}$		
	Pg eZ	03 26 09.0	
	(Sg) eNE	26 15.7	

OJC	$\Delta = 70\text{km}$		
	Pg eZ	03 26 13.8	
	Sg eE	26 22.8	

NIE	$\Delta = 138\text{km}$		
	Pg eZ	03 26 24.2	
	Sg eE	26 42.0	

KSP	$\Delta = 193\text{km}$		
	Pn eEZ	03 26 31.2	
	Pg eNEZ	26 33.2	
	Sg eNEZ	26 55.8	

KWP	$\Delta = 286\text{km}$		
	Pg eZ	03 26 48.3	
	Sg eNE	27 23.3	

JUL 10

$\Phi = 50.20^\circ\text{N}, \lambda = 18.89^\circ\text{E}$
H = 03:33:32.9, M = 2.2

OJC	$\Delta = 64\text{km}$		
	Pg iZ	03 33 44.8 C	
	Sg eE	33 53.0	

NIE	$\Delta = 135\text{km}$		
	Pg eZ	03 33 56.5	
	Sg eE	34 13.8	

KSP	$\Delta = 197\text{km}$		
	Pg eNEZ	03 34 06.4	
	Sg eNEZ	34 30.0	

JUL 10

GIG: $\Phi = 50.201^\circ\text{N}, \lambda = 19.135^\circ\text{E}$
H = 14:27:18.3, M = 2.5

OJC	$\Delta = 48\text{km}$		
	Pg eZ	14 27 26.6	
	Sg eN	27 33.3	

NIE	$\Delta = 122\text{km}$		
	Pg eZ	14 27 39.7	
	Sg eN	27 54.6	

JUL 11

GIG: $\Phi = 50.345^\circ\text{N}, \lambda = 18.978^\circ\text{E}$
H = 03:24:41.9, M = 2.4

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OJC	$\Delta = 60\text{km}$			
	Pg eZ	03	24	53.1
	Sg eN		25	01.0
RAC	$\Delta = 63\text{km}$			
	Pg eZ	03	24	53.7
	Sg eNE		25	02.0
NIE	$\Delta = 140\text{km}$			
	Pg eZ	03	25	06.0
	(Sg) eE		25	23.2
KSP	$\Delta = 198\text{km}$			
	Pg eNEZ	03	25	16.2
	Sn eNEZ		25	37.3
	Sg eNEZ		25	39.5
<u>JUL 11</u>				
GIG: $\Phi = 50.266^\circ\text{N}$, $\lambda = 18.789^\circ\text{E}$				
H = 03:47:13.3, M = 2.3				
RAC	$\Delta = 47\text{km}$			
	Pg eZ	03	47	22.6
	(Sg) eNE		47	29.1
OJC	$\Delta = 72\text{km}$			
	Pg eZ	03	47	26.8
	Sg eNE		47	35.8
NIE	$\Delta = 144\text{km}$			
	Pg eZ	03	47	38.2
	Sg eN		47	56.9
KSP	$\Delta = 188\text{km}$			
	Pg eNEZ	03	47	45.7
	Sn eNEZ		48	05.2
	Sg eNEZ		48	07.8
<u>JUL 12</u>				
GIG: $\Phi = 50.273^\circ\text{N}$, $\lambda = 18.829^\circ\text{E}$				
H = 15:01:03.8, M = 2.5				
OJC	$\Delta = 69\text{km}$			
	Pg eZ	15	01	16.3
	Sg iN		01	25.7
NIE	$\Delta = 142\text{km}$			
	Pg eZ	15	01	27.7
	Sg eE		01	47.0
KSP	$\Delta = 191\text{km}$			
	Pg eNEZ	15	01	36.2
	Sg eNEZ		01	58.8
<u>JUL 12</u>				
GIG: $\Phi = 50.362^\circ\text{N}$, $\lambda = 18.933^\circ\text{E}$				
H = 16:46:45.1, M = 2.4				
OJC	$\Delta = 64\text{km}$			
	Pg eZ	16	46	57.3
	Sg eN		47	05.6

NIE	$\Delta = 145\text{km}$			
	Pg eZ	16	47	10.4
	Sg eN		47	29.4
KSP	$\Delta = 194\text{km}$			
	Pg eNEZ	16	47	17.3
	Sg eNEZ		47	41.7
<u>JUL 12</u>				
GIG: $\Phi = 50.083^\circ\text{N}$, $\lambda = 18.432^\circ\text{E}$				
H = 18:18:38.8, M = 2.0				
RAC	$\Delta = 17\text{km}$			
	Pg eZ	18	18	42.8
	(Sg) eNE		18	45.7
OJC	$\Delta = 98\text{km}$			
	Pg eZ	18	18	56.5
	Sg eN		19	08.5
NIE	$\Delta = 154\text{km}$			
	Pg eZ	18	19	05.4
	Sg eN		19	24.8
<u>JUL 13</u>				
GIG: $\Phi = 50.210^\circ\text{N}$, $\lambda = 19.062^\circ\text{E}$				
H = 10:30:54.0, M = 2.5				
OJC	$\Delta = 52\text{km}$			
	Pg eZ	10	31	04.2
	Sg eE		31	10.4
NIE	$\Delta = 125\text{km}$			
	Pg eZ	10	31	15.9
	Sg eN		31	31.9
KSP	$\Delta = 209\text{km}$			
	Pg eNEZ	10	31	29.9
	Sg eNEZ		31	54.0
<u>JUL 15</u>				
GIG: $\Phi = 50.243^\circ\text{N}$, $\lambda = 18.767^\circ\text{E}$				
H = 05:20:04.6, M = 2.6				
RAC	$\Delta = 44\text{km}$			
	Pg eZ	05	20	14.7
	Sg eE		20	21.8
OJC	$\Delta = 74\text{km}$			
	Pg eZ	05	20	18.2
	Sg eE		20	27.5
NIE	$\Delta = 144\text{km}$			
	Pg eZ	05	20	29.2
	Sg eE		20	47.7
KSP	$\Delta = 188\text{km}$			
	Pg eNEZ	05	20	36.5
	Sg eNEZ		20	59.4

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JUL 15

$\Phi = 50.32^{\circ}\text{N}$, $\lambda = 18.94^{\circ}\text{E}$
H = 08:02:53.3, M = 2.4

OJC $\Delta = 62\text{km}$
 Pg eZ 08 03 04.2
 Sg eN 03 12.6

NIE $\Delta = 140\text{km}$
 Pg eZ 08 03 18.6
 Sg eE 03 35.5

JUL 16

GIG: $\Phi = 50.252^{\circ}\text{N}$, $\lambda = 18.911^{\circ}\text{E}$
H = 01:12:06.0, M = 2.2

OJC $\Delta = 63\text{km}$
 Pg iZ 01 12 18.1
 Sg iE 12 26.2

NIE $\Delta = 136\text{km}$
 Pg eZ 01 12 29.8
 Sg eN 12 46.8

KSP $\Delta = 197\text{km}$
 Pg eNEZ 01 12 39.7
 Sg eNEZ 13 03.3

JUL 16

GIG: $\Phi = 50.268^{\circ}\text{N}$, $\lambda = 18.860^{\circ}\text{E}$
H = 02:46:08.4, M = 2.5

OJC $\Delta = 67\text{km}$
 Pg eZ 02 46 21.0
 Sg eN 46 29.6

NIE $\Delta = 140\text{km}$
 Pg eZ 02 46 32.5
 Sg eE 46 50.3

KSP $\Delta = 193\text{km}$
 Pn eZ 02 46 39.6
 Pg iNEZ 46 41.6
 Sg eNEZ 47 04.4

JUL 17

$\Phi = 50.28^{\circ}\text{N}$, $\lambda = 18.73^{\circ}\text{E}$
H = 02:27:21.5, M = 2.1

RAC $\Delta = 44\text{km}$
 Pg eZ 02 27 29.9
 Sg eN 27 35.8

OJC $\Delta = 76\text{km}$
 Pg eZ 02 27 35.9
 Sg eN 27 45.5

NIE $\Delta = 148\text{km}$
 Pg eZ 02 27 47.5
 Sg eE 28 05.8

KSP $\Delta = 184\text{km}$
 Pg eNEZ 02 27 52.6
 Sg eNEZ 28 14.1

JUL 19

GIG: $\Phi = 50.364^{\circ}\text{N}$, $\lambda = 18.935^{\circ}\text{E}$
H = 08:15:19.8, M = 2.5

OJC $\Delta = 64\text{km}$
 Pg eZ 08 15 32.1
 (Sg) eE 15 40.5

NIE $\Delta = 144\text{km}$
 Pg eZ 08 15 45.7
 Sg eN 16 03.5

KSP $\Delta = 194\text{km}$
 Pg eNEZ 08 15 52.1
 (Sg) eNEZ 16 16.9

JUL 19

GIG: $\Phi = 50.237^{\circ}\text{N}$, $\lambda = 18.893^{\circ}\text{E}$
H = 17:59:49.2, M = 2.8

RAC $\Delta = 53\text{km}$
 Pg eZ 17 59 59.3
 Sg eNE 18 00 06.4

OJC $\Delta = 64\text{km}$
 Pg iZ 18 00 00.8
 Sg iE 00 09.0

KSP $\Delta = 196\text{km}$
 Pg eNEZ 18 00 22.0
 Sn eNEZ 00 43.0
 Sg eNEZ 00 45.5

JUL 20

$\Phi = 50.26^{\circ}\text{N}$, $\lambda = 18.82^{\circ}\text{E}$
H = 02:16:44.0, M = 2.6

OJC $\Delta = 70\text{km}$
 Pg eZ 02 16 57.1
 Sg eE 17 05.5

KSP $\Delta = 190\text{km}$
 Pn eZ 02 17 14.4
 Pg eNEZ 17 16.4
 Sg eN 17 39.0

KWP $\Delta = 287\text{km}$
 Pg eZ 02 17 31.5
 Sn eNE 18 03.2

JUL 20

GIG: $\Phi = 50.228^{\circ}\text{N}$, $\lambda = 19.032^{\circ}\text{E}$
H = 08:33:33.6, M = 2.5

OJC $\Delta = 54\text{km}$
 Pg iZ 08 33 43.2
 Sg iN 33 50.6

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KSP	$\Delta = 206\text{km}$			
	Pg eNEZ	08	34	09.0
	Sg eNEZ	34	33.6	
<u>JUL 21</u>				
GIG: $\Phi = 50.228^\circ\text{N}$, $\lambda = 19.032^\circ\text{E}$				
H = 17:07:49.1, M = 2.5				
OJC	$\Delta = 55\text{km}$			
	Pg eZ	17	07	59.1
	Sg eNE	08	06.8	
RAC	$\Delta = 62\text{km}$			
	Pg eZ	17	08	00.6
	Sg eNE	08	09.0	
NIE	$\Delta = 129\text{km}$			
	Pg eZ	17	08	11.4
	Sg eE	08	28.5	
KSP	$\Delta = 205\text{km}$			
	Pn eNEZ	17	08	21.6
	Pg eNEZ	08	23.5	
	Sg eNEZ	08	47.9	
<u>JUL 21</u>				
$\Phi = 50.20^\circ\text{N}$, $\lambda = 18.96^\circ\text{E}$				
H = 19:57:50.2, M = 2.0				
OJC	$\Delta = 60\text{km}$			
	Pg eZ	19	58	00.8
	Sg eE	58	09.1	
NIE	$\Delta = 131\text{km}$			
	Pg eZ	19	58	12.9
	Sg eE	58	30.0	
KSP	$\Delta = 202\text{km}$			
	Pg eNEZ	19	58	24.5
	Sn eNEZ	58	46.2	
<u>JUL 22</u>				
GIG: $\Phi = 50.227^\circ\text{N}$, $\lambda = 19.035^\circ\text{E}$				
H = 13:43:24.2, M = 2.4				
OJC	$\Delta = 55\text{km}$			
	Pg eZ	13	43	34.6
	Sg eN	43	41.6	
NIE	$\Delta = 128\text{km}$			
	Pg eZ	13	43	46.4
	Sg eN	44	02.8	
KSP	$\Delta = 206\text{km}$			
	Pg eNEZ	13	43	58.9
	Sg eNEZ	44	23.2	
<u>JUL 22</u>				
GIG: $\Phi = 50.363^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$				
H = 21:52:09.8, M = 2.4				

OJC	$\Delta = 69\text{km}$			
	Pg eZ	21	52	23.1
	Sg eN	52	32.0	
NIE	$\Delta = 148\text{km}$			
	Pg eZ	21	52	35.5
	(Sg) eE	52	53.4	
KSP	$\Delta = 189\text{km}$			
	Pg eNEZ	21	52	41.2
	(Sg) eNEZ	53	03.3	
<u>JUL 23</u>				
GIG: $\Phi = 50.227^\circ\text{N}$, $\lambda = 19.033^\circ\text{E}$				
H = 10:05:17.0, M = 2.1				
OJC	$\Delta = 55\text{km}$			
	Pg eZ	10	05	27.0
	Sg eNE	05	34.4	
NIE	$\Delta = 129\text{km}$			
	Pg eZ	10	05	39.6
	(Sg) eE	05	57.2	
KSP	$\Delta = 205\text{km}$			
	Pg eNEZ	10	05	51.2
	Sg eNEZ	06	15.8	
<u>JUL 23</u>				
GIG: $\Phi = 50.060^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$				
H = 18:32:04.4, M = 2.5				
RAC	$\Delta = 17\text{km}$			
	Pg iZ	18	32	08.3 C
	Sg iNE	32	11.2	
OJC	$\Delta = 100\text{km}$			
	Pg eZ	18	32	21.5
	Sg eN	32	34.6	
NIE	$\Delta = 153\text{km}$			
	Pg iZ	18	32	30.4
	Sg eN	32	50.4	
KSP	$\Delta = 175\text{km}$			
	Pn eNEZ	18	32	32.6
	Sg eNEZ	32	54.4	
<u>JUL 23</u>				
GIG: $\Phi = 50.229^\circ\text{N}$, $\lambda = 19.031^\circ\text{E}$				
H = 20:14:07.3, M = 2.7				
OJC	$\Delta = 55\text{km}$			
	Pg eZ	20	14	17.4
	Sg eN	14	24.6	
RAC	$\Delta = 62\text{km}$			
	Pg eZ	20	14	18.9
	Sg eNE	14	27.2	

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NIE	$\Delta = 128\text{km}$			
	Pg eZ	20	14	28.8
	Sg eN		14	45.5
KSP	$\Delta = 206\text{km}$			
	Pn eNEZ	20	14	39.9
	Pg iNEZ		14	42.0
	Sg eNEZ		15	06.4
KWP	$\Delta = 271\text{km}$			
	Pn eZ	20	14	48.6
	Pg eZ		14	56.6
GKP	$\Delta = 360\text{km}$			
	P eZ	20	15	15.9
<u>JUL 23</u>				
	$\Phi = 50.08^\circ\text{N}, \lambda = 18.48^\circ\text{E}$			
	H = 20:48:48.8, M = 2.0			
RAC	$\Delta = 21\text{km}$			
	Pg iZ	20	48	52.3 D
	Sg eNE		48	56.2
OJC	$\Delta = 95\text{km}$			
	Pg eZ	20	49	05.2
	Sg eE		49	18.6
KSP	$\Delta = 177\text{km}$			
	Pg eNEZ	20	49	19.2
	Sg eNEZ		49	39.3
<u>JUL 23</u>				
	$\Phi = 50.20^\circ\text{N}, \lambda = 18.90^\circ\text{E}$			
	H = 23:45:46.5, M = 2.2			
OJC	$\Delta = 64\text{km}$			
	Pg eZ	23	45	58.2
	Sg eE		46	06.2
NIE	$\Delta = 134\text{km}$			
	Pg eZ	23	46	09.7
	Sg eE		46	27.5
KSP	$\Delta = 198\text{km}$			
	Pg eNEZ	23	46	20.2
	Sg eNEZ		46	43.3
<u>JUL 27</u>				
GIG:	$\Phi = 50.229^\circ\text{N}, \lambda = 19.031^\circ\text{E}$			
	H = 00:16:19.5, M = 2.2			
OJC	$\Delta = 54\text{km}$			
	Pg iZ	00	16	29.9
	Sg eN		16	36.7
RAC	$\Delta = 63\text{km}$			
	Pg eZ	00	16	31.7
	(Sg) eNE		16	40.3

NIE	$\Delta = 129\text{km}$			
	Pg eZ	00	16	41.7
	Sg eN		16	58.1

KSP	$\Delta = 206\text{km}$			
	Pg eNEZ	00	16	54.5
	Sg eNEZ		17	18.9

JUL 28

**GIG: $\Phi = 50.229^\circ\text{N}, \lambda = 19.031^\circ\text{E}$
H = 07:11:56.4, M = 2.2**

OJC	$\Delta = 55\text{km}$			
	Pg eZ	07	12	06.7
	Sg eE		12	14.0

NIE	$\Delta = 129\text{km}$			
	Pg eZ	07	12	18.7
	Sg eN		12	35.5

KSP	$\Delta = 205\text{km}$			
	Pg eNEZ	07	12	31.1
	Sg eNEZ		12	55.9

JUL 28

**$\Phi = 50.18^\circ\text{N}, \lambda = 18.84^\circ\text{E}$
H = 14:18:47.1, M = 2.5**

RAC	$\Delta = 47\text{km}$			
	Pg eZ	14	18	58.0
	Sg eE		19	05.3

OJC	$\Delta = 69\text{km}$			
	Pg eZ	14	19	00.2
	Sg eE		19	08.2

NIE	$\Delta = 135\text{km}$			
	Pg eZ	14	19	10.8
	Sg eN		19	27.9

KSP	$\Delta = 195\text{km}$			
	Pn eEZ	14	19	17.8
	Pg eNEZ		19	19.8
	Sg eNEZ		19	43.7

JUL 28

**GIG: $\Phi = 50.202^\circ\text{N}, \lambda = 19.137^\circ\text{E}$
H = 20:13:37.8, M = 2.5**

OJC	$\Delta = 48\text{km}$			
	Pg eZ	20	13	47.1
	Sg eN		13	53.1

RAC	$\Delta = 68\text{km}$			
	Pg eZ	20	13	49.9
	(Sg) eNE		13	58.2

NIE	$\Delta = 122\text{km}$			
	Pg eZ	20	13	59.8
	(Sg) eE		14	15.5

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KSP $\Delta = 213\text{km}$
Pn eNEZ 20 14 11.6
Pg eNEZ 14 13.9
Sg eNEZ 14 39.5

JUL 29
GIG: $\phi = 50.244^\circ\text{N}$, $\lambda = 18.983^\circ\text{E}$
H = 01:44:34.5, M = 2.4

OJC $\Delta = 58\text{km}$
Pg eZ 01 44 45.2
Sg eE 44 52.8

RAC $\Delta = 60\text{km}$
Pg eZ 01 44 45.7
Sg eN 44 53.3

KSP $\Delta = 202\text{km}$
Pg eEZ 01 45 09.1
Sn eNEZ 45 30.2
Sg eNEZ 45 32.8

JUL 29
GIG: $\phi = 50.09^\circ\text{N}$, $\lambda = 18.48^\circ\text{E}$
H = 03:35:52.6, M = 2.1

RAC $\Delta = 21\text{km}$
Pg iZ 03 35 56.5 D
Sg eNE 35 59.6

OJC $\Delta = 95\text{km}$
Pg eZ 03 36 09.2
Sg eN 36 22.0

NIE $\Delta = 152\text{km}$
Pg eZ 03 36 19.4
Sg eE 36 38.5

KSP $\Delta = 176\text{km}$
Pn eNEZ 03 36 20.5
Sg eNEZ 36 43.4

JUL 29
GIG: $\phi = 50.053^\circ\text{N}$, $\lambda = 18.447^\circ\text{E}$
H = 23:47:45.4, M = 2.3

RAC $\Delta = 18\text{km}$
Pg eZ 23 47 49.7
Sg eNE 47 52.9

OJC $\Delta = 98\text{km}$
Pg eZ 23 48 02.4
Sg eN 48 14.7

KSP $\Delta = 176\text{km}$
Pg eNEZ 23 48 14.6
Sg eNEZ 48 36.8

JUL 30
GIG: $\phi = 50.28^\circ\text{N}$, $\lambda = 18.86^\circ\text{E}$
H = 19:11:17.7, M = 2.6

OJC $\Delta = 67\text{km}$
Pg eZ 19 11 30.1
Sg eN 11 38.5

KSP $\Delta = 192\text{km}$
Pg eNEZ 19 11 50.5
Sg eNEZ 12 13.1

AUG 2
GIG: $\phi = 50.054^\circ\text{N}$, $\lambda = 18.449^\circ\text{E}$
H = 22:35:56.2, M = 2.3

RAC $\Delta = 18\text{km}$
Pg eZ 22 36 00.2
Sg eNE 36 03.6

OJC $\Delta = 98\text{km}$
Pg eZ 22 36 12.8
Sg eN 36 25.3

NIE $\Delta = 152\text{km}$
Pg eZ 22 36 22.9
(Sg) eE 36 41.0

KSP $\Delta = 176\text{km}$
Pn eZ 22 36 24.1
Sg eN 36 46.5

AUG 3
GIG: $\phi = 50.049^\circ\text{N}$, $\lambda = 18.449^\circ\text{E}$
H = 10:49:48.8, M = 2.1

RAC $\Delta = 18\text{km}$
Pg eZ 10 49 52.4
Sg eNE 49 55.6

OJC $\Delta = 98\text{km}$
Pg eZ 10 50 05.5
(Sg) eN 50 17.5

NIE $\Delta = 152\text{km}$
Pg eZ 10 50 15.5
Sg eE 50 35.0

AUG 3
GIG: $\phi = 50.247^\circ\text{N}$, $\lambda = 18.980^\circ\text{E}$
H = 21:41:24.5, M = 2.4

RAC $\Delta = 58\text{km}$
Pg eZ 21 41 35.5
Sg eN 41 42.8

OJC $\Delta = 58\text{km}$
Pg eZ 21 41 35.5
Sg eN 41 43.3

NIE $\Delta = 132\text{km}$
Pg eZ 21 41 47.4
Sg eE 42 04.5

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KSP $\Delta = 202\text{km}$
 Pg eZ 21 41 58.9
 Sg eNEZ 42 22.8

AUG 4

**GIG: $\Phi = 50.203^\circ\text{N}$, $\lambda = 19.136^\circ\text{E}$
 $H = 03:32:55.6$, $M = 2.6$**

OJC $\Delta = 48\text{km}$
 Pg eZ 03 33 04.8
 Sg iN 33 11.1

RAC $\Delta = 68\text{km}$
 Pg eZ 03 33 08.4
 Sg eNE 33 17.3

NIE $\Delta = 122\text{km}$
 Pg eZ 03 33 16.8
 Sg eN 33 32.4

KSP $\Delta = 213\text{km}$
 Pn eNEZ 03 33 28.9
 Pg eNEZ 33 31.5
 (Sg) eNEZ 33 56.1

KWP $\Delta = 263\text{km}$
 P eZ 03 33 40.5
 Sg eNE 34 13.7

AUG 4

**$\Phi = 50.32^\circ\text{N}$, $\lambda = 18.88^\circ\text{E}$
 $H = 19:00:08.2$, $M = 2.5$**

OJC $\Delta = 66\text{km}$
 Pg eZ 19 00 20.3
 Sg eE 00 28.7

NIE $\Delta = 144\text{km}$
 Pg eZ 19 00 33.3
 Sg eN 00 52.2

KSP $\Delta = 192\text{km}$
 Pg eNEZ 19 00 40.1
 (Sg) eNEZ 01 04.7

AUG 5

**GIG: $\Phi = 50.216^\circ\text{N}$, $\lambda = 19.082^\circ\text{E}$
 $H = 00:56:35.1$, $M = 2.6$**

OJC $\Delta = 51\text{km}$
 Pg eZ 00 56 44.8
 Sg eN 56 51.4

RAC $\Delta = 65\text{km}$
 Pg eZ 00 56 47.7
 (Sg) eNE 56 56.4

NIE $\Delta = 125\text{km}$
 Pg eZ 00 56 56.6
 Sg eE 57 12.3

KSP $\Delta = 210\text{km}$
 Pg eNEZ 00 57 10.7
 Sg eNEZ 57 35.7

KWP $\Delta = 267\text{km}$
 Pg eZ 00 57 24.0
 S eNE 58 00.4

GKP $\Delta = 362\text{km}$
 Pn eZ 00 57 28.4

AUG 6

**GIG: $\Phi = 50.252^\circ\text{N}$, $\lambda = 18.911^\circ\text{E}$
 $H = 05:17:58.9$, $M = 2.1$**

OJC $\Delta = 64\text{km}$
 Pg eZ 05 18 10.9
 Sg eE 18 19.3

NIE $\Delta = 137\text{km}$
 Pg eZ 05 18 22.7
 Sg eN 18 39.4

KSP $\Delta = 197\text{km}$
 Pg eZ 05 18 32.0
 Sg eN 18 55.9

AUG 10

**GIG: $\Phi = 50.232^\circ\text{N}$, $\lambda = 19.078^\circ\text{E}$
 $H = 00:14:06.5$, $M = 2.2$**

OJC $\Delta = 52\text{km}$
 Pg eZ 00 14 16.4
 (Sg) eNE 14 23.5

NIE $\Delta = 127\text{km}$
 Pg eZ 00 14 28.4
 Sg eN 14 44.6

KSP $\Delta = 208\text{km}$
 Pg eNEZ 00 14 41.4
 Sg eNEZ 15 06.3

AUG 10

**$\Phi = 50.23^\circ\text{N}$, $\lambda = 18.86^\circ\text{E}$
 $H = 02:31:18.9$, $M = 2.1$**

OJC $\Delta = 66\text{km}$
 Pg eZ 02 31 31.1
 Sg eE 31 39.6

NIE $\Delta = 138\text{km}$
 Pg eZ 02 31 42.6
 (Sg) eE 32 01.6

KSP $\Delta = 194\text{km}$
 Pg eNEZ 02 31 51.9
 Sg eNEZ 32 15.1

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AUG 10

**GIG: $\Phi = 50.259^\circ\text{N}$, $\lambda = 18.884^\circ\text{E}$
H = 09:46:14.9, M = 3.1**

RAC	$\Delta = 54\text{km}$		
	Pg eZ	09 46 25.0	
	Sg eNE	46 32.2	
OJC	$\Delta = 65\text{km}$		
	Pg iZ	09 46 26.8	C
	Sg iN	46 35.1	
NIE	$\Delta = 139\text{km}$		
	Pg eZ	09 46 38.1	
	Sg eN	46 56.9	
KSP	$\Delta = 195\text{km}$		
	Pn eEZ	09 46 46.1	
	Pg iNEZ	46 47.8	
	Sg eNEZ	47 10.7	
KWP	$\Delta = 282\text{km}$		
	Pn eZ	09 47 02.4	
	Pg eZ	47 05.2	
	Sn eNE	47 30.8	
	Sg eNE	47 42.6	
GKP	$\Delta = 353\text{km}$		
	Pg eZ	09 47 11.7	
	Sg eNE	47 59.2	

AUG 12

**$\Phi = 50.20^\circ\text{N}$, $\lambda = 18.85^\circ\text{E}$
H = 02:14:45.9, M = 2.1**

OJC	$\Delta = 68\text{km}$		
	Pg eZ	02 14 58.5	
	Sg eN	15 06.8	
NIE	$\Delta = 136\text{km}$		
	Pg eZ	02 15 09.7	
	Sg eE	15 27.5	
KSP	$\Delta = 195\text{km}$		
	Pg eNEZ	02 15 19.0	
	Sg eNEZ	15 42.3	

AUG 12

**$\Phi = 50.28^\circ\text{N}$, $\lambda = 18.87^\circ\text{E}$
H = 05:25:01.3, M = 2.5**

OJC	$\Delta = 67\text{km}$		
	Pg iZ	05 25 12.9	
	Sg iN	25 22.6	
NIE	$\Delta = 141\text{km}$		
	Pg eZ	05 25 25.8	
	Sg eE	25 44.0	

KSP	$\Delta = 193\text{km}$		
	Pg eNEZ	05 25 34.0	
	Sg eNEZ	25 57.5	

AUG 12

**GIG: $\Phi = 49.957^\circ\text{N}$, $\lambda = 18.561^\circ\text{E}$
H = 06:00:43.0, M = 2.7**

RAC	$\Delta = 30\text{km}$		
	Pg eZ	06 00 49.4	
	Sg eE	00 54.3	
OJC	$\Delta = 93\text{km}$		
	Pg eZ	06 00 58.9	
	Sg eN	01 10.4	
NIE	$\Delta = 140\text{km}$		
	Pg eZ	06 01 06.6	
	Sg iE	01 25.4	
KSP	$\Delta = 189\text{km}$		
	Pn eNEZ	06 01 13.2	
	Pg eNEZ	01 15.9	
	Sg eNEZ	01 37.8	

AUG 15

**GIG: $\Phi = 50.204^\circ\text{N}$, $\lambda = 19.142^\circ\text{E}$
H = 21:59:02.0, M = 2.6**

OJC	$\Delta = 47\text{km}$		
	Pg eZ	21 59 10.9	
	Sg eN	59 17.2	
RAC	$\Delta = 69\text{km}$		
	Pg eZ	21 59 14.9	
	Sg eE	59 24.3	
NIE	$\Delta = 122\text{km}$		
	Pg eZ	21 59 22.5	
	Sg eN	59 38.4	
KSP	$\Delta = 214\text{km}$		
	Pn eEZ	21 59 35.1	
	Pg eNEZ	59 37.7	
	(Sg) eNEZ	22 00 02.6	

AUG 16

**GIG: $\Phi = 50.055^\circ\text{N}$, $\lambda = 18.447^\circ\text{E}$
H = 09:23:36.9, M = 2.5**

RAC	$\Delta = 18\text{km}$		
	Pg eZ	09 23 41.5	
	Sg eNE	23 44.5	
OJC	$\Delta = 98\text{km}$		
	Pg eZ	09 23 54.3	
	Sg eN	24 06.4	
NIE	$\Delta = 152\text{km}$		
	Pg eZ	09 24 02.7	
	Sg eE	24 23.1	

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<p>KSP $\Delta = 176\text{km}$ Pn eNEZ 09 24 05.6 Sg eNEZ 24 27.3</p> <p><u>AUG 18</u> GIG: $\Phi = 50.234^\circ\text{N}$, $\lambda = 19.075^\circ\text{E}$ H = 09:45:32.6, M = 2.4</p> <p>OJC $\Delta = 52\text{km}$ Pg eZ 09 45 42.3 Sg eE 45 49.2</p> <p>NIE $\Delta = 127\text{km}$ Pg eZ 09 45 54.9 Sg eE 46 11.0</p> <p>KSP $\Delta = 208\text{km}$ Pg eNEZ 09 46 07.3 Sg eNEZ 46 33.0</p> <p><u>AUG 19</u> GIG: $\Phi = 50.200^\circ\text{N}$, $\lambda = 19.133^\circ\text{E}$ H = 10:59:26.1, M = 2.5</p> <p>OJC $\Delta = 47\text{km}$ Pg eZ 10 59 34.9 Sg iN 59 41.3</p> <p>NIE $\Delta = 121\text{km}$ Pg eZ 10 59 46.8 Sg eN 11 00 02.4</p> <p>KSP $\Delta = 214\text{km}$ Pn eEZ 11 00 00.5 Pg eNEZ 00 03.0 (Sn) eNEZ 00 24.2 (Sg) eNEZ 00 27.2</p> <p><u>AUG 20</u> GIG: $\Phi = 50.060^\circ\text{N}$, $\lambda = 18.449^\circ\text{E}$ H = 22:15:56.8, M = 2.5</p> <p>RAC $\Delta = 19\text{km}$ Pg iZ 22 16 01.2 C Sg eNE 16 04.3</p> <p>OJC $\Delta = 98\text{km}$ Pg eZ 22 16 13.7 Sg eN 16 27.0</p> <p>NIE $\Delta = 152\text{km}$ Pg eZ 22 16 22.1 Sg eE 16 42.0</p> <p>KSP $\Delta = 176\text{km}$ Pn eE 22 16 25.4 Pg eNEZ 16 27.1 Sn eNEZ 16 46.9 (Sg) eNEZ 16 48.8</p>	<p><u>AUG 21</u> $\Phi = 50.28^\circ\text{N}$, $\lambda = 18.92^\circ\text{E}$ H = 18:45:29.1, M = 2.4</p> <p>OJC $\Delta = 64\text{km}$ Pg eZ 18 45 40.8 Sg eE 45 48.6</p> <p>NIE $\Delta = 139\text{km}$ Pg eZ 18 45 53.9 Sg eN 46 10.5</p> <p>KSP $\Delta = 196\text{km}$ Pg eNEZ 18 46 02.8 (Sg) eNEZ 46 24.7</p> <p><u>AUG 22</u> GIG: $\Phi = 50.241^\circ\text{N}$, $\lambda = 18.922^\circ\text{E}$ H = 09:51:12.0, M = 2.1</p> <p>OJC $\Delta = 63\text{km}$ Pg eZ 09 51 24.0 (Sg) eE 51 32.3</p> <p>NIE $\Delta = 135\text{km}$ Pg eZ 09 51 35.3 Sg eE 51 53.0</p> <p>KSP $\Delta = 198\text{km}$ Pg eNEZ 09 51 46.1 Sg eNEZ 52 09.7</p> <p><u>AUG 24</u> GIG: $\Phi = 49.957^\circ\text{N}$, $\lambda = 18.564^\circ\text{E}$ H = 07:25:41.6, M = 2.0</p> <p>RAC $\Delta = 30\text{km}$ Pg eZ 07 25 47.7 Sg eNE 25 51.9</p> <p>OJC $\Delta = 93\text{km}$ Pg eZ 07 25 57.4 Sg eE 26 09.7</p> <p>NIE $\Delta = 140\text{km}$ Pg eZ 07 26 07.0 (Sg) eE 26 24.7</p> <p><u>AUG 24</u> GIG: $\Phi = 50.062^\circ\text{N}$, $\lambda = 18.447^\circ\text{E}$ H = 23:17:39.3, M = 2.4</p> <p>RAC $\Delta = 18\text{km}$ Pg iZ 23 17 43.7 D Sg eN 17 46.7</p> <p>OJC $\Delta = 98\text{km}$ Pg eZ 23 17 56.3 Sg eN 18 08.7</p>
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NIE	$\Delta = 152\text{km}$		
	Pg eZ	23 18 04.9	
	Sg eN	18 25.4	
KSP	$\Delta = 176\text{km}$		
	Pn eNEZ	23 18 07.9	
	Sg eNEZ	18 29.4	
<u>AUG 25</u>			
GIG: $\Phi = 50.271^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$			
H = 04:53:04.7, M = 2.5			
OJC	$\Delta = 67\text{km}$		
	Pg eZ	04 53 17.4	
	Sg eN	53 25.5	
NIE	$\Delta = 141\text{km}$		
	Pg eZ	04 53 28.2	
	Sg eE	53 46.5	
KSP	$\Delta = 193\text{km}$		
	Pg eNEZ	04 53 37.6	
	Sg eNEZ	54 00.5	
<u>AUG 25</u>			
GIG: $\Phi = 50.063^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$			
H = 20:56:09.4, M = 2.7			
RAC	$\Delta = 17\text{km}$		
	Pg iZ	20 56 13.5 C	
	Sg eN	56 16.2	
OJC	$\Delta = 100\text{km}$		
	Pg eZ	20 56 26.5	
	Sg eE	56 39.5	
NIE	$\Delta = 154\text{km}$		
	Pg iZ	20 56 35.1	
	Sg iN	56 55.2	
KSP	$\Delta = 175\text{km}$		
	Pn eNEZ	20 56 37.6	
	Sg eNEZ	56 59.9	
KWP	$\Delta = 310\text{km}$		
	Pg eZ	20 57 02.9	
<u>AUG 26</u>			
$\Phi = 50.20^\circ\text{N}$, $\lambda = 18.90^\circ\text{E}$			
H = 15:39:14.4, M = 2.1			
OJC	$\Delta = 65\text{km}$		
	Pg eZ	15 39 26.6	
	Sg eE	39 34.3	
NIE	$\Delta = 134\text{km}$		
	Pg eZ	15 39 37.9	
	Sg eE	39 55.0	
KSP	$\Delta = 198\text{km}$		
	Pg eNEZ	15 39 47.6	

KSP	Sg eNEZ	15 40 11.2	
<u>AUG 26</u>			
GIG: $\Phi = 50.203^\circ\text{N}$, $\lambda = 19.136^\circ\text{E}$			
H = 22:54:57.9, M = 2.5			
OJC	$\Delta = 47\text{km}$		
	Pg eZ	22 55 07.3	
	(Sg) iN	55 13.7	
RAC	$\Delta = 69\text{km}$		
	Pg eZ	22 55 11.2	
	Sg eN	55 19.8	
NIE	$\Delta = 122\text{km}$		
	Pg eZ	22 55 18.8	
	Sg eN	55 34.8	
KSP	$\Delta = 213\text{km}$		
	Pn eEZ	22 55 31.0	
	Pg eNEZ	55 33.6	
	Sg eNEZ	55 59.3	
KWP	$\Delta = 263\text{km}$		
	Pg eZ	22 55 46.5	
GKP	$\Delta = 365\text{km}$		
	Pg eZ	22 55 52.4	
<u>AUG 27</u>			
GIG: $\Phi = 50.257^\circ\text{N}$, $\lambda = 18.882^\circ\text{E}$			
H = 07:23:25.3, M = 2.7			
RAC	$\Delta = 53\text{km}$		
	Pg eZ	07 23 35.7	
	(Sg) eN	23 42.7	
OJC	$\Delta = 65\text{km}$		
	Pg eZ	07 23 37.2	
	Sg iEN	23 45.3	
NIE	$\Delta = 138\text{km}$		
	Pg eZ	07 23 48.3	
	Sg iE	24 06.2	
KSP	$\Delta = 195\text{km}$		
	Pg eNEZ	07 23 57.9	
	(Sg) eNEZ	24 20.6	
<u>AUG 28</u>			
GIG: $\Phi = 50.049^\circ\text{N}$, $\lambda = 18.448^\circ\text{E}$			
H = 09:55:05.1, M = 2.3			
RAC	$\Delta = 19\text{km}$		
	Pg iZ	09 55 09.5 D	
	Sg eNE	55 12.6	
OJC	$\Delta = 98\text{km}$		
	Pg eZ	09 55 22.1	
	Sg eE	55 34.5	

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NIE	Δ = 152km				
	Pg eZ	09	55	31.3	
	Sg eE		55	50.2	
KSP	Δ = 176km				
	Pn eEZ	09	55	32.9	
	Pg eNEZ		55	35.2	
	Sg eNEZ		55	56.1	
<u>AUG 29</u>					
GIG: φ = 50.081°N, λ = 18.433°E					
H = 01:14:29.2, M = 2.6					
RAC	Δ = 17km				
	Pg iZ	01	14	33.6	D
	Sg eNE		14	36.5	
OJC	Δ = 99km				
	Pg eZ	01	14	46.4	
	Sg eN		14	59.5	
NIE	Δ = 154km				
	Pg eZ	01	14	54.9	
	Sg eN		15	15.2	
KSP	Δ = 174km				
	Pn eNEZ	01	14	57.6	
	Sg eNEZ		15	19.6	
<u>AUG 30</u>					
GIG: φ = 50.061°N, λ = 18.449°E					
H = 00:41:55.6, M = 2.4					
RAC	Δ = 18km				
	Pg iZ	00	42	00.1	D
	Sg eNE		42	03.1	
OJC	Δ = 98km				
	Pg eZ	00	42	12.7	
	Sg eN		42	25.6	
NIE	Δ = 152km				
	Pg eZ	00	42	21.1	
	Sg eE		42	41.6	
KSP	Δ = 176km				
	Pg eEZ	00	42	24.9	
	Sg eNEZ		42	46.4	
<u>SEP 2</u>					
GIG: φ = 50.201°N, λ = 19.133°E					
H = 11:26:02.1, M = 2.5					
OJC	Δ = 48km				
	Pg eZ	11	26	10.8	
	Sg eN		26	17.2	
NIE	Δ = 122km				
	Pg eZ	11	26	22.8	
	Sg eE		26	39.5	

KSP	Δ = 213km				
	Pg eNEZ	11	26	37.7	
	(Sg) eNEZ		27	02.5	

SEP 3

φ = 50.02°N, λ = 18.44°E
H = 01:03:25.8, M = 1.9

RAC	Δ = 19km				
	Pg eZ	01	03	30.2	
	Sg eNE		03	33.5	

OJC	Δ = 99km				
	Pg eZ	01	03	43.1	
	Sg eN		03	55.8	

NIE	Δ = 150km				
	Pg eZ	01	03	51.1	
	Sg eN		04	10.8	

SEP 3

GIG: φ = 50.252°N, λ = 18.915°E
H = 20:21:15.7, M = 2.6

RAC	Δ = 55km				
	Pg eZ	20	21	26.1	
	Sg eN		21	33.5	

OJC	Δ = 63km				
	Pg eZ	20	21	27.6	
	Sg iE		21	35.8	

NIE	Δ = 136km				
	Pg eZ	20	21	39.0	
	Sg eZ		21	56.2	

KSP	Δ = 197km				
	Pn eZ	20	21	47.6	
	Pg eNEZ		21	49.4	
	Sg eNEZ		22	12.4	

SEP 3

GIG: φ = 50.242°N, λ = 18.971°E
H = 22:17:22.4, M = 2.2

OJC	Δ = 59km				
	Pg eZ	22	17	33.1	
	Sg iE		17	41.0	

NIE	Δ = 133km				
	Pg eZ	22	17	44.5	
	(Sg) eE		18	01.4	

KSP	Δ = 201km				
	Pg eNEZ	22	17	56.0	
	Sg eNEZ		18	21.3	

SEP 3

GIG: φ = 50.218°N, λ = 18.734°E
H = 23:22:52.1, M = 2.1

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OJC	$\Delta = 76\text{km}$			
	Pg eZ	23	23	06.3
	Sg eN		23	15.9
NIE	$\Delta = 144\text{km}$			
	Pg eZ	23	23	16.3
	Sg eE		23	35.3
KSP	$\Delta = 186\text{km}$			
	Pg eNEZ	23	23	23.9
	Sg eNEZ		23	45.5
<u>SEP 6</u>				
GIG: $\Phi = 50.352^\circ\text{N}$, $\lambda = 18.882^\circ\text{E}$				
H = 08:41:54.0, M = 2.3				
OJC	$\Delta = 67\text{km}$			
	Pg eZ	08	42	06.8
	Sg eN		42	14.3
NIE	$\Delta = 146\text{km}$			
	Pg eZ	08	42	20.0
	Sg eE		42	38.4
KSP	$\Delta = 191\text{km}$			
	Pn eNEZ	08	42	24.6
	Sn eNEZ		42	47.3
<u>SEP 6</u>				
$\Phi = 50.27^\circ\text{N}$, $\lambda = 19.00^\circ\text{E}$				
H = 15:28:29.6, M = 2.4				
OJC	$\Delta = 57\text{km}$			
	Pg eZ	15	28	39.5
	Sg eE		28	48.0
NIE	$\Delta = 134\text{km}$			
	Pg eZ	15	28	52.6
	Sg eE		29	10.0
KSP	$\Delta = 202\text{km}$			
	Pg eNEZ	15	29	04.4
	Sn eNEZ		29	25.3
<u>SEP 6</u>				
GIG: $\Phi = 50.051^\circ\text{N}$, $\lambda = 18.449^\circ\text{E}$				
H = 19:30:28.2, M = 2.2				
RAC	$\Delta = 18\text{km}$			
	Pg eZ	19	30	32.1
	Sg eNE		30	35.3
OJC	$\Delta = 98\text{km}$			
	Pg eZ	19	30	45.3
	Sg eN		30	58.4
NIE	$\Delta = 152\text{km}$			
	Pg eZ	19	30	55.4
	Sg eE		31	14.5

KSP	$\Delta = 176\text{km}$			
	Pn eNEZ	19	30	56.0
	Sn eNEZ		31	18.2
<u>SEP 8</u>				
GIG: $\Phi = 50.055^\circ\text{N}$, $\lambda = 18.447^\circ\text{E}$				
H = 06:08:05.0, M = 2.6				
RAC	$\Delta = 18\text{km}$			
	Pg eZ	06	08	09.0
	Sg eNE		08	12.7
OJC	$\Delta = 98\text{km}$			
	Pg eZ	06	08	22.0
	Sg eNE		08	34.6
NIE	$\Delta = 152\text{km}$			
	Pg eZ	06	08	30.6
	Sg eN		08	50.0
KSP	$\Delta = 176\text{km}$			
	Pn eZ	06	08	33.9
	Sg eNEZ		08	55.2
KWP	$\Delta = 309\text{km}$			
	Pn eZ	06	09	00.0
	Sg eNE		10	34.8
<u>SEP 8</u>				
$\Phi = 50.09^\circ\text{N}$, $\lambda = 18.46^\circ\text{E}$				
H = 16:02:47.1, M = 2.1				
RAC	$\Delta = 19\text{km}$			
	Pg eZ	16	02	51.1
	Sg eNE		02	54.8
OJC	$\Delta = 97\text{km}$			
	Pg eZ	16	03	03.8
	Sg eN		03	16.3
NIE	$\Delta = 154\text{km}$			
	Pg eZ	16	03	13.6
	Sg eE		03	33.5
<u>SEP 8</u>				
GIG: $\Phi = 50.238^\circ\text{N}$, $\lambda = 18.922^\circ\text{E}$				
H = 21:35:44.5, M = 2.6				
OJC	$\Delta = 63\text{km}$			
	Pg eZ	21	35	56.4
	Sg eE		36	04.5
NIE	$\Delta = 135\text{km}$			
	Pg eZ	21	36	08.0
	Sg eE		36	25.3
KSP	$\Delta = 198\text{km}$			
	Pg eNEZ	21	36	18.3
	Sg eNEZ		36	41.5

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SEP 9

GIG: $\Phi = 50.056^{\circ}\text{N}$, $\lambda = 18.446^{\circ}\text{E}$
H = 01:33:26.6, M = 3.1

RAC $\Delta = 18\text{km}$
 Pg iZ 01 33 31.0 D
 Sg eNE 33 34.3

OJC $\Delta = 98\text{km}$
 Pg iZ 01 33 43.4 D
 Sg iE 33 56.6

NIE $\Delta = 152\text{km}$
 Pg iZ 01 33 52.0
 Sg iN 34 11.9

KSP $\Delta = 176\text{km}$
 Pn eNEZ 01 33 54.9
 Pg iNEZ 33 57.2
 Sn eNEZ 34 16.3

SEP 9

GIG: $\Phi = 50.062^{\circ}\text{N}$, $\lambda = 18.421^{\circ}\text{E}$
H = 13:04:53.0, M = 2.2

RAC $\Delta = 16\text{km}$
 Pg eZ 13 04 57.0
 Sg eNE 05 00.1

OJC $\Delta = 100\text{km}$
 Pg eZ 13 05 10.6
 Sg eN 05 23.7

NIE $\Delta = 154\text{km}$
 Pg eZ 13 05 18.8
 Sg eN 05 38.7

KSP $\Delta = 174\text{km}$
 Pn eNEZ 13 05 20.5
 Sg eNEZ 05 43.2

SEP 9

GIG: $\Phi = 50.255^{\circ}\text{N}$, $\lambda = 18.893^{\circ}\text{E}$
H = 18:30:13.9, M = 2.9

RAC $\Delta = 53\text{km}$
 Pg eZ 18 30 24.3
 Sg eNE 30 31.2

OJC $\Delta = 65\text{km}$
 Pg eZ 18 30 26.3
 Sg iE 30 34.4

NIE $\Delta = 138\text{km}$
 Pg eZ 18 30 37.1
 Sg eE 30 54.7

KSP $\Delta = 195\text{km}$
 (Pn) eNEZ 18 30 43.8
 Pg iNEZ 30 47.2
 Sn eNEZ 31 08.9

KWP $\Delta = 281\text{km}$
 P eZ 18 31 02.6

SEP 9

GIG: $\Phi = 50.23^{\circ}\text{N}$, $\lambda = 18.88^{\circ}\text{E}$
H = 18:37:50.7, M = 2.7

RAC $\Delta = 52\text{km}$
 Pg eZ 18 38 01.2
 Sg eNE 38 07.7

OJC $\Delta = 65\text{km}$
 Pg iZ 18 38 02.9 D
 Sg iN 38 10.5

NIE $\Delta = 136\text{km}$
 Pg eZ 18 38 13.7
 Sg eE 38 32.2

KSP $\Delta = 196\text{km}$
 Pn eZ 18 38 21.8
 Pg iNEZ 38 23.9
 Sg eNEZ 38 46.8

SEP 10

GIG: $\Phi = 50.264^{\circ}\text{N}$, $\lambda = 18.780^{\circ}\text{E}$
H = 16:16:02.8, M = 2.2

OJC $\Delta = 73\text{km}$
 Pg eZ 16 16 16.3
 Sg eN 16 25.1

NIE $\Delta = 145\text{km}$
 Pg eZ 16 16 28.1
 Sg eE 16 47.1

KSP $\Delta = 187\text{km}$
 Pg eNEZ 16 16 34.2
 Sg eNEZ 16 57.3

SEP 11

GIG: $\Phi = 50.261^{\circ}\text{N}$, $\lambda = 18.907^{\circ}\text{E}$
H = 01:02:23.8, M = 2.5

OJC $\Delta = 64\text{km}$
 Pg eZ 01 02 35.9
 Sg eE 02 44.2

NIE $\Delta = 137\text{km}$
 Pg eZ 01 02 46.9
 Sg eE 03 04.6

KSP $\Delta = 196\text{km}$
 Pg eNEZ 01 02 57.4
 Sg eNEZ 03 21.1

SEP 11

GIG: $\Phi = 50.20^{\circ}\text{N}$, $\lambda = 18.89^{\circ}\text{E}$
H = 03:07:57.3, M = 2.2

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OJC $\Delta = 65\text{km}$
 Pg eZ 03 08 09.2
 Sg eE 08 17.5

NIE $\Delta = 135\text{km}$
 Pg eZ 03 08 20.5
 Sg eE 08 37.7

KSP $\Delta = 197\text{km}$
 Pg eNEZ 03 08 30.8
 Sg eNEZ 08 54.2

SEP 13

**GIG: $\Phi = 50.201^\circ\text{N}$, $\lambda = 19.133^\circ\text{E}$
 H = 08:02:58.7, M = 2.4**

OJC $\Delta = 47\text{km}$
 Pg eZ 08 03 07.1
 Sg eN 03 13.4

NIE $\Delta = 122\text{km}$
 Pg eZ 08 03 20.2
 Sg eN 03 36.0

KSP $\Delta = 213\text{km}$
 Pg eNEZ 08 03 35.0
 Sg eNEZ 03 59.5

SEP 14

**GIG: $\Phi = 50.051^\circ\text{N}$, $\lambda = 18.447^\circ\text{E}$
 H = 14:34:26.5, M = 2.3**

RAC $\Delta = 19\text{km}$
 Pg eZ 14 34 30.2
 Sg eNE 34 33.5

OJC $\Delta = 98\text{km}$
 Pg eZ 14 34 43.0
 Sg eN 34 56.1

NIE $\Delta = 151\text{km}$
 Pg eZ 14 34 51.8
 (Sg) eE 35 10.9

KSP $\Delta = 177\text{km}$
 Pn eNEZ 14 34 54.2
 (Sg) eNEZ 35 18.7

SEP 17

**GIG: $\Phi = 50.049^\circ\text{N}$, $\lambda = 18.450^\circ\text{E}$
 H = 22:18:36.6, M = 2.4**

RAC $\Delta = 19\text{km}$
 Pg eZ 22 18 41.4
 Sg eNE 18 44.8

OJC $\Delta = 98\text{km}$
 Pg eZ 22 18 54.0
 Sg eN 19 06.4

NIE $\Delta = 151\text{km}$
 Pg eZ 22 19 01.8
 Sg eN 19 22.7

KSP $\Delta = 177\text{km}$
 Pg eNEZ 22 19 06.2
 (Sg) eNEZ 19 28.5

SEP 18

**GIG: $\Phi = 50.366^\circ\text{N}$, $\lambda = 18.879^\circ\text{E}$
 H = 20:36:01.1, M = 2.4**

OJC $\Delta = 67\text{km}$
 Pg eZ 20 36 13.9
 Sg eN 36 22.5

NIE $\Delta = 147\text{km}$
 Pg eZ 20 36 25.5
 (Sg) eE 36 44.5

KSP $\Delta = 191\text{km}$
 Pg eNEZ 20 36 34.2
 (Sg) eNEZ 36 57.2

SEP 20

**GIG: $\Phi = 50.255^\circ\text{N}$, $\lambda = 18.915^\circ\text{E}$
 H = 17:24:36.2, M = 2.9**

RAC $\Delta = 55\text{km}$
 Pg eZ 17 24 47.1
 Sg eNE 24 54.7

OJC $\Delta = 63\text{km}$
 Pg iZ 17 24 48.0 D
 Sg iE 24 56.2

NIE $\Delta = 136\text{km}$
 Pg eZ 17 24 59.0
 Sg eN 25 16.7

KSP $\Delta = 197\text{km}$
 (Pn) eNEZ 17 25 08.8
 Pg iNEZ 25 09.9
 Sg eNEZ 25 33.0

KWP $\Delta = 280\text{km}$
 Pg eZ 17 25 26.2

SEP 20

**GIG: $\Phi = 50.255^\circ\text{N}$, $\lambda = 18.916^\circ\text{E}$
 H = 17:26:39.0, M = 2.8**

RAC $\Delta = 55\text{km}$
 Pg eZ 17 26 50.4
 Sg eNE 26 57.7

OJC $\Delta = 63\text{km}$
 Pg iZ 17 26 50.8 D
 Sg iE 26 59.1

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NIE	$\Delta = 136\text{km}$		
	Pg eZ	17 27 02.1	
	Sg eE	27 19.5	
KSP	$\Delta = 197\text{km}$		
	Pg eNEZ	17 27 12.7	
	Sg eNEZ	27 35.9	
KWP	$\Delta = 280\text{km}$		
	Pg eZ	17 27 29.0	
<u>SEP 21</u>			
GIG: $\phi = 50.038^\circ\text{N}$, $\lambda = 18.467^\circ\text{E}$			
H = 17:44:08.9, M = 2.2			
RAC	$\Delta = 20\text{km}$		
	Pg eZ	17 44 13.1	
	Sg eNE	44 16.2	
OJC	$\Delta = 97\text{km}$		
	Pg eZ	17 44 25.6	
	Sg eN	44 39.5	
KSP	$\Delta = 178\text{km}$		
	Pn eNEZ	17 44 37.5	
	Sn eNEZ	44 58.5	
<u>SEP 21</u>			
GIG: $\phi = 50.202^\circ\text{N}$, $\lambda = 19.133^\circ\text{E}$			
H = 22:56:04.1, M = 2.8			
OJC	$\Delta = 48\text{km}$		
	Pg eZ	22 56 13.1	
	Sg iN	56 19.5	
NIE	$\Delta = 121\text{km}$		
	Pg eZ	22 56 24.5	
	Sg eE	56 40.3	
KSP	$\Delta = 214\text{km}$		
	Pg eNEZ	22 56 41.0	
	Sg eNEZ	57 05.0	
<u>SEP 22</u>			
GIG: $\phi = 50.229^\circ\text{N}$, $\lambda = 19.032^\circ\text{E}$			
H = 01:42:56.9, M = 2.3			
OJC	$\Delta = 55\text{km}$		
	Pg eZ	01 43 06.9	
	(Sg) eN	43 15.1	
NIE	$\Delta = 129\text{km}$		
	Pg eZ	01 43 18.9	
	Sg eN	43 35.7	
KSP	$\Delta = 205\text{km}$		
	Pn eNEZ	01 43 29.0	
	Pg eNEZ	43 31.8	
	Sg eNEZ	43 56.4	

SEP 23
GIG: $\phi = 50.050^\circ\text{N}$, $\lambda = 18.450^\circ\text{E}$
H = 09:40:01.0, M = 2.2

RAC $\Delta = 19\text{km}$
Pg eZ 09 40 04.7
Sg eNE 40 08.0

OJC $\Delta = 98\text{km}$
Pg eZ 09 40 17.8
Sg eN 40 30.8

NIE $\Delta = 152\text{km}$
Pg eZ 09 40 28.0
Sg eE 40 47.0

SEP 24
GIG: $\phi = 50.252^\circ\text{N}$, $\lambda = 18.911^\circ\text{E}$
H = 06:42:28.3, M = 2.1

OJC $\Delta = 64\text{km}$
Pg eZ 06 42 40.0
Sg eE 42 48.3

NIE $\Delta = 138\text{km}$
Pg eZ 06 42 53.2
Sg eE 43 10.5

KSP $\Delta = 196\text{km}$
Pg eE 06 43 00.8
Sg eNEZ 43 24.9

SEP 24
GIG: $\phi = 50.230^\circ\text{N}$, $\lambda = 19.032^\circ\text{E}$
H = 21:00:13.5, M = 2.2

OJC $\Delta = 55\text{km}$
Pg iZ 21 00 23.6
Sg iN 00 31.0

NIE $\Delta = 129\text{km}$
Pg eZ 21 00 35.4
Sg eE 00 52.4

KSP $\Delta = 205\text{km}$
Pg eNEZ 21 00 47.9
Sg eNEZ 01 12.9

SEP 25
 $\phi = 50.10^\circ\text{N}$, $\lambda = 18.45^\circ\text{E}$
H = 16:17:01.7, M = 2.1

RAC $\Delta = 18\text{km}$
Pg eZ 16 17 05.7
Sg eNE 17 09.3

OJC $\Delta = 97\text{km}$
Pg eZ 16 17 18.6
Sg eN 17 31.0

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NIE	$\Delta = 154\text{km}$			
	Pg eZ	16	17	28.7
	Sg eE		17	48.0
SEP 27				
GIG: $\Phi = 50.056^\circ\text{N}$, $\lambda = 18.447^\circ\text{E}$				
H = 14:40:54.8, M = 2.4				
RAC	$\Delta = 19\text{km}$			
	Pg eZ	14	40	58.9
	Sg eNE		41	02.2
OJC	$\Delta = 98\text{km}$			
	Pg eZ	14	41	11.7
	Sg eN		41	24.1
NIE	$\Delta = 152\text{km}$			
	Pg eZ	14	41	21.0
	(Sg) eE		41	39.5
KSP	$\Delta = 176\text{km}$			
	Pg eNEZ	14	41	25.7
	Sg eNEZ		41	45.3
SEP 27				
GIG: $\Phi = 50.040^\circ\text{N}$, $\lambda = 18.459^\circ\text{E}$				
H = 20:39:43.5, M = 2.1				
RAC	$\Delta = 20\text{km}$			
	Pg eZ	20	39	47.7
	Sg eNE		39	50.9
OJC	$\Delta = 98\text{km}$			
	Pg eZ	20	40	00.2
	(Sg) eE		40	14.3
NIE	$\Delta = 151\text{km}$			
	Pg eZ	20	40	09.4
	Sg eN		40	29.5
KSP	$\Delta = 178\text{km}$			
	Pn eNEZ	20	40	12.0
	Sn eNEZ		40	33.5
SEP 28				
GIG: $\Phi = 50.201^\circ\text{N}$, $\lambda = 19.131^\circ\text{E}$				
H = 20:16:35.6, M = 2.5				
OJC	$\Delta = 47\text{km}$			
	Pg eZ	20	16	44.1
	Sg iN		16	50.5
NIE	$\Delta = 122\text{km}$			
	Pg eZ	20	16	56.9
	Sg eN		17	12.9
KSP	$\Delta = 213\text{km}$			
	Pg eNEZ	20	17	12.2
	Sg eNEZ		17	36.8

SEP 30				
GIG: $\Phi = 50.049^\circ\text{N}$, $\lambda = 18.450^\circ\text{E}$				
H = 14:48:17.3, M = 2.2				
RAC	$\Delta = 19\text{km}$			
	Pg eZ	14	48	21.1
	Sg eNE		48	24.1
OJC	$\Delta = 98\text{km}$			
	Pg eZ	14	48	33.9
	Sg iN		48	47.1
NIE	$\Delta = 151\text{km}$			
	Pg eZ	14	48	43.4
	Sg eE		49	03.3
KSP	$\Delta = 177\text{km}$			
	Pn eNEZ	14	48	45.2
	Sg eNEZ		49	08.8
OCT 1				
GIG: $\Phi = 50.201^\circ\text{N}$, $\lambda = 19.131^\circ\text{E}$				
H = 01:06:03.2, M = 2.3				
OJC	$\Delta = 47\text{km}$			
	Pg eZ	01	06	11.2
	Sg eE		06	17.7
NIE	$\Delta = 121\text{km}$			
	Pg eZ	01	06	24.3
	Sg eN		06	39.9
KSP	$\Delta = 214\text{km}$			
	Pg eNEZ	01	06	39.6
	Sg eNEZ		07	05.6
OCT 1				
GIG: $\Phi = 50.218^\circ\text{N}$, $\lambda = 18.733^\circ\text{E}$				
H = 01:34:04.2, M = 2.5				
OJC	$\Delta = 76\text{km}$			
	Pg eZ	01	34	17.8
	Sg eN		34	27.6
NIE	$\Delta = 144\text{km}$			
	Pg eZ	01	34	29.4
	Sg eE		34	48.3
KSP	$\Delta = 186\text{km}$			
	Pn eNEZ	01	34	33.9
	Pg eNEZ		34	35.7
	Sn eNEZ		34	56.1
OCT 1				
GIG: $\Phi = 50.230^\circ\text{N}$, $\lambda = 19.032^\circ\text{E}$				
H = 16:00:42.8, M = 2.2				
OJC	$\Delta = 54\text{km}$			
	Pg eZ	16	00	52.7
	Sg eE		00	59.7

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NIE	Δ = 129km				
	Pg eZ	16	01	05.6	
	Sg eN		01	21.7	
KSP	Δ = 206km				
	Pn eNEZ	16	01	15.9	
	(Sg) eNEZ		01	41.4	
<u>OCT 2</u>					
GIG: φ = 50.060°N, λ = 18.448°E					
H = 02:13:22.7, M = 2.0					
RAC	Δ = 18km				
	Pg eZ	02	13	27.0	
	Sg eNE		13	30.3	
OJC	Δ = 98km				
	Pg eZ	02	13	39.8	
	Sg eN		13	51.6	
NIE	Δ = 152km				
	Pg eZ	02	13	49.4	
	Sg eN		14	07.9	
<u>OCT 2</u>					
φ = 50.22°N, λ = 18.89°E					
H = 03:05:08.5, M = 1.9					
OJC	Δ = 65km				
	Pg eZ	03	05	21.1	
	Sg eN		05	28.2	
NIE	Δ = 136km				
	Pg eZ	03	05	33.0	
	Sg eE		05	49.4	
KSP	Δ = 196km				
	Pg eNEZ	03	05	41.4	
	Sg eNEZ		06	05.5	
<u>OCT 2</u>					
GIG: φ = 50.240°N, λ = 18.923°E					
H = 11:14:08.4, M = 2.3					
OJC	Δ = 62km				
	Pg eZ	11	14	19.1	
	Sg iE		14	27.8	
NIE	Δ = 136km				
	Pg eZ	11	14	32.5	
	Sg eE		14	49.8	
KSP	Δ = 198km				
	Pg eNEZ	11	14	42.6	
	Sg eNEZ		15	04.8	
<u>OCT 5</u>					
φ = 50.29°N, λ = 18.91°E					
H = 11:59:57.1, M = 2.3					

OJC	Δ = 64km				
	Pg eZ	12	00	08.7	
	Sg eE		00	17.2	
NIE	Δ = 140km				
	Pg eZ	12	00	22.0	
	Sg eE		00	39.5	
KSP	Δ = 195km				
	Pg eNEZ	12	00	29.7	
	(Sg) eNEZ		00	54.7	
<u>OCT 7</u>					
GIG: φ = 50.237°N, λ = 18.922°E					
H = 19:46:51.4, M = 2.1					
OJC	Δ = 63km				
	Pg eZ	19	47	03.2	
	Sg eE		47	10.6	
NIE	Δ = 135km				
	Pg eZ	19	47	15.2	
	Sg eE		47	32.4	
KSP	Δ = 198km				
	Pn eNEZ	19	47	22.7	
	(Sg) eNEZ		47	47.5	
<u>OCT 8</u>					
GIG: φ = 50.260°N, λ = 18.894°E					
H = 12:19:29.1, M = 2.2					
OJC	Δ = 65km				
	Pg eZ	12	19	40.7	
	Sg eE		19	49.7	
NIE	Δ = 138km				
	Pg eZ	12	19	53.2	
	Sg eE		20	11.3	
KSP	Δ = 195km				
	Pg eNEZ	12	20	01.7	
	Sg eNEZ		20	25.7	
<u>OCT 8</u>					
GIG: φ = 50.202°N, λ = 19.130°E					
H = 14:36:38.1, M = 2.3					
OJC	Δ = 48km				
	Pg eZ	14	36	46.8	
	Sg eE		36	53.2	
NIE	Δ = 122km				
	Pg eZ	14	37	00.3	
	Sg eN		37	15.4	
KSP	Δ = 213km				
	Pg eNEZ	14	37	14.6	
	Sg eNEZ		37	39.2	

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GIG: $\Phi = 50.239^{\circ}\text{N}$, $\lambda = 18.918^{\circ}\text{E}$
H = 19:54:36.2, M = 2.5

OJC $\Delta = 63\text{km}$
 Pg eZ 19 54 47.8
 Sg eE 54 55.9

NIE $\Delta = 136\text{km}$
 Pg eZ 19 55 00.0
 Sg eE 55 17.3

KSP $\Delta = 197\text{km}$
 Pg eEZ 19 55 09.7
 Sg eNEZ 55 33.2

OCT 9

GIG: $\Phi = 50.257^{\circ}\text{N}$, $\lambda = 18.878^{\circ}\text{E}$
H = 01:35:25.1, M = 2.7

RAC $\Delta = 52\text{km}$
 Pg eZ 01 35 35.3
 Sg eNE 35 42.3

OJC $\Delta = 66\text{km}$
 Pg eZ 01 35 37.0
 Sg iE 35 45.4

NIE $\Delta = 139\text{km}$
 Pg eZ 01 35 49.2
 Sg eE 36 06.8

KSP $\Delta = 194\text{km}$
 Pn eNEZ 01 35 56.8
 Pg eNEZ 35 58.1
 Sn eNEZ 36 19.3
 Sg eNEZ 36 21.0

KWP $\Delta = 282\text{km}$
 Pn eZ 01 36 10.7
 Sn eNE 36 44.7
 Sg eNE 36 57.2

OCT 9

GIG: $\Phi = 50.264^{\circ}\text{N}$, $\lambda = 18.855^{\circ}\text{E}$
H = 03:53:55.8, M = 2.5

RAC $\Delta = 51\text{km}$
 Pg eZ 03 54 05.9
 Sg eNE 54 13.2

OJC $\Delta = 67\text{km}$
 Pg eZ 03 54 08.0
 Sg eN 54 16.9

NIE $\Delta = 140\text{km}$
 Pg eZ 03 54 20.2
 Sg eE 54 38.3

KSP $\Delta = 193\text{km}$
 Pn eZ 03 54 26.6

KSP Pg eNEZ 03 54 28.8
 Sg eNEZ 54 51.2

OCT 10

GIG: $\Phi = 50.343^{\circ}\text{N}$, $\lambda = 18.980^{\circ}\text{E}$
H = 15:04:12.9, M = 2.5

OJC $\Delta = 60\text{km}$
 Pg eZ 15 04 23.9
 Sg eN 04 31.8

NIE $\Delta = 140\text{km}$
 Pg eZ 15 04 37.5
 Sg eN 04 54.7

KSP $\Delta = 198\text{km}$
 Pn eNEZ 15 04 44.8
 Pg eNEZ 04 46.3
 Sg eNEZ 05 10.3

OCT 12

GIG: $\Phi = 50.052^{\circ}\text{N}$, $\lambda = 18.448^{\circ}\text{E}$
H = 04:54:14.1, M = 2.5

RAC $\Delta = 19\text{km}$
 Pg eZ 04 54 18.3
 Sg eNE 54 21.7

OJC $\Delta = 98\text{km}$
 Pg eZ 04 54 31.0
 Sg eE 54 43.2

NIE $\Delta = 151\text{km}$
 Pg eZ 04 54 40.5
 Sg eE 55 00.3

KSP $\Delta = 177\text{km}$
 Pn eNEZ 04 54 42.4
 Sg eNEZ 55 05.0

OCT 12

GIG: $\Phi = 50.201^{\circ}\text{N}$, $\lambda = 19.131^{\circ}\text{E}$
H = 15:08:53.3, M = 2.2

OJC $\Delta = 47\text{km}$
 Pg eZ 15 09 01.3
 Sg eE 09 07.7

NIE $\Delta = 122\text{km}$
 Pg eZ 15 09 14.6
 Sg eN 09 29.7

KSP $\Delta = 214\text{km}$
 Pg eNEZ 15 09 28.9
 Sn eNEZ 09 53.1

OCT 14

GIG: $\Phi = 50.273^{\circ}\text{N}$, $\lambda = 18.827^{\circ}\text{E}$
H = 09:34:12.8, M = 2.1

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OJC	$\Delta = 70\text{km}$		
	Pg eZ	09 34 25.7	
	Sg eE	34 35.1	
NIE	$\Delta = 143\text{km}$		
	Pg eZ	09 34 38.0	
	Sg eE	34 55.6	
KSP	$\Delta = 190\text{km}$		
	Pg eNEZ	09 34 45.1	
	Sg eNEZ	35 07.5	
<u>OCT 17</u>			
	$\Phi = 50.34^\circ\text{N}, \lambda = 18.89^\circ\text{E}$		
	H = 10:44:08.6, M = 2.2		
OJC	$\Delta = 66\text{km}$		
	Pg eZ	10 44 20.6	
	Sg eN	44 29.1	
NIE	$\Delta = 145\text{km}$		
	Pg eZ	10 44 33.9	
	Sg eE	44 52.8	
KSP	$\Delta = 192\text{km}$		
	Pg eNEZ	10 44 41.0	
	Sg eNEZ	45 04.4	
<u>OCT 18</u>			
	GIG: $\Phi = 50.262^\circ\text{N}, \lambda = 18.862^\circ\text{E}$		
	H = 21:36:15.6, M = 2.0		
OJC	$\Delta = 67\text{km}$		
	Pg eZ	21 36 28.3	
	Sg eN	36 36.3	
NIE	$\Delta = 140\text{km}$		
	Pg eZ	21 36 40.6	
	Sg eN	36 58.3	
KSP	$\Delta = 193\text{km}$		
	Pg eNEZ	21 36 48.2	
	Sg eNEZ	37 10.9	
<u>OCT 18</u>			
	$\Phi = 50.19^\circ\text{N}, \lambda = 19.30^\circ\text{E}$		
	H = 22:36:55.2, M = 2.0		
OJC	$\Delta = 36\text{km}$		
	Pg eZ	22 37 01.6	
	Sg eN	37 06.3	
NIE	$\Delta = 112\text{km}$		
	Pg eZ	22 37 14.1	
	Sg eE	37 29.2	
KSP	$\Delta = 226\text{km}$		
	Pg eNEZ	22 37 34.1	
	Sn eNEZ	37 57.5	

<u>OCT 19</u>			
	GIG: $\Phi = 50.055^\circ\text{N}, \lambda = 18.445^\circ\text{E}$		
	H = 13:52:55.9, M = 2.3		
RAC	$\Delta = 18\text{km}$		
	Pg eZ	13 53 00.1	
	Sg eNE	53 03.1	
OJC	$\Delta = 98\text{km}$		
	Pg eZ	13 53 12.9	
	(Sg) eN	53 24.6	
NIE	$\Delta = 152\text{km}$		
	Pg eZ	13 53 22.5	
	Sg eE	53 42.1	
KSP	$\Delta = 176\text{km}$		
	Pg eNEZ	13 53 25.3	
	Sg eNEZ	53 47.1	
<u>OCT 20</u>			
	GIG: $\Phi = 50.261^\circ\text{N}, \lambda = 18.889^\circ\text{E}$		
	H = 19:11:17.4, M = 2.2		
OJC	$\Delta = 65\text{km}$		
	Pg eZ	19 11 29.5	
	Sg eN	11 37.4	
NIE	$\Delta = 138\text{km}$		
	Pg eZ	19 11 41.6	
	Sg eE	11 59.3	
KSP	$\Delta = 195\text{km}$		
	Pg eNEZ	19 11 49.9	
	Sg eNEZ	12 14.4	
<u>OCT 20</u>			
	GIG: $\Phi = 50.050^\circ\text{N}, \lambda = 18.449^\circ\text{E}$		
	H = 21:56:55.6, M = 2.3		
RAC	$\Delta = 19\text{km}$		
	Pg iZ	21 56 59.7 D	
	Sg eNE	57 02.9	
OJC	$\Delta = 98\text{km}$		
	Pg eZ	21 57 12.6	
	Sg eN	57 25.7	
NIE	$\Delta = 151\text{km}$		
	Pg eZ	21 57 21.4	
	Sg eN	57 40.7	
KSP	$\Delta = 177\text{km}$		
	Pn eNEZ	21 57 24.0	
	Sg eNEZ	57 46.4	
<u>OCT 22</u>			
	$\Phi = 50.23^\circ\text{N}, \lambda = 18.90^\circ\text{E}$		
	H = 21:11:46.1, M = 2.0		

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OJC	$\Delta = 64\text{km}$			
	Pg eZ	21	11	58.1
	Sg eN		12	05.7
NIE	$\Delta = 137\text{km}$			
	Pg eZ	21	12	10.2
	Sg eE		12	27.4
KSP	$\Delta = 196\text{km}$			
	Pg eNEZ	21	12	19.2
	Sg eNEZ		12	43.0
<u>OCT 26</u>				
GIG: $\phi = 50.263^\circ\text{N}$, $\lambda = 18.779^\circ\text{E}$				
H = 10:04:11.0, M = 2.2				
OJC	$\Delta = 73\text{km}$			
	Pg eZ	10	04	24.9
	Sg eN		04	33.3
NIE	$\Delta = 144\text{km}$			
	Pg eZ	10	04	36.0
	Sg eE		04	54.3
KSP	$\Delta = 188\text{km}$			
	Pg eNEZ	10	04	43.2
	Sn eNEZ		05	03.7
<u>OCT 26</u>				
GIG: $\phi = 50.273^\circ\text{N}$, $\lambda = 18.827^\circ\text{E}$				
H = 15:52:18.1, M = 2.3				
OJC	$\Delta = 69\text{km}$			
	Pg eZ	15	52	31.0
	Sg eN		52	39.2
NIE	$\Delta = 143\text{km}$			
	Pg eZ	15	52	42.9
	Sg eE		53	01.5
KSP	$\Delta = 190\text{km}$			
	Pg eNEZ	15	52	50.0
	Sg eNEZ		53	13.8
<u>OCT 26</u>				
GIG: $\phi = 50.223^\circ\text{N}$, $\lambda = 19.023^\circ\text{E}$				
H = 21:20:59.4, M = 2.4				
OJC	$\Delta = 55\text{km}$			
	Pg eZ	21	21	08.7
	Sg eN		21	15.7
NIE	$\Delta = 129\text{km}$			
	Pg eZ	21	21	21.0 D
	Sg eE		21	38.3
KSP	$\Delta = 206\text{km}$			
	Pn eNEZ	21	21	31.8
	Sn eNEZ		21	56.8

OCT 27
GIG: $\phi = 50.224^\circ\text{N}$, $\lambda = 19.015^\circ\text{E}$
H = 17:34:32.2, M = 2.2

OJC $\Delta = 55\text{km}$
Pg eZ 17 34 41.9
Sg eN 34 49.1

NIE $\Delta = 129\text{km}$
Pg eZ 17 34 54.9
Sg eN 35 11.8

KSP $\Delta = 205\text{km}$
Pn eNEZ 17 35 05.1
(Sg) eNEZ 35 30.4

OCT 27
 $\phi = 50.18^\circ\text{N}$, $\lambda = 19.25^\circ\text{E}$
H = 21:25:19.6, M = 2.1

OJC $\Delta = 40\text{km}$
Pg eZ 21 25 27.0
Sg iN 25 31.7

NIE $\Delta = 114\text{km}$
Pg eZ 21 25 39.5
Sg eE 25 54.6

KSP $\Delta = 222\text{km}$
Pg eNEZ 21 25 57.9
(Sg) eNEZ 26 22.6

OCT 29
GIG: $\phi = 50.265^\circ\text{N}$, $\lambda = 18.854^\circ\text{E}$
H = 00:23:25.4, M = 2.4

OJC $\Delta = 68\text{km}$
Pg eZ 00 23 37.4
Sg eNE 23 46.6

NIE $\Delta = 141\text{km}$
Pg eZ 00 23 49.8
Sg eE 24 07.8

KSP $\Delta = 192\text{km}$
Pg eNEZ 00 23 57.9
Sg eNEZ 24 21.5

OCT 29
 $\phi = 50.20^\circ\text{N}$, $\lambda = 19.31^\circ\text{E}$
H = 12:50:29.2, M = 2.2

OJC $\Delta = 34\text{km}$
Pg eZ 12 50 34.9
Sg eN 50 39.6

NIE $\Delta = 113\text{km}$
Pg eZ 12 50 49.0
Sg eN 51 03.7

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KSP $\Delta = 226\text{km}$
P_g eNEZ 12 51 07.8
S_n eNEZ 51 31.9

OCT 29
GIG: $\Phi = 50.065^\circ\text{N}$, $\lambda = 18.444^\circ\text{E}$
H = 17:18:18.3, M = 2.5

RAC $\Delta = 18\text{km}$
P_g eZ 17 18 22.7
S_g eNE 18 26.1

OJC $\Delta = 98\text{km}$
P_g eZ 17 18 34.8
(S_g) eN 18 47.0

NIE $\Delta = 152\text{km}$
P_g eZ 17 18 44.6
S_g eE 19 03.4

KSP $\Delta = 176\text{km}$
P_n eNEZ 17 18 46.5
S_g eNEZ 19 08.8

OCT 30
GIG: $\Phi = 50.171^\circ\text{N}$, $\lambda = 19.298^\circ\text{E}$
H = 02:33:50.4, M = 2.1

OJC $\Delta = 37\text{km}$
P_g eZ 02 33 57.1
S_g eN 34 01.7

NIE $\Delta = 111\text{km}$
P_g eZ 02 34 09.6
(S_g) eE 34 24.7

KSP $\Delta = 225\text{km}$
P_g eNEZ 02 34 28.5
S_g eNEZ 34 56.0

OCT 30
GIG: $\Phi = 50.262^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$
H = 04:41:02.9, M = 2.1

OJC $\Delta = 67\text{km}$
P_g eZ 04 41 15.5
S_g eE 41 23.5

NIE $\Delta = 140\text{km}$
P_g eZ 04 41 27.4
S_g eE 41 45.1

KSP $\Delta = 193\text{km}$
P_g eNEZ 04 41 35.5
(S_g) eNEZ 41 57.7

OCT 30
GIG: $\Phi = 50.215^\circ\text{N}$, $\lambda = 19.066^\circ\text{E}$
H = 05:55:35.3, M = 2.2

OJC $\Delta = 52\text{km}$
P_g eZ 05 55 44.6
S_g eE 55 51.3

NIE $\Delta = 127\text{km}$
P_g eZ 05 55 58.1
S_g eN 56 13.6

KSP $\Delta = 208\text{km}$
P_g eNEZ 05 56 10.1
S_g eNEZ 56 35.9

OCT 31
GIG: $\Phi = 50.240^\circ\text{N}$, $\lambda = 18.915^\circ\text{E}$
H = 04:27:31.7, M = 2.4

OJC $\Delta = 63\text{km}$
P_g eZ 04 27 43.4
S_g eE 27 51.6

NIE $\Delta = 136\text{km}$
P_g eZ 04 27 55.9
S_g eN 28 12.6

KSP $\Delta = 197\text{km}$
P_n eNE 04 28 02.7
P_g eNEZ 28 05.2
S_g eNEZ 28 28.7

OCT 31
GIG: $\Phi = 50.171^\circ\text{N}$, $\lambda = 19.298^\circ\text{E}$
H = 10:14:13.4, M = 2.1

OJC $\Delta = 36\text{km}$
P_g eZ 10 14 19.6
S_g eN 14 24.3

NIE $\Delta = 111\text{km}$
P_g eZ 10 14 32.1
S_g eE 14 47.3

KSP $\Delta = 226\text{km}$
P_g eNEZ 10 14 52.6
(S_g) eNEZ 15 17.1

NOV 2
GIG: $\Phi = 50.241^\circ\text{N}$, $\lambda = 18.924^\circ\text{E}$
H = 19:11:04.7, M = 2.7

RAC $\Delta = 54\text{km}$
P_g eZ 19 11 15.3
S_g eNE 11 22.9

OJC $\Delta = 63\text{km}$
P_g eZ 19 11 16.2
S_g iE 11 24.5

NIE $\Delta = 135\text{km}$
P_g eZ 19 11 28.3
S_g eE 11 45.7

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KSP	$\Delta = 198\text{km}$			
	Pg eNEZ	19	11	38.3
	Sg eNEZ	12	01.6	
KWP	$\Delta = 279\text{km}$			
	Pn eZ	19	11	47.7
	Pg eZ	11	55.1	
NOV 2				
GIG: $\Phi = 50.232^\circ\text{N}$, $\lambda = 19.036^\circ\text{E}$				
H = 21:32:04.8, M = 2.3				
OJC	$\Delta = 54\text{km}$			
	Pg eZ	21	32	14.3
	Sg eN	32	21.9	
NIE	$\Delta = 129\text{km}$			
	Pg eZ	21	32	27.4
	Sg eN	32	43.9	
KSP	$\Delta = 206\text{km}$			
	Pg eNEZ	21	32	39.5
	Sg eNEZ	33	05.0	
NOV 2				
GIG: $\Phi = 50.050^\circ\text{N}$, $\lambda = 18.451^\circ\text{E}$				
H = 23:11:16.5, M = 2.2				
RAC	$\Delta = 19\text{km}$			
	Pg iZ	23	11	20.8 D
	Sg eNE	11	24.1	
OJC	$\Delta = 98\text{km}$			
	Pg eZ	23	11	33.7
	Sg eN	11	46.8	
NIE	$\Delta = 152\text{km}$			
	Pg eZ	23	11	42.9
	Sg eE	12	01.9	
KSP	$\Delta = 176\text{km}$			
	Pn eNEZ	23	11	44.3
	Sg eNEZ	12	07.4	
NOV 2				
GIG: $\Phi = 50.172^\circ\text{N}$, $\lambda = 19.297^\circ\text{E}$				
H = 23:15:25.1, M = 2.1				
OJC	$\Delta = 36\text{km}$			
	Pg eZ	23	15	31.4
	Sg iN	15	36.1	
NIE	$\Delta = 111\text{km}$			
	Pg eZ	23	15	43.9
	Sg eE	15	59.1	
KSP	$\Delta = 225\text{km}$			
	Pn eEZ	23	16	01.4
	Pg eNEZ	16	03.9	
	Sn eNEZ	16	28.1	

NOV 3				
$\Phi = 50.28^\circ\text{N}$, $\lambda = 18.86^\circ\text{E}$				
H = 04:00:38.9, M = 2.1				
OJC	$\Delta = 67\text{km}$			
	Pg eZ	04	00	51.4
	Sg eE	00	59.8	
NIE	$\Delta = 142\text{km}$			
	Pg eZ	04	01	03.8
	Sg eE	01	21.8	
KSP	$\Delta = 192\text{km}$			
	Pg eNEZ	04	01	12.0
	Sg eNEZ	01	34.0	
NOV 3				
GIG: $\Phi = 50.224^\circ\text{N}$, $\lambda = 19.022^\circ\text{E}$				
H = 23:04:26.7, M = 2.3				
OJC	$\Delta = 56\text{km}$			
	Pg eZ	23	04	37.1
	Sg eN	04	44.2	
NIE	$\Delta = 130\text{km}$			
	Pg eZ	23	04	49.6
	(Sg) eE	05	06.8	
KSP	$\Delta = 204\text{km}$			
	Pg eNEZ	23	05	01.0
	Sg eNEZ	05	25.4	
NOV 4				
GIG: $\Phi = 50.171^\circ\text{N}$, $\lambda = 19.298^\circ\text{E}$				
H = 15:46:43.3, M = 2.8				
OJC	$\Delta = 36\text{km}$			
	Pg eZ	15	46	50.0
	Sg eE	46	55.3	
RAC	$\Delta = 79\text{km}$			
	Pg eZ	15	46	57.4
	Sg eNE	47	08.3	
NIE	$\Delta = 112\text{km}$			
	Pg eZ	15	47	02.6
KSP	$\Delta = 225\text{km}$			
	Pn eNEZ	15	47	18.8
	Pg eNEZ	47	22.0	
	Sg eNEZ	47	48.2	
KWP	$\Delta = 251\text{km}$			
	Pg eZ	15	47	26.7
NOV 4				
GIG: $\Phi = 50.224^\circ\text{N}$, $\lambda = 19.015^\circ\text{E}$				
H = 17:02:47.5, M = 2.3				
OJC	$\Delta = 56\text{km}$			
	Pg eZ	17	02	57.5

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OJC	Sg eN	17 03 04.7	
NIE	$\Delta = 130\text{km}$		
	Pg eZ	17 03 11.1	
	Sg eE	03 27.3	
KSP	$\Delta = 204\text{km}$		
	Pg eNEZ	17 03 21.5	
	(Sg) eNEZ	03 45.6	
<u>NOV 5</u>			
GIG: $\Phi = 50.065^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$			
H = 09:44:47.8, M = 2.5			
RAC	$\Delta = 17\text{km}$		
	Pg iZ	09 44 51.4 C	
	Sg iN	44 54.5	
OJC	$\Delta = 99\text{km}$		
	Pg eZ	09 45 04.5	
	Sg eN	45 17.2	
NIE	$\Delta = 154\text{km}$		
	Pg eZ	09 45 14.3	
	Sg eN	45 34.8	
KSP	$\Delta = 174\text{km}$		
	Pn eNEZ	09 45 16.1	
	Sn eNEZ	45 37.1	
<u>NOV 6</u>			
GIG: $\Phi = 50.231^\circ\text{N}$, $\lambda = 19.038^\circ\text{E}$			
H = 15:35:23.2, M = 2.2			
OJC	$\Delta = 54\text{km}$		
	Pg eZ	15 35 33.2	
	Sg eN	35 40.4	
NIE	$\Delta = 129\text{km}$		
	Pg eZ	15 35 46.2	
	Sg eN	36 02.5	
KSP	$\Delta = 206\text{km}$		
	Pg eNEZ	15 35 57.8	
	Sg eNEZ	36 22.3	
<u>NOV 6</u>			
GIG: $\Phi = 50.217^\circ\text{N}$, $\lambda = 19.064^\circ\text{E}$			
H = 22:20:21.0, M = 2.2			
OJC	$\Delta = 52\text{km}$		
	Pg eZ	22 20 30.3	
	Sg eN	20 37.5	
NIE	$\Delta = 127\text{km}$		
	Pg eZ	22 20 43.7	
	Sg eN	20 59.4	
KSP	$\Delta = 208\text{km}$		
	Pn eNEZ	22 20 54.3	
	(Sg) eNEZ	21 20.3	

NOV 8

GIG: $\Phi = 50.068^\circ\text{N}$, $\lambda = 18.459^\circ\text{E}$
H = 15:48:40.8, M = 2.5

RAC $\Delta = 19\text{km}$
 Pg iZ 15 48 45.1 D
 Sg iN 48 48.4

NIE $\Delta = 152\text{km}$
 Pg eZ 15 49 07.6
 Sg eN 49 26.0

KSP $\Delta = 176\text{km}$
 Pg eNEZ 15 49 11.5
 Sg eNEZ 49 30.8

NOV 10

GIG: $\Phi = 50.262^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$
H = 13:12:10.3, M = 2.5

OJC $\Delta = 67\text{km}$
 Pg eZ 13 12 23.0
 Sg eE 12 31.0

KSP $\Delta = 192\text{km}$
 Pg eNEZ 13 12 42.5
 Sg eNEZ 13 05.9

NOV 10

GIG: $\Phi = 50.171^\circ\text{N}$, $\lambda = 19.296^\circ\text{E}$
H = 15:35:58.2, M = 2.4

OJC $\Delta = 36\text{km}$
 Pg eZ 15 36 04.6
 Sg eN 36 09.0

KSP $\Delta = 226\text{km}$
 Pg eZ 15 36 37.1
 Sg eNEZ 37 03.0

NOV 10

GIG: $\Phi = 50.171^\circ\text{N}$, $\lambda = 19.298^\circ\text{E}$
H = 22:34:44.4, M = 2.3

OJC $\Delta = 36\text{km}$
 Pg eZ 22 34 50.3
 Sg eN 34 55.0

NIE $\Delta = 110\text{km}$
 Pg eZ 22 35 02.8
 Sg eN 35 18.2

KSP $\Delta = 226\text{km}$
 Pg eZ 22 35 23.3
 Sn eNEZ 35 47.8

NOV 10

GIG: $\Phi = 50.071^\circ\text{N}$, $\lambda = 18.458^\circ\text{E}$
H = 23:29:35.9, M = 2.8

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RAC	$\Delta = 19\text{km}$				
	Pg iZ	23	29	40.3	D
	Sg eNE		29	43.7	
OJC	$\Delta = 97\text{km}$				
	Pg eZ	23	29	52.6	
	Sg eE		30	04.6	
NIE	$\Delta = 152\text{km}$				
	Pg eZ	23	30	02.3	
	Sg eE		30	21.6	
KSP	$\Delta = 176\text{km}$				
	Pn eNEZ	23	30	04.0	
	Sg eNEZ		30	26.3	
NOV 11					
GIG: $\Phi = 50.066^\circ\text{N}$, $\lambda = 18.459^\circ\text{E}$					
H = 18:59:14.9, M = 2.7					
RAC	$\Delta = 19\text{km}$				
	Pg eZ	18	59	19.4	
	Sg eNE		59	22.9	
OJC	$\Delta = 97\text{km}$				
	Pg eZ	18	59	31.6	
	Sg eN		59	43.9	
NIE	$\Delta = 152\text{km}$				
	Pg eZ	18	59	41.2	
	Sg eE		19	00 00.3	
KSP	$\Delta = 176\text{km}$				
	Pn eNEZ	18	59	43.5	
	Sg eNEZ		19	00 05.7	
NOV 13					
GIG: $\Phi = 50.262^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$					
H = 01:57:39.2, M = 2.5					
RAC	$\Delta = 52\text{km}$				
	Pg eZ	01	57	49.0	
	Sg eNE		57	55.8	
OJC	$\Delta = 67\text{km}$				
	Pg eZ	01	57	51.1	
	Sg eE		57	58.9	
NIE	$\Delta = 140\text{km}$				
	Pg eZ	01	58	03.1	
	Sg eE		58	21.0	
KSP	$\Delta = 193\text{km}$				
	Pn eNEZ	01	58	10.1	
	Pg eNEZ		58	11.4	
	Sn eNEZ		58	33.5	
NOV 15					
GIG: $\Phi = 50.171^\circ\text{N}$, $\lambda = 19.298^\circ\text{E}$					
H = 14:13:00.3, M = 2.4					

OJC	$\Delta = 36\text{km}$				
	Pg eZ	14	13	05.8	
	Sg eN		13	10.5	
NIE	$\Delta = 112\text{km}$				
	Pg eZ	14	13	19.6	
	(Sg) eE		13	34.9	
KSP	$\Delta = 226\text{km}$				
	Pg eNEZ	14	13	38.5	
	Sn eNEZ		14	03.1	
NOV 15					
GIG: $\Phi = 50.223^\circ\text{N}$, $\lambda = 19.023^\circ\text{E}$					
H = 22:38:26.1, M = 2.4					
OJC	$\Delta = 56\text{km}$				
	Pg eZ	22	38	36.5	
	Sg eEN		38	44.0	
RAC	$\Delta = 61\text{km}$				
	Pg eZ	22	38	36.7	
	(Sg) eNE		38	44.2	
NIE	$\Delta = 129\text{km}$				
	Pg eZ	22	38	49.3	
KSP	$\Delta = 205\text{km}$				
	Pn eNEZ	22	38	58.1	
	Pg eNEZ		39	00.6	
	Sg eNEZ		39	25.1	
NOV 16					
GIG: $\Phi = 50.231^\circ\text{N}$, $\lambda = 19.035^\circ\text{E}$					
H = 04:59:27.8, M = 2.3					
OJC	$\Delta = 55\text{km}$				
	Pg eZ	04	59	37.6	
	Sg eN		59	45.2	
NIE	$\Delta = 130\text{km}$				
	Pg eZ	04	59	50.7	
	Sg eE		05	00 07.3	
KSP	$\Delta = 205\text{km}$				
	Pg eNEZ	05	00	02.1	
	Sg eNEZ		00	26.6	
NOV 16					
GIG: $\Phi = 50.266^\circ\text{N}$, $\lambda = 18.781^\circ\text{E}$					
H = 07:22:59.5, M = 2.3					
OJC	$\Delta = 73\text{km}$				
	Pg eZ	07	23	13.6	
	Sg eN		23	22.0	
NIE	$\Delta = 145\text{km}$				
	Pg eZ	07	23	25.5	
	Sg eE		23	42.7	

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KSP $\Delta = 187\text{km}$
P_g eNEZ 07 23 31.0
(S_g) eNEZ 23 52.6

NOV 16
 $\Phi = 50.19^\circ\text{N}, \lambda = 19.31^\circ\text{E}$
H = 17:10:21.8, M = 2.3

OJC $\Delta = 34\text{km}$
P_g eZ 17 10 27.3
S_g eN 10 32.1

NIE $\Delta = 113\text{km}$
P_g eZ 17 10 41.3
S_g eE 10 56.4

KSP $\Delta = 226\text{km}$
P_n eNEZ 17 10 58.0
P_g eNEZ 11 00.4
S_n eNEZ 11 24.1
S_g eNEZ 11 26.8

NOV 17
GIG: $\Phi = 50.061^\circ\text{N}, \lambda = 18.449^\circ\text{E}$
H = 03:36:50.6, M = 2.3

RAC $\Delta = 18\text{km}$
P_g eZ 03 36 54.6
S_g eNE 36 57.9

OJC $\Delta = 98\text{km}$
P_g eZ 03 37 07.5
S_g eN 37 20.1

NIE $\Delta = 152\text{km}$
P_g eZ 03 37 17.1
S_g eN 37 36.6

KSP $\Delta = 176\text{km}$
P_n eNEZ 03 37 18.3
S_n eNEZ 37 40.2

NOV 18
GIG: $\Phi = 50.262^\circ\text{N}, \lambda = 18.864^\circ\text{E}$
H = 16:19:09.9, M = 2.3

OJC $\Delta = 67\text{km}$
P_g eZ 16 19 21.8
S_g eE 19 30.3

NIE $\Delta = 141\text{km}$
P_g eZ 16 19 34.5
S_g eE 19 52.7

KSP $\Delta = 193\text{km}$
P_g iNEZ 16 19 42.1
S_g eNEZ 20 05.9

NOV 18
GIG: $\Phi = 50.232^\circ\text{N}, \lambda = 19.038^\circ\text{E}$
H = 19:55:22.1, M = 2.2

OJC $\Delta = 54\text{km}$
P_g eZ 19 55 32.0
S_g eN 55 39.3

NIE $\Delta = 130\text{km}$
P_g eZ 19 55 45.2
(S_g) eE 56 02.0

KSP $\Delta = 205\text{km}$
P_g eNEZ 19 55 56.7
S_g eNEZ 56 21.3

NOV 18
 $\Phi = 50.31^\circ\text{N}, \lambda = 18.88^\circ\text{E}$
H = 21:30:42.7, M = 2.4

OJC $\Delta = 66\text{km}$
P_g eZ 21 30 54.9
S_g eN 31 03.4

NIE $\Delta = 143\text{km}$
P_g eZ 21 31 08.1
S_g eE 31 25.7

NOV 19
GIG: $\Phi = 50.170^\circ\text{N}, \lambda = 19.300^\circ\text{E}$
H = 05:25:15.6, M = 2.6

OJC $\Delta = 36\text{km}$
P_g iZ 05 25 22.4
S_g iE 25 27.4

NIE $\Delta = 111\text{km}$
P_g eZ 05 25 35.0
(S_g) eE 25 50.1

KSP $\Delta = 225\text{km}$
P_g eNEZ 05 25 53.1
S_n eNEZ 26 18.6

NOV 20
 $\Phi = 50.30^\circ\text{N}, \lambda = 18.89^\circ\text{E}$
H = 03:37:06.1, M = 2.5

OJC $\Delta = 66\text{km}$
P_g eZ 03 37 17.9
S_g eE 37 26.5

NIE $\Delta = 142\text{km}$
P_g eZ 03 37 31.1
S_g eE 37 49.0

KSP $\Delta = 193\text{km}$
P_n eNZ 03 37 37.2
P_g iNEZ 37 38.7
S_g eNEZ 38 01.3

NOV 20
GIG: $\Phi = 50.067^\circ\text{N}, \lambda = 18.464^\circ\text{E}$
H = 09:50:15.7, M = 2.7

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<p>RAC $\Delta = 19\text{km}$ Pg iZ 09 50 20.1 D Sg iN 50 23.6</p> <p>OJC $\Delta = 97\text{km}$ Pg eZ 09 50 32.3 Sg eN 50 44.6</p> <p>NIE $\Delta = 152\text{km}$ Pg eZ 09 50 42.2 Sg eE 51 01.0</p> <p>KSP $\Delta = 176\text{km}$ Pn eNEZ 09 50 44.0 Sg eNEZ 51 06.0</p> <p><u>NOV 20</u> GIG: $\Phi = 50.223^\circ\text{N}$, $\lambda = 19.019^\circ\text{E}$ H = 11:08:45.8, M = 2.5</p> <p>OJC $\Delta = 56\text{km}$ Pg eZ 11 08 55.7 Sg eE 09 03.2</p> <p>NIE $\Delta = 130\text{km}$ Pg eZ 11 09 09.5 Sg eN 09 24.5</p> <p>KSP $\Delta = 204\text{km}$ Pg eNEZ 11 09 19.9 (Sg) eNEZ 09 43.8</p> <p><u>NOV 22</u> GIG: $\Phi = 50.232^\circ\text{N}$, $\lambda = 19.033^\circ\text{E}$ H = 19:36:05.1, M = 2.0</p> <p>OJC $\Delta = 55\text{km}$ Pg eZ 19 36 15.4 Sg eN 36 22.5</p> <p>NIE $\Delta = 130\text{km}$ Pg eZ 19 36 28.6 Sg eN 36 44.6</p> <p>KSP $\Delta = 205\text{km}$ Pg eNEZ 19 36 39.6 Sg eNEZ 37 04.0</p> <p><u>NOV 23</u> GIG: $\Phi = 50.169^\circ\text{N}$, $\lambda = 19.300^\circ\text{E}$ H = 14:39:22.6, M = 2.3</p> <p>OJC $\Delta = 36\text{km}$ Pg eZ 14 39 29.0 Sg eN 39 33.7</p> <p>NIE $\Delta = 110\text{km}$ Pg eZ 14 39 41.5 (Sg) eE 39 56.6</p>	<p>KSP $\Delta = 226\text{km}$ Pg eNEZ 14 40 01.9 Sn eNEZ 40 26.8</p> <p><u>NOV 23</u> GIG: $\Phi = 50.222^\circ\text{N}$, $\lambda = 19.024^\circ\text{E}$ H = 14:55:27.1, M = 2.4</p> <p>OJC $\Delta = 56\text{km}$ Pg eZ 14 55 37.6 Sg eN 55 44.8</p> <p>NIE $\Delta = 130\text{km}$ Pg eZ 14 55 50.4</p> <p>KSP $\Delta = 205\text{km}$ Pg eNEZ 14 56 01.3 Sg eNEZ 56 25.9</p> <p><u>NOV 24</u> GIG: $\Phi = 50.262^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$ H = 03:29:35.7, M = 2.5</p> <p>OJC $\Delta = 67\text{km}$ Pg eZ 03 29 47.9 Sg eN 29 56.5</p> <p>KSP $\Delta = 193\text{km}$ Pg eNEZ 03 30 08.5 Sg eNEZ 30 31.7</p> <p><u>NOV 24</u> GIG: $\Phi = 50.057^\circ\text{N}$, $\lambda = 18.448^\circ\text{E}$ H = 18:10:54.9, M = 2.6</p> <p>RAC $\Delta = 18\text{km}$ Pg eZ 18 10 58.6 Sg eNE 11 01.9</p> <p>OJC $\Delta = 98\text{km}$ Pg eZ 18 11 11.3 (Sg) eN 11 23.3</p> <p>NIE $\Delta = 152\text{km}$ Pg eZ 18 11 21.1 Sg eN 11 40.7</p> <p>KSP $\Delta = 176\text{km}$ Pn eNEZ 18 11 22.7 Pg eNEZ 11 25.7 Sg eNEZ 11 44.9</p> <p><u>NOV 24</u> GIG: $\Phi = 50.07^\circ\text{N}$, $\lambda = 18.46^\circ\text{E}$ H = 19:13:50.4, M = 2.4</p> <p>RAC $\Delta = 19\text{km}$ Pg eZ 19 13 54.7 Sg eNE 13 58.0</p>
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OJC	Δ = 97km				
	Pg eZ	19	14	07.4	
	Sg eN		14	19.2	
NIE	Δ = 152km				
	Pg eZ	19	14	16.8	
	Sg eE		14	35.5	
NOV 24					
Φ = 50.20°N, λ = 19.28°E					
H = 20:49:36.6, M = 2.3					
OJC	Δ = 37km				
	Pg eZ	20	49	43.3	
	Sg eN		49	48.0	
NIE	Δ = 115km				
	Pg eZ	20	49	56.4	
	Sg eN		50	11.8	
KSP	Δ = 223km				
	Pg eEZ	20	50	14.8	
	Sg eNEZ		50	40.8	
NOV 26					
GIG: Φ = 50.169°N, λ = 19.302°E					
H = 05:27:29.1, M = 2.4					
OJC	Δ = 36km				
	Pg eZ	05	27	35.1	
	Sg iN		27	40.0	
NIE	Δ = 111km				
	Pg eZ	05	27	47.9	
	Sg eE		28	03.0	
KSP	Δ = 226km				
	Pg eNEZ	05	28	08.3	
	(Sg) eNEZ		28	33.3	
NOV 26					
GIG: Φ = 50.259°N, λ = 18.824°E					
H = 16:21:15.2, M = 2.6					
OJC	Δ = 69km				
	Pg eZ	16	21	27.5	
	(Sg) eE		21	35.7	
NIE	Δ = 142km				
	Pg eZ	16	21	40.0	
	Sg eE		21	58.4	
KSP	Δ = 191km				
	Pg eNEZ	16	21	48.1	
	Sg eNEZ		22	10.4	
NOV 27					
GIG: Φ = 50.248°N, λ = 18.707°E					
H = 12:14:26.5, M = 2.4					

OJC	Δ = 78km				
	Pg eZ	12	14	41.0	
	(Sg) eN		14	51.8	
NIE	Δ = 149km				
	Pg eZ	12	14	53.0	
	Sg eE		15	12.0	
KSP	Δ = 182km				
	Pg eNEZ	12	14	56.8	
	Sg eNEZ		15	19.5	
NOV 29					
GIG: Φ = 50.232°N, λ = 19.038°E					
H = 22:59:42.1, M = 2.1					
OJC	Δ = 55km				
	Pg iZ	22	59	52.5	
	Sg iN		59	59.5	
NIE	Δ = 129km				
	Pg eZ	23	00	05.2	
	Sg eE		00	20.8	
KSP	Δ = 206km				
	Pg eNEZ	23	00	17.1	
	Sg eNEZ		01	41.3	
NOV 30					
GIG: Φ = 50.238°N, λ = 18.920°E					
H = 01:12:34.4, M = 2.3					
OJC	Δ = 63km				
	Pg eZ	01	12	46.5	
	Sg eN		12	53.7	
NIE	Δ = 135km				
	Pg eZ	01	12	57.8	
	Sg eE		13	15.8	
KSP	Δ = 198km				
	Pg eNEZ	01	13	07.2	
	Sn eNEZ		13	29.9	
NOV 30					
GIG: Φ = 50.261°N, λ = 18.864°E					
H = 10:07:52.2, M = 2.4					
OJC	Δ = 67km				
	Pg eZ	10	08	04.8	
	Sg eN		08	13.6	
NIE	Δ = 140km				
	Pg eZ	10	08	15.5	
	(Sg) eN		08	33.0	
KSP	Δ = 193km				
	Pg eNEZ	10	08	25.2	
	Sg eNEZ		08	48.1	

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NOV 30

GIG: $\Phi = 50.262^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$
H = 16:12:50.5, M = 2.4

OJC $\Delta = 67\text{km}$
 Pg eZ 16 13 02.6
 Sg eN 13 11.0

NIE $\Delta = 141\text{km}$
 Pg eZ 16 13 15.0
 Sg eE 13 33.2

KSP $\Delta = 193\text{km}$
 Pg eNEZ 16 13 23.1
 Sg eNEZ 13 46.2

NOV 30

GIG: $\Phi = 50.26^\circ\text{N}$, $\lambda = 18.78^\circ\text{E}$
H = 18:15:53.7, M = 2.2

OJC $\Delta = 72\text{km}$
 Pg eZ 18 16 07.2
 Sg eE 16 16.0

NIE $\Delta = 145\text{km}$
 Pg eZ 18 16 19.2
 Sg eE 16 37.5

KSP $\Delta = 188\text{km}$
 Pg eNEZ 18 16 25.8
 Sg eNEZ 16 47.7

NOV 30

GIG: $\Phi = 50.066^\circ\text{N}$, $\lambda = 18.464^\circ\text{E}$
H = 21:12:52.4, M = 2.5

RAC $\Delta = 20\text{km}$
 Pg eZ 21 12 56.8
 Sg iN 13 00.3

OJC $\Delta = 97\text{km}$
 Pg eZ 21 13 09.3
 Sg eN 13 21.3

NIE $\Delta = 151\text{km}$
 Pg eZ 21 13 18.5
 Sg eN 13 37.6

KSP $\Delta = 177\text{km}$
 Pn eNEZ 21 13 21.3
 Sg eNEZ 13 42.7

DEC 2

GIG: $\Phi = 50.169^\circ\text{N}$, $\lambda = 19.300^\circ\text{E}$
H = 05:32:47.0, M = 2.3

OJC $\Delta = 37\text{km}$
 Pg eZ 05 32 54.1
 Sg eN 32 58.9

NIE $\Delta = 111\text{km}$
 Pg eZ 05 33 06.8
 (Sg) eE 33 21.7

KSP $\Delta = 225\text{km}$
 Pg eNEZ 05 33 24.8
 Sg eN 33 51.6

DEC 3

GIG: $\Phi = 50.30^\circ\text{N}$, $\lambda = 18.87^\circ\text{E}$
H = 00:16:45.0, M = 2.2

OJC $\Delta = 67\text{km}$
 Pg eZ 00 16 57.1
 Sg eE 17 05.7

NIE $\Delta = 142\text{km}$
 Pg eZ 00 17 10.4
 Sg eE 17 27.5

KSP $\Delta = 192\text{km}$
 Pg eNEZ 00 17 17.7
 Sg eNEZ 17 40.6

DEC 3

GIG: $\Phi = 50.29^\circ\text{N}$, $\lambda = 18.86^\circ\text{E}$
H = 15:43:49.6, M = 2.0

OJC $\Delta = 68\text{km}$
 Pg eZ 15 44 02.2
 Sg eN 44 10.5

NIE $\Delta = 142\text{km}$
 Pg eZ 15 44 14.1
 Sg eE 44 33.0

KSP $\Delta = 192\text{km}$
 Pg eNEZ 15 44 21.9
 Sg eNEZ 44 45.5

DEC 4

GIG: $\Phi = 50.261^\circ\text{N}$, $\lambda = 18.863^\circ\text{E}$
H = 22:41:38.1, M = 2.4

RAC $\Delta = 51\text{km}$
 Pg eZ 22 41 48.4
 Sg eNE 41 55.4

OJC $\Delta = 67\text{km}$
 Pg eZ 22 41 50.5
 Sg eE 41 59.0

NIE $\Delta = 140\text{km}$
 Pg eZ 22 42 02.8
 Sg eN 42 19.9

KSP $\Delta = 193\text{km}$
 Pg eNEZ 22 42 11.1
 Sg eNEZ 42 33.6

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DEC 6

GIG: $\Phi = 50.261^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$
H = 10:22:41.0, M = 2.3

OJC $\Delta = 67\text{km}$
Pg eZ 10 22 53.9
Sg eE 23 01.6

NIE $\Delta = 140\text{km}$
Pg eZ 10 23 05.5
Sg eE 23 23.5

KSP $\Delta = 193\text{km}$
Pg eNEZ 10 23 13.2
Sg eNEZ 23 36.4

DEC 6

GIG: $\Phi = 50.169^\circ\text{N}$, $\lambda = 19.300^\circ\text{E}$
H = 21:57:40.9, M = 2.5

OJC $\Delta = 37\text{km}$
Pg eZ 21 57 47.9
Sg eN 57 52.7

NIE $\Delta = 111\text{km}$
Pg eZ 21 58 00.5
(Sg) eE 58 15.6

KSP $\Delta = 225\text{km}$
Pn eNEZ 21 58 16.4
Pg eNEZ 58 19.2
Sn eNEZ 58 44.9

DEC 7

GIG: $\Phi = 50.067^\circ\text{N}$, $\lambda = 18.460^\circ\text{E}$
H = 11:24:07.2, M = 2.7

RAC $\Delta = 19\text{km}$
Pg eZ 11 24 11.4
Sg iN 24 14.9

OJC $\Delta = 97\text{km}$
Pg eZ 11 24 23.8
Sg eN 24 36.0

NIE $\Delta = 152\text{km}$
Pg eZ 11 24 33.7
Sg eN 24 53.3

KSP $\Delta = 176\text{km}$
Pn eNEZ 11 24 35.4
Sg eNEZ 24 57.5

DEC 7

GIG: $\Phi = 50.17^\circ\text{N}$, $\lambda = 19.30^\circ\text{E}$
H = 20:17:52.7, M = 2.2

OJC $\Delta = 36\text{km}$
Pg eZ 20 17 58.4
Sg eN 18 03.2

NIE $\Delta = 110\text{km}$
Pg eZ 20 18 11.0
Sg eE 18 26.2

KSP $\Delta = 226\text{km}$
Pn eNEZ 20 18 29.6
Pg eNEZ 18 32.0
Sn eNEZ 18 57.0

DEC 8

GIG: $\Phi = 50.20^\circ\text{N}$, $\lambda = 18.74^\circ\text{E}$
H = 10:50:02.9, M = 2.4

OJC $\Delta = 75\text{km}$
Pg eZ 10 50 16.9
Sg eN 50 26.0

NIE $\Delta = 143\text{km}$
Pg eZ 10 50 28.5
Sg eE 50 45.5

KSP $\Delta = 187\text{km}$
Pg eNEZ 10 50 34.9
Sg eNEZ 50 57.0

DEC 8

GIG: $\Phi = 50.262^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$
H = 18:57:00.4, M = 2.2

OJC $\Delta = 67\text{km}$
Pg eZ 18 57 13.1
Sg eE 57 20.7

NIE $\Delta = 141\text{km}$
Pg eZ 18 57 25.1
Sg eE 57 43.5

KSP $\Delta = 193\text{km}$
Pg eNEZ 18 57 32.5
Sg eNEZ 57 55.8

DEC 8

GIG: $\Phi = 50.057^\circ\text{N}$, $\lambda = 18.447^\circ\text{E}$
H = 20:28:30.8, M = 2.4

RAC $\Delta = 18\text{km}$
Pg eZ 20 28 35.1
Sg eNE 28 38.3

OJC $\Delta = 98\text{km}$
Pg eZ 20 28 47.9
Sg eN 29 00.0

NIE $\Delta = 152\text{km}$
Pg eZ 20 28 57.4
Sg eN 29 15.9

KSP $\Delta = 176\text{km}$
Pn eEZ 20 28 58.1
Pg eNEZ 29 00.6
Sg eNEZ 29 21.5

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DEC 9

GIG: $\Phi = 50.273^{\circ}\text{N}$, $\lambda = 18.829^{\circ}\text{E}$
H = 04:48:50.0, M = 2.3

OJC $\Delta = 70\text{km}$
Pg eZ 04 49 02.4
Sg eN 49 11.8

NIE $\Delta = 144\text{km}$
Pg eZ 04 49 14.8
Sg eE 49 33.8

KSP $\Delta = 190\text{km}$
Pg eNEZ 04 49 21.8
Sg eNEZ 49 44.4

DEC 9

GIG: $\Phi = 50.262^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
H = 15:39:27.0, M = 2.5

OJC $\Delta = 67\text{km}$
Pg eZ 15 39 39.3
Sg eN 39 47.7

NIE $\Delta = 141\text{km}$
Pg eZ 15 39 52.3
Sg eN 40 09.3

KSP $\Delta = 193\text{km}$
Pg eNEZ 15 39 59.5
Sg eNEZ 40 22.5

DEC 9

GIG: $\Phi = 50.261^{\circ}\text{N}$, $\lambda = 18.864^{\circ}\text{E}$
H = 22:04:47.2, M = 2.2

OJC $\Delta = 67\text{km}$
Pg eZ 22 04 58.9
Sg eN 05 07.3

NIE $\Delta = 140\text{km}$
Pg eZ 22 05 11.9
(Sg) eN 05 30.5

KSP $\Delta = 193\text{km}$
Pg eNEZ 22 05 19.7
Sg eNEZ 05 42.7

DEC 9

GIG: $\Phi = 50.102^{\circ}\text{N}$, $\lambda = 19.182^{\circ}\text{E}$
H = 22:11:50.9, M = 2.3

OJC $\Delta = 45\text{km}$
Pg eZ 22 11 59.1
Sg eE 12 05.2

NIE $\Delta = 112\text{km}$
Pg eZ 22 12 10.5
Sg eN 12 25.1

KSP $\Delta = 221\text{km}$
Pg eNEZ 22 12 29.2
Sg eNEZ 12 53.9

DEC 10

GIG: $\Phi = 50.066^{\circ}\text{N}$, $\lambda = 18.463^{\circ}\text{E}$
H = 03:03:03.6, M = 2.3

RAC $\Delta = 19\text{km}$
Pg eZ 03 03 08.0
Sg eNE 03 11.5

OJC $\Delta = 97\text{km}$
Pg eZ 03 03 20.5
Sg eN 03 32.7

NIE $\Delta = 152\text{km}$
Pg eZ 03 03 30.0
Sg eN 03 49.7

KSP $\Delta = 176\text{km}$
Pn eNEZ 03 03 30.8
Sn eNEZ 03 52.8

DEC 10

GIG: $\Phi = 50.17^{\circ}\text{N}$, $\lambda = 19.31^{\circ}\text{E}$
H = 04:09:30.4, M = 2.2

OJC $\Delta = 34\text{km}$
Pg eZ 04 09 36.0
Sg eN 09 40.9

NIE $\Delta = 110\text{km}$
Pg eZ 04 09 48.7
Sg eN 10 04.0

KSP $\Delta = 227\text{km}$
Pn eEZ 04 10 07.4
Pg eNEZ 10 09.7
Sn eNEZ 10 34.8

DEC 10

GIG: $\Phi = 50.224^{\circ}\text{N}$, $\lambda = 19.015^{\circ}\text{E}$
H = 13:11:47.7, M = 2.6

OJC $\Delta = 56\text{km}$
Pg eZ 13 11 57.9
Sg eN 12 05.2

NIE $\Delta = 130\text{km}$
Pg eZ 13 12 11.1
(Sg) eE 12 27.9

KSP $\Delta = 204\text{km}$
Pg eEZ 13 12 21.9
Sg eNEZ 12 46.4

DEC 10

GIG: $\Phi = 50.261^{\circ}\text{N}$, $\lambda = 18.863^{\circ}\text{E}$
H = 19:55:26.9, M = 2.2

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OJC	$\Delta = 67\text{km}$		
	Pg eZ	19 55	39.3
	Sg eE	55	47.7
NIE	$\Delta = 140\text{km}$		
	Pg eZ	19 55	51.4
	Sg eNE	56	09.4
KSP	$\Delta = 193\text{km}$		
	Pg eNEZ	19 55	59.7
	Sg eNEZ	56	23.0
<u>DEC 11</u>			
GIG: $\Phi = 50.232^\circ\text{N}$, $\lambda = 19.039^\circ\text{E}$			
H = 01:41:15.5, M = 2.2			
OJC	$\Delta = 54\text{km}$		
	Pg eZ	01 41	24.9
	Sg eN	41	32.7
NIE	$\Delta = 129\text{km}$		
	Pg eZ	01 41	38.0
	(Sg) eE	41	55.5
KSP	$\Delta = 206\text{km}$		
	Pn eNEZ	01 41	47.5
	Sn eNEZ	42	12.3
<u>DEC 11</u>			
GIG: $\Phi = 50.262^\circ\text{N}$, $\lambda = 18.855^\circ\text{E}$			
H = 02:14:39.8, M = 2.3			
OJC	$\Delta = 68\text{km}$		
	Pg eZ	02 14	52.6
	Sg eNE	15	00.7
NIE	$\Delta = 140\text{km}$		
	Pg eZ	02 15	04.3
	Sg eE	15	22.2
KSP	$\Delta = 192\text{km}$		
	Pg eNEZ	02 15	11.8
	(Sn) eNEZ	15	34.1
<u>DEC 11</u>			
GIG: $\Phi = 50.266^\circ\text{N}$, $\lambda = 18.778^\circ\text{E}$			
H = 22:15:10.9, M = 2.5			
RAC	$\Delta = 47\text{km}$		
	Pg eZ	22 15	20.4
	Sg eNE	15	26.6
OJC	$\Delta = 73\text{km}$		
	Pg eZ	22 15	24.3
	Sg eE	15	33.3
NIE	$\Delta = 146\text{km}$		
	Pg eZ	22 15	36.4
	Sg eE	15	54.8

KSP	$\Delta = 187\text{km}$		
	Pn eE	22 15	40.3
	Pg eNEZ	15	42.8
	Sg eNEZ	16	04.8

DEC 12

GIG: $\Phi = 50.164^\circ\text{N}$, $\lambda = 19.309^\circ\text{E}$
H = 11:17:22.4, M = 2.1

OJC	$\Delta = 35\text{km}$		
	Pg eZ	11 17	28.4
	Sg eN	17	33.2

NIE	$\Delta = 110\text{km}$		
	Pg eZ	11 17	40.8
	Sg eE	17	56.0

KSP	$\Delta = 227\text{km}$		
	Pn eEZ	11 17	58.9
	Pg eNEZ	18	01.6
	Sn eNEZ	18	26.1

DEC 13

GIG: $\Phi = 50.068^\circ\text{N}$, $\lambda = 18.463^\circ\text{E}$
H = 14:20:02.1, M = 2.5

RAC	$\Delta = 19\text{km}$		
	Pg eZ	14 20	06.7
	Sg eNE	20	10.1

OJC	$\Delta = 97\text{km}$		
	Pg eZ	14 20	19.1
	Sg eE	20	30.7

NIE	$\Delta = 152\text{km}$		
	Pg eZ	14 20	29.1
	Sg eE	20	48.0

KSP	$\Delta = 176\text{km}$		
	Pn eNEZ	14 20	30.7
	Sg eNEZ	20	52.7

DEC 14

GIG: $\Phi = 50.233^\circ\text{N}$, $\lambda = 19.039^\circ\text{E}$
H = 17:46:26.0, M = 2.3

OJC	$\Delta = 54\text{km}$		
	Pg eZ	17 46	35.3
	Sg eN	46	42.6

NIE	$\Delta = 129\text{km}$		
	Pg eZ	17 46	49.0
	Sg eN	47	04.6

KSP	$\Delta = 206\text{km}$		
	Pn eNEZ	17 46	59.2
	(Sg) eNEZ	47	24.5

DEC 14

GIG: $\Phi = 50.261^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$
H = 22:28:00.5, M = 2.6

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RAC	$\Delta = 51\text{km}$			
	Pg eZ	22	28	10.4
	Sg eNE		28	16.1
OJC	$\Delta = 67\text{km}$			
	Pg eZ	22	28	12.9
	Sg eN		28	21.3
NIE	$\Delta = 140\text{km}$			
	Pg eZ	22	28	25.3
	Sg eN		28	42.3
KSP	$\Delta = 193\text{km}$			
	Pg eNEZ	22	28	33.5
	Sg eNEZ		28	55.6
<u>DEC 14</u>				
	$\Phi = 50.26^\circ\text{N}, \lambda = 19.02^\circ\text{E}$			
	H = 23:30:58.3, M = 2.2			
OJC	$\Delta = 56\text{km}$			
	Pg eZ	23	31	08.5
	Sg eN		31	15.6
NIE	$\Delta = 132\text{km}$			
	Pg eZ	23	31	21.8
	Sg eN		31	38.2
KSP	$\Delta = 203\text{km}$			
	Pg eNEZ	23	31	32.7
	Sg eNEZ		31	57.3
<u>DEC 15</u>				
	GIG: $\Phi = 50.165^\circ\text{N}, \lambda = 19.310^\circ\text{E}$			
	H = 02:38:53.3, M = 2.5			
OJC	$\Delta = 36\text{km}$			
	Pg eZ	02	38	59.7
	Sg eN		39	04.6
NIE	$\Delta = 110\text{km}$			
	Pg eZ	02	39	12.2
	(Sg) eE		39	27.4
KSP	$\Delta = 226\text{km}$			
	Pg eNEZ	02	39	31.3
	Sn eNEZ		39	56.7
<u>DEC 15</u>				
	GIG: $\Phi = 50.233^\circ\text{N}, \lambda = 19.039^\circ\text{E}$			
	H = 03:56:10.0, M = 2.2			
OJC	$\Delta = 54\text{km}$			
	Pg eZ	03	56	19.9
	Sg eN		56	26.9
NIE	$\Delta = 129\text{km}$			
	Pg eZ	03	56	32.5
	Sg eN		56	49.1

KSP	$\Delta = 206\text{km}$			
	Pg eNEZ	03	56	44.3
	Sn eNEZ		57	07.8

DEC 15

GIG: $\Phi = 50.104^\circ\text{N}, \lambda = 19.182^\circ\text{E}$
H = 08:51:59.6, M = 2.1

OJC	$\Delta = 46\text{km}$			
	Pg eZ	08	52	08.3
	Sg eN		52	13.2

NIE	$\Delta = 112\text{km}$			
	Pg eZ	08	52	19.0
	(Sg) eE		52	34.5

KSP	$\Delta = 220\text{km}$			
	Pg eNEZ	08	52	36.3
	Sn eNEZ		53	01.0

DEC 15

GIG: $\Phi = 50.165^\circ\text{N}, \lambda = 19.309^\circ\text{E}$
H = 17:26:24.9, M = 2.6

OJC	$\Delta = 35\text{km}$			
	Pg iZ	17	26	30.5
	Sg iN		26	35.3

NIE	$\Delta = 110\text{km}$			
	Pg eZ	17	26	43.4
	Sg eE		26	58.5

KSP	$\Delta = 227\text{km}$			
	Pn eNEZ	17	27	01.7
	Pg eNEZ		27	04.2
	Sn eNEZ		27	28.8

DEC 16

GIG: $\Phi = 50.234^\circ\text{N}, \lambda = 19.071^\circ\text{E}$
H = 12:55:52.5, M = 2.6

OJC	$\Delta = 52\text{km}$			
	Pg eZ	12	56	01.8
	Sg eNE		56	09.0

NIE	$\Delta = 128\text{km}$			
	Pg eZ	12	56	15.6

KSP	$\Delta = 207\text{km}$			
	Pn eNZ	12	56	24.7
	Pg eNEZ		56	27.1
	Sg eNEZ		56	52.0

DEC 16

GIG: $\Phi = 50.178^\circ\text{N}, \lambda = 19.300^\circ\text{E}$
H = 18:01:39.6, M = 2.4

OJC	$\Delta = 36\text{km}$			
	Pg eZ	18	01	46.1
	Sg iN		01	51.0

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NIE	$\Delta = 111\text{km}$		
	Pg eZ	18 01 58.6	
	Sg eE	02 13.7	
KSP	$\Delta = 226\text{km}$		
	Pg eNEZ	18 02 18.7	
	Sn eNEZ	02 43.7	
DEC 17			
GIG: $\Phi = 50.075^\circ\text{N}$, $\lambda = 19.128^\circ\text{E}$			
H = 11:58:18.7, M = 2.2			
OJC	$\Delta = 50\text{km}$		
	Pg eZ	11 58 27.5	
	Sg eN	58 34.1	
NIE	$\Delta = 112\text{km}$		
	Pg eZ	11 58 38.0	
KSP	$\Delta = 218\text{km}$		
	Pg eNEZ	11 58 56.7	
	Sn eNEZ	59 20.5	
DEC 18			
GIG: $\Phi = 50.062^\circ\text{N}$, $\lambda = 18.450^\circ\text{E}$			
H = 02:42:50.0, M = 2.2			
RAC	$\Delta = 18\text{km}$		
	Pg iZ	02 42 54.1	D
	Sg iN	42 57.3	
OJC	$\Delta = 98\text{km}$		
	Pg eZ	02 43 06.9	
	Sg eN	43 19.0	
NIE	$\Delta = 152\text{km}$		
	Pg eZ	02 43 16.5	
	Sg eN	43 36.0	
KSP	$\Delta = 176\text{km}$		
	Pn eEZ	02 43 18.4	
	Sn eNEZ	43 39.1	
DEC 18			
GIG: $\Phi = 50.170^\circ\text{N}$, $\lambda = 19.300^\circ\text{E}$			
H = 10:46:27.1, M = 2.3			
OJC	$\Delta = 36\text{km}$		
	Pg eZ	10 46 32.6	
	Sg eN	46 37.9	
NIE	$\Delta = 111\text{km}$		
	Pg eZ	10 46 46.3	
	(Sg) eN	47 01.4	
KSP	$\Delta = 226\text{km}$		
	Pn eEZ	10 47 03.7	
	Pg eNEZ	47 06.1	
	Sn eNEZ	47 30.6	

DEC 18			
GIG: $\Phi = 50.231^\circ\text{N}$, $\lambda = 19.035^\circ\text{E}$			
H = 21:21:21.2, M = 2.1			
OJC	$\Delta = 54\text{km}$		
	Pg eZ	21 21 30.8	
	Sg eN	21 38.2	
NIE	$\Delta = 129\text{km}$		
	Pg eZ	21 21 44.5	
	Sg eE	22 00.5	
KSP	$\Delta = 206\text{km}$		
	Pg eNEZ	21 21 55.8	
	(Sg) eNEZ	22 19.6	
DEC 19			
GIG: $\Phi = 50.262^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$			
H = 02:16:45.4, M = 2.1			
OJC	$\Delta = 67\text{km}$		
	Pg eZ	02 16 58.2	
	Sg eNE	17 05.9	
NIE	$\Delta = 140\text{km}$		
	Pg eZ	02 17 09.8	
	Sg eEN	17 27.7	
KSP	$\Delta = 193\text{km}$		
	Pg eNEZ	02 17 18.0	
	Sg eNEZ	17 41.1	
DEC 19			
GIG: $\Phi = 50.352^\circ\text{N}$, $\lambda = 18.867^\circ\text{E}$			
H = 10:46:20.2, M = 2.3			
OJC	$\Delta = 68\text{km}$		
	Pg eZ	10 46 33.3	
	Sg eN	46 41.7	
NIE	$\Delta = 147\text{km}$		
	Pg eZ	10 46 45.9	
	Sg eNE	47 03.7	
KSP	$\Delta = 190\text{km}$		
	Pn eNEZ	10 46 50.4	
	Sg eNEZ	47 14.7	
DEC 21			
GIG: $\Phi = 50.232^\circ\text{N}$, $\lambda = 19.038^\circ\text{E}$			
H = 00:09:03.0, M = 2.2			
OJC	$\Delta = 54\text{km}$		
	Pg eZ	00 09 12.4	
	Sg eN	09 19.7	
NIE	$\Delta = 130\text{km}$		
	Pg eZ	00 09 26.5	
	Sg eN	09 41.8	

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KSP $\Delta = 205\text{km}$
 Pg eNEZ 00 09 37.2
 Sg eNEZ 10 02.0

DEC 21
 $\Phi = 50.27^\circ\text{N}$, $\lambda = 19.02^\circ\text{E}$
H = 08:12:22.0, M = 2.2

OJC $\Delta = 56\text{km}$
 Pg eZ 08 12 32.0
 Sg eN 12 39.5

NIE $\Delta = 132\text{km}$
 Pg eZ 08 12 44.9
 (Sg) eE 13 02.8

KSP $\Delta = 203\text{km}$
 Pg eNEZ 08 12 56.1
 Sg eNEZ 13 21.5

DEC 21
GIG: $\Phi = 50.076^\circ\text{N}$, $\lambda = 19.129^\circ\text{E}$
H = 17:25:31.1, M = 2.2

OJC $\Delta = 50\text{km}$
 Pg eZ 17 25 39.9
 Sg eN 25 46.5

NIE $\Delta = 113\text{km}$
 Pg e(Z) 17 25 51.1
 (Sg) eE 26 06.1

KSP $\Delta = 218\text{km}$
 Pg eNEZ 17 26 08.6
 Sg eNEZ 26 33.9

DEC 22
GIG: $\Phi = 50.273^\circ\text{N}$, $\lambda = 18.827^\circ\text{E}$
H = 01:43:07.3, M = 2.2

OJC $\Delta = 70\text{km}$
 Pg eZ 01 43 20.7
 Sg eE 43 28.9

NIE $\Delta = 144\text{km}$
 Pg eZ 01 43 33.1
 (Sg) eE 43 51.5

KSP $\Delta = 190\text{km}$
 Pg eNEZ 01 43 38.9
 Sg eNEZ 44 01.6

DEC 22
GIG: $\Phi = 50.171^\circ\text{N}$, $\lambda = 19.300^\circ\text{E}$
H = 04:38:02.9, M = 2.4

OJC $\Delta = 37\text{km}$
 Pg eZ 04 38 09.9
 Sg eE 38 14.6

NIE $\Delta = 111\text{km}$
 Pg eZ 04 38 22.4
 (Sg) eE 38 37.4

KSP $\Delta = 225\text{km}$
 Pg eNEZ 04 38 41.0
 (Sn) eNEZ 04 39 04.3

DEC 22
 $\Phi = 50.07^\circ\text{N}$, $\lambda = 18.46^\circ\text{E}$
H = 08:09:01.0, M = 2.3

RAC $\Delta = 19\text{km}$
 Pg eZ 08 09 05.1
 Sg eNE 09 08.5

OJC $\Delta = 98\text{km}$
 Pg eZ 08 09 18.0
 Sg eE 09 30.0

NIE $\Delta = 152\text{km}$
 Pg eZ 08 09 27.1
 Sg eN 09 46.8

DEC 22
GIG: $\Phi = 50.232^\circ\text{N}$, $\lambda = 19.040^\circ\text{E}$
H = 14:16:47.2, M = 2.2

OJC $\Delta = 55\text{km}$
 Pg eZ 14 16 57.6
 Sg eN 17 04.5

NIE $\Delta = 130\text{km}$
 Pg eZ 14 17 10.7
 (Sg) eE 17 27.3

KSP $\Delta = 205\text{km}$
 Pg eNEZ 14 17 21.4
 (Sg) eNEZ 17 45.8

DEC 23
GIG: $\Phi = 50.234^\circ\text{N}$, $\lambda = 19.034^\circ\text{E}$
H = 00:59:29.2, M = 2.3

OJC $\Delta = 55\text{km}$
 Pg eZ 00 59 39.1
 Sg eN 59 46.9

NIE $\Delta = 130\text{km}$
 Pg eZ 00 59 52.1
 Sg eN 01 00 08.8

KSP $\Delta = 205\text{km}$
 Pg eNEZ 01 00 03.7
 Sg eNEZ 00 27.8

DEC 23
GIG: $\Phi = 50.266^\circ\text{N}$, $\lambda = 18.778^\circ\text{E}$
H = 07:09:05.6, M = 2.2

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OJC $\Delta = 74\text{km}$
 Pg eZ 07 09 19.0
 Sg eN 09 28.9

NIE $\Delta = 146\text{km}$
 Pg eZ 07 09 31.0
 Sg eE 09 49.9

KSP $\Delta = 187\text{km}$
 Pg eNEZ 07 09 36.7
 Sg eNEZ 09 59.1

DEC 23

GIG: $\phi = 50.170^\circ\text{N}, \lambda = 19.300^\circ\text{E}$
H = 15:49:31.8, M = 2.4

OJC $\Delta = 36\text{km}$
 Pg eZ 15 49 38.3
 Sg eN 49 43.0

NIE $\Delta = 111\text{km}$
 Pg eZ 15 49 50.8
 (Sg) eE 50 05.9

KSP $\Delta = 226\text{km}$
 Pg eNEZ 15 50 11.1
 Sg eNEZ 50 36.2

DEC 24

GIG: $\phi = 50.227^\circ\text{N}, \lambda = 18.875^\circ\text{E}$
H = 05:20:30.2, M = 2.3

OJC $\Delta = 66\text{km}$
 Pg eZ 05 20 42.1
 Sg eE 20 50.8

NIE $\Delta = 138\text{km}$
 Pg eZ 05 20 55.2
 Sg eE 21 12.2

KSP $\Delta = 195\text{km}$
 Pg eNEZ 05 21 02.9
 Sg eNEZ 21 26.0

DEC 24

GIG: $\phi = 50.26^\circ\text{N}, \lambda = 18.84^\circ\text{E}$
H = 12:47:17.4, M = 2.5

OJC $\Delta = 68\text{km}$
 Pg eZ 12 47 30.1
 Sg eE 47 38.3

NIE $\Delta = 141\text{km}$
 Pg eZ 12 47 42.5
 Sg eE 47 59.9

KSP $\Delta = 192\text{km}$
 Pg eNEZ 12 47 50.2
 Sg eNEZ 48 12.9

DEC 25

GIG: $\phi = 49.93^\circ\text{N}, \lambda = 18.50^\circ\text{E}$
H = 19:02:05.8, M = 2.2

RAC $\Delta = 28\text{km}$
 Pg eZ 19 02 12.2
 Sg eNE 02 16.1

OJC $\Delta = 98\text{km}$
 Pg eZ 19 02 23.2

KSP $\Delta = 187\text{km}$
 Pg eNEZ 19 02 37.0
 Sg eNEZ 03 00.3

DEC 28

GIG: $\phi = 50.166^\circ\text{N}, \lambda = 19.309^\circ\text{E}$
H = 02:15:27.1, M = 2.4

OJC $\Delta = 36\text{km}$
 Pg eZ 02 15 33.1
 Sg eN 15 37.7

RAC $\Delta = 80\text{km}$
 (Pg) eZ 02 15 40.6
 (Sg) eE 15 51.1

NIE $\Delta = 110\text{km}$
 Pg eZ 02 15 45.7
 Sg eE 16 00.8

KSP $\Delta = 226\text{km}$
 Pg eNEZ 02 16 06.3
 Sn eNEZ 16 31.2

DEC 28

GIG: $\phi = 50.066^\circ\text{N}, \lambda = 18.463^\circ\text{E}$
H = 10:27:35.8, M = 2.6

RAC $\Delta = 19\text{km}$
 Pg iZ 10 27 40.1 D
 Sg eNE 27 43.4

OJC $\Delta = 97\text{km}$
 Pg eZ 10 27 52.7
 Sg eN 28 04.7

NIE $\Delta = 152\text{km}$
 Pg eZ 10 28 02.0
 Sg eN 28 21.8

KSP $\Delta = 176\text{km}$
 Pn eNEZ 10 28 04.1
 Sg eNEZ 28 26.0

DEC 28

GIG: $\phi = 50.103^\circ\text{N}, \lambda = 19.181^\circ\text{E}$
H = 13:01:30.6, M = 2.4

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OJC	Δ = 46km				
	Pg eZ	13	01	38.3	
	Sg eN		01	44.6	
NIE	Δ = 111km				
	Pg eZ	13	01	49.7	
	Sg eE		02	04.2	
KSP	Δ = 221km				
	Pg eNEZ	13	02	08.3	
	Sn eNEZ		02	32.5	
<u>DEC 28</u>					
	Φ = 50.29°N, λ = 18.86°E				
	H = 20:36:40.8, M = 2.0				
OJC	Δ = 67km				
	Pg eZ	20	36	53.2	
	Sg eNE		37	01.6	
NIE	Δ = 142km				
	Pg eZ	20	37	06.1	
	Sg eE		37	23.6	
KSP	Δ = 192km				
	Pg eNEZ	20	37	13.4	
	Sg eNEZ		37	36.3	
<u>DEC 28</u>					
	GIG: Φ = 50.164°N, λ = 19.309°E				
	H = 23:42:14.9, M = 2.6				
OJC	Δ = 35km				
	Pg eZ	23	42	21.5	
	Sg eN		42	26.2	
RAC	Δ = 80km				
	Pg eZ	23	42	30.0	
	Sg eNE		42	40.8	
NIE	Δ = 111km				
	Pg eZ	23	42	33.9	
	(Sg) eE		42	49.2	
KSP	Δ = 226km				
	Pn eNEZ	23	42	50.6	
	Pg eNEZ		42	52.9	
	(Sn) eNEZ		43	16.7	
<u>DEC 29</u>					
	GIG: Φ = 50.234°N, λ = 19.073°E				
	H = 03:07:01.4, M = 2.2				
OJC	Δ = 52km				
	Pg eZ	03	07	10.8	
	Sg eN		07	17.8	
NIE	Δ = 127km				
	Pg eZ	03	07	23.8	
	Sg eE		07	40.1	

KSP	Δ = 208km				
	Pg eNEZ	03	07	36.4	
	Sg eNEZ		08	01.8	

DEC 29

GIG: Φ = 50.262°N, λ = 18.863°E
H = 11:39:48.3, M = 2.3

OJC	Δ = 67km				
	Pg eZ	11	40	00.8	
	Sg eEN		40	09.2	

NIE	Δ = 140km				
	Pg eZ	11	40	12.9	
	Sg eE		40	31.1	

KSP	Δ = 193km				
	Pg eNEZ	11	40	21.1	
	Sg eNEZ		40	43.8	

DEC 29

Φ = 50.26°N, λ = 19.02°E
H = 13:20:17.8, M = 2.2

OJC	Δ = 56km				
	Pg eZ	13	20	27.9	
	Sg eE		20	35.2	

NIE	Δ = 132km				
	Pg eZ	13	20	41.1	
	Sg eE		20	57.5	

KSP	Δ = 204km				
	Pg eNEZ	13	20	52.4	
	Sg eNEZ		21	16.5	

DEC 29

GIG: Φ = 50.075°N, λ = 19.126°E
H = 14:17:43.6, M = 2.1

OJC	Δ = 51km				
	Pg eZ	14	17	52.8	
	Sg eNE		17	59.4	

NIE	Δ = 113km				
	Pg eZ	14	18	03.0	
	(Sg) eE		18	18.8	

KSP	Δ = 218km				
	Pg iNEZ	14	18	20.0	
	Sg eNEZ		18	47.0	

DEC 29

GIG: Φ = 50.233°N, λ = 19.037°E
H = 14:35:44.2, M = 2.2

OJC	Δ = 54km				
	Pg eZ	14	35	53.9	
	Sg eEN		36	01.4	

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NIE	$\Delta = 129\text{km}$			
	Pg eZ	14	36	06.9
	Sg eE		36	23.5
KSP	$\Delta = 206\text{km}$			
	Pn eNEZ	14	36	17.1
	(Sn) eNEZ		36	40.3
<u>DEC 29</u>				
$\Phi = 50.18^\circ\text{N}$, $\lambda = 19.31^\circ\text{E}$				
$H = 22:27:24.4$, $M = 2.3$				
OJC	$\Delta = 34\text{km}$			
	Pg eZ	22	27	30.2
	Sg eN		27	34.9
NIE	$\Delta = 111\text{km}$			
	Pg eZ	22	27	42.9
	Sg eEN		27	58.3
KSP	$\Delta = 227\text{km}$			
	Pg eNEZ	22	28	03.4
	Sn eNEZ		28	27.8
<u>DEC 30</u>				
GIG: $\Phi = 50.262^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$				
$H = 10:29:27.2$, $M = 2.2$				
OJC	$\Delta = 67\text{km}$			
	Pg eZ	10	29	39.5
	Sg eE		29	48.0
NIE	$\Delta = 141\text{km}$			
	Pg eZ	10	29	51.8
	Sg eE		30	10.0
KSP	$\Delta = 193\text{km}$			
	Pg eNEZ	10	29	59.8
	Sg eNEZ		30	23.0
<u>DEC 30</u>				
GIG: $\Phi = 50.233^\circ\text{N}$, $\lambda = 19.039^\circ\text{E}$				
$H = 11:09:07.3$, $M = 2.3$				
OJC	$\Delta = 54\text{km}$			
	Pg eZ	11	09	17.5
	Sg eN		09	24.8
NIE	$\Delta = 128\text{km}$			
	Pg eZ	11	09	29.5
	(Sg) eN		09	47.0
KSP	$\Delta = 206\text{km}$			
	Pg eNEZ	11	09	42.6
	Sg eNEZ		10	06.8
<u>DEC 31</u>				
GIG: $\Phi = 50.262^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$				
$H = 02:50:22.6$, $M = 2.7$				
RAC	$\Delta = 51\text{km}$			

RAC	Pg eZ	02	50	32.9
	Sg eNE		50	39.9

OJC	$\Delta = 67\text{km}$			
	Pg eZ	02	50	35.0
	Sg eE		50	43.5

NIE	$\Delta = 140\text{km}$			
	Pg eZ	02	50	47.2
	Sg eN		51	04.9

KSP	$\Delta = 193\text{km}$			
	Pg eNEZ	02	50	55.5
	Sg eNEZ		51	18.3

DEC 31

GIG: $\Phi = 50.239^\circ\text{N}$, $\lambda = 18.884^\circ\text{E}$
 $H = 03:29:58.8$, $M = 2.8$

RAC	$\Delta = 52\text{km}$			
	Pg eZ	03	30	09.2
	Sg eN		30	16.5

OJC	$\Delta = 65\text{km}$			
	Pg eZ	03	30	11.0
	Sg eE		30	19.4

NIE	$\Delta = 138\text{km}$			
	Pg eZ	03	30	23.1
	Sg eN		30	40.6

KSP	$\Delta = 195\text{km}$			
	Pn eNEZ	03	30	29.7
	Pg iNEZ		30	31.9
	Sg eNEZ		30	54.9

DEC 31

GIG: $\Phi = 50.066^\circ\text{N}$, $\lambda = 18.425^\circ\text{E}$
 $H = 04:02:52.4$, $M = 3.2$

RAC	$\Delta = 17\text{km}$			
	Pg iZ	04	02	56.1 D
	Sg iN		02	59.3

OJC	$\Delta = 99\text{km}$			
	Pg eZ	04	03	09.2
	Sg eEZ		03	22.5

NIE	$\Delta = 154\text{km}$			
	Pg eZ	04	03	18.1
	Sg eN		03	39.1

KSP	$\Delta = 174\text{km}$			
	Pn eNEZ	04	03	20.2
	Pg eNEZ		03	22.1
	Sn eNEZ		03	40.1
	Sg eNEZ		03	42.3

KWP	$\Delta = 310\text{km}$			
	P eZ	04	03	44.9

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DEC 31

GIG: $\phi = 50.07^\circ\text{N}$, $\lambda = 18.46^\circ\text{E}$
H = 11:30 31.4, **M = 2.4**

RAC $\Delta = 20\text{km}$
Pg iZ 11 30 35.8 D
Sg iN 30 39.2

OJC $\Delta = 97\text{km}$
Pg eZ 11 30 48.4
Sg eN 31 00.2

NIE $\Delta = 151\text{km}$
Pg eZ 11 30 57.4
Sg eN 31 16.6

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JAN 2

$\phi = 51.50^{\circ}\text{N}$, $\lambda = 16.09^{\circ}\text{E}$
H = 16:32:44, M = 2.7

KSP $\Delta = 75\text{km}$
 Pg iNEZ 16 32 56.0
 Sg eNEZ 33 05.7

OJC $\Delta = 298\text{km}$
 Pn eZ 16 33 25.4
 Pg eZ 33 34.5
 Sg eN 34 10.9

NIE $\Delta = 380\text{km}$
 P eZ 16 33 48.8
 S eN 34 34.5

JAN 4

$\phi = 51.510^{\circ}\text{N}$, $\lambda = 15.992^{\circ}\text{E}$
H = 20:16:22.7, M = 2.5

KSP $\Delta = 77.4\text{km}$
 Pg eNEZ 20 16 35.4
 Sg eNEZ 16 45.1

JAN 6

$\phi = 51.448^{\circ}\text{N}$, $\lambda = 16.162^{\circ}\text{E}$
H = 04:46:04.2, M = 2.6

KSP $\Delta = 68.1\text{km}$
 Pg eNEZ 04 46 15.4
 Sg eNEZ 46 23.6

JAN 7

$\phi = 51.49^{\circ}\text{N}$, $\lambda = 16.00^{\circ}\text{E}$
H = 04:33:21, M = 2.5

KSP $\Delta = 75\text{km}$
 Pg eNEZ 04 33 33.4
 Sg eNEZ 33 41.1

JAN 7

$\phi = 51.563^{\circ}\text{N}$, $\lambda = 16.009^{\circ}\text{E}$
H = 06:11:10.4, M = 3.0

KSP $\Delta = 82.8\text{km}$
 Pg eNEZ 06 11 24.0
 Sg eNEZ 11 34.0

OJC $\Delta = 306.4\text{km}$
 Pn eZ 06 11 51.7
 Pg iZ 12 01.1
 Sn eE 12 25.2
 Sg iN 12 36.7

JAN 8

$\phi = 51.510^{\circ}\text{N}$, $\lambda = 16.085^{\circ}\text{E}$
H = 12:40:42.9, M = 2.7

KSP $\Delta = 75.9\text{km}$
 Pg eNEZ 12 40 55.3
 Sg eNEZ 41 04.2

OJC $\Delta = 299.0\text{km}$
 Pg eZ 12 41 32.9
 Sg eN 42 09.0

JAN 10

$\phi = 51.455^{\circ}\text{N}$, $\lambda = 16.073^{\circ}\text{E}$
H = 10:45:23.0, M = 2.6

KSP $\Delta = 70.0\text{km}$
 Pg eNEZ 10 45 34.5
 Sg eNEZ 45 43.3

JAN 14

$\phi = 51.531^{\circ}\text{N}$, $\lambda = 16.136^{\circ}\text{E}$
H = 05:34:17.3, M = 2.7

KSP $\Delta = 77.6\text{km}$
 Pg eNEZ 05 34 30.0
 Sg eNEZ 34 39.5

OJC $\Delta = 296.9\text{km}$
 Pg eZ 05 35 08.7
 Sg eN 35 43.2

JAN 14

$\phi = 51.456^{\circ}\text{N}$, $\lambda = 16.076^{\circ}\text{E}$
H = 17:15:40.7, M = 2.7

KSP $\Delta = 70.1\text{km}$
 Pg eNEZ 17 15 52.2
 Sg eNEZ 16 00.7

JAN 16

$\phi = 51.514^{\circ}\text{N}$, $\lambda = 16.066^{\circ}\text{E}$
H = 06:13:22.8, M = 2.7

KSP $\Delta = 76.6\text{km}$
 Pg eNEZ 06 13 35.3
 Sg eNEZ 13 44.3

OJC $\Delta = 300.4\text{km}$
 Pg eZ 06 14 12.5
 Sg eN 14 47.9

JAN 16

$\phi = 51.465^{\circ}\text{N}$, $\lambda = 16.109^{\circ}\text{E}$
H = 19:57:45.9, M = 2.5

KSP $\Delta = 70.6\text{km}$
 Pg eNZ 19 57 57.5
 Sg eNEZ 58 05.3

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JAN 19

**$\phi = 51.449^{\circ}\text{N}$, $\lambda = 16.083^{\circ}\text{E}$
H = 08:41:29.1, M = 3.0**

KSP $\Delta = 69.2\text{km}$
 Pg iNEZ 08 41 40.4
 Sg eNEZ 41 48.7

OJC $\Delta = 296.0\text{km}$
 Pn eZ 08 42 17.6
 Pg eZ 42 19.6
 Sg eN 42 56.0

JAN 19

**$\phi = 51.545^{\circ}\text{N}$, $\lambda = 16.014^{\circ}\text{E}$
H = 16:42:20.9, M = 2.6**

KSP $\Delta = 80.7\text{km}$
 Pg eNEZ 16 42 34.1
 Sg eNEZ 42 44.0

JAN 20

**$\phi = 51.455^{\circ}\text{N}$, $\lambda = 16.074^{\circ}\text{E}$
H = 06:39:10.9, M = 2.6**

KSP $\Delta = 70.0\text{km}$
 Pg eNEZ 06 39 22.4
 Sg eNEZ 39 30.9

JAN 20

**$\phi = 51.455^{\circ}\text{N}$, $\lambda = 16.075^{\circ}\text{E}$
H = 06:39:57.1, M = 2.7**

KSP $\Delta = 70.0\text{km}$
 Pg eNEZ 06 40 08.6
 Sg eNEZ 40 17.0

JAN 20

**$\phi = 51.555^{\circ}\text{N}$, $\lambda = 16.095^{\circ}\text{E}$
H = 14:35:51.4, M = 3.5**

KSP $\Delta = 80.7\text{km}$
 Pg iNEZ 14 36 04.6
 Sg iNEZ 36 14.5

RAC $\Delta = 221.2\text{km}$
 P eZ 14 36 24.2
 S eNE 36 53.3

OJC $\Delta = 300.7\text{km}$
 Pn eZ 14 36 32.8
 Pg eZ 36 41.9
 Sn eE 37 05.2
 Sg eE 37 16.7

NIE $\Delta = 383.1\text{km}$
 P eZ 14 36 57.3
 S eN 37 40.2

KWP $\Delta = 515.9\text{km}$
 Pn eZ 14 37 00.4
 eZ 37 19.4
 S eNE 38 23.3

JAN 22

**$\phi = 51.532^{\circ}\text{N}$, $\lambda = 16.137^{\circ}\text{E}$
H = 03:55:58.5, M = 3.0**

KSP $\Delta = 77.7\text{km}$
 Pg eNEZ 03 56 11.2
 Sg eNEZ 56 20.7

RAC $\Delta = 217.3\text{km}$
 P eZ 03 56 36.0
 S eN 57 00.2

OJC $\Delta = 296.9\text{km}$
 Pg eZ 03 56 47.5
 Sg eN 57 22.5

NIE $\Delta = 379.2\text{km}$
 P eZ 03 57 02.7
 S eN 57 46.6

JAN 22

**$\phi = 51.482^{\circ}\text{N}$, $\lambda = 16.104^{\circ}\text{E}$
H = 23:12:27.6, M = 2.7**

KSP $\Delta = 72.5\text{km}$
 Pg eNEZ 23 12 39.5
 Sg eNEZ 12 48.4

RAC $\Delta = 214.9\text{km}$
 P eZ 23 13 51.6
 S eN 13 54.9

JAN 23

**$\phi = 51.451^{\circ}\text{N}$, $\lambda = 16.171^{\circ}\text{E}$
H = 22:58:56.3, M = 2.3**

KSP $\Delta = 68.4\text{km}$
 Pg iNEZ 22 59 07.5
 Sg iNEZ 59 15.5

JAN 24

**$\phi = 51.502^{\circ}\text{N}$, $\lambda = 16.096^{\circ}\text{E}$
H = 05:05:29.7, M = 2.6**

KSP $\Delta = 74.8\text{km}$
 Pg eNEZ 05 05 42.0
 Sg eNEZ 05 51.0

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OJC $\Delta = 297.9\text{km}$
 Pg eZ 05 06 20.0
 Sg eN 06 55.9

JAN 24

$\phi = 51.448^\circ\text{N}$, $\lambda = 16.158^\circ\text{E}$
H = 11:06:10.3, M = 2.8

KSP $\Delta = 68.2\text{km}$
 Pg iNEZ 11 06 21.5
 Sg iNEZ 06 29.9

OJC $\Delta = 291.3\text{km}$
 Pg eZ 11 07 00.1
 Sg eN 07 35.1

JAN 24

$\phi = 51.462^\circ\text{N}$, $\lambda = 16.111^\circ\text{E}$
H = 12:29:23.7, M = 3.2

KSP $\Delta = 70.2\text{km}$
 Pg eNEZ 12 29 35.2
 Sg iNEZ 29 43.8

RAC $\Delta = 212.9\text{km}$
 P eZ 12 29 59.2
 S eN 30 24.7

OJC $\Delta = 294.9\text{km}$
 Pg eZ 12 30 13.9
 Sg eN 30 48.6

NIE $\Delta = 376.0\text{km}$
 P eZ 12 30 26.5
 S eN 31 10.0

JAN 24

$\phi = 51.476^\circ\text{N}$, $\lambda = 16.113^\circ\text{E}$
H = 20:38:03.3, M = 2.7

KSP $\Delta = 71.7\text{km}$
 Pg eNEZ 20 38 15.1
 Sg eNEZ 38 23.7

OJC $\Delta = 295.5\text{km}$
 Pg eZ 20 38 54.7
 Sg eE 39 28.9

JAN 25

$\phi = 51.48^\circ\text{N}$, $\lambda = 16.10^\circ\text{E}$
H = 04:47:08, M = 3.6

KSP $\Delta = 72\text{km}$
 Pg iNEZ 04 47 20.3
 Sg iNEZ 47 28.9

RAC $\Delta = 215\text{km}$
 Pn eZ 04 47 40.4
 Sn eN 48 03.9

OJC $\Delta = 296\text{km}$
 Pn eZ 04 47 49.3
 Pg iZ 47 58.2
 Sn eN 48 19.1
 Sg iN 48 34.1

NIE $\Delta = 378\text{km}$
 Pn Z 04 48 01.4
 iZ 48 11.2
 S eE 48 55.8

KWP $\Delta = 512\text{km}$
 Pn eZ 04 48 17.2

SUW $\Delta = 556\text{km}$
 Pn eZ 04 48 22.9
 Pg eZ 48 48.0
 Sn eNE 49 20.1

JAN 25

$\phi = 51.481^\circ\text{N}$, $\lambda = 16.097^\circ\text{E}$
H = 05:10:34.4, M = 3.7

KSP $\Delta = 72.5\text{km}$
 Pg iNEZ 05 10 46.3
 Sg eNEZ 10 54.8

RAC $\Delta = 215.1\text{km}$
 Pn eZ 05 11 06.3
 eZ 11 10.1
 Sn eN 11 29.9
 eE 11 35.3

OJC $\Delta = 296.8\text{km}$
 Pn eZ 05 11 15.2
 Pg iZ 11 24.2
 Sn eN 11 46.7
 Sg iN 11 59.0

NIE $\Delta = 378.1\text{km}$
 Pn eZ 05 11 27.5
 iZ 11 37.3
 S iEN 12 23.5

KWP $\Delta = 512.7\text{km}$
 Pn eZ 05 11 43.5
 eZ 11 58.4

SUW $\Delta = 556.3\text{km}$
 Pn eZ 05 11 49.1
 Pg eZ 12 14.1
 Sn eNE 12 46.0
 Sg eNE 13 16.8

JAN 26

$\phi = 51.456^\circ\text{N}$, $\lambda = 16.075^\circ\text{E}$
H = 07:58:29.6, M = 2.6

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KSP $\Delta = 70.1\text{km}$
 Pg eNEZ 07 58 41.1
 Sg eNEZ 58 49.5

JAN 26

$\phi = 51.506^\circ\text{N}$, $\lambda = 16.035^\circ\text{E}$
H = 12:35:15.9, M = 2.6

KSP $\Delta = 76.2\text{km}$
 Pg eNEZ 12 35 28.4
 Sg eNEZ 35 37.6

JAN 26

$\phi = 51.519^\circ\text{N}$, $\lambda = 16.117^\circ\text{E}$
H = 16:34:59.1, M = 3.2

KSP $\Delta = 76.4\text{km}$
 Pg iNEZ 16 35 11.6
 Sg iNEZ 35 20.8

RAC $\Delta = 217.2\text{km}$
 P eZ 16 35 36.6
 S eNE 36 00.3

OJC $\Delta = 297.5\text{km}$
 Pn eZ 16 35 40.8
 Pg eZ 35 49.4
 Sn eN 36 12.4
 Sg eN 36 24.0

NIE $\Delta = 379.5\text{km}$
 P eZ 16 36 04.2
 S eE 36 47.0

JAN 27

$\phi = 51.451^\circ\text{N}$, $\lambda = 16.088^\circ\text{E}$
H = 02:35:18.6, M = 2.7

KSP $\Delta = 69.4\text{km}$
 Pg eNEZ 02 35 30.0
 Sg iNEZ 35 38.3

OJC $\Delta = 295.8\text{km}$
 Pg eZ 02 36 08.1
 Sg eN 36 43.7

JAN 27

$\phi = 51.519^\circ\text{N}$, $\lambda = 16.066^\circ\text{E}$
H = 11:11:18.6, M = 3.5

KSP $\Delta = 77.1\text{km}$
 Pg iNEZ 11 11 31.2
 Sg iNEZ 11 40.3

RAC $\Delta = 219.7\text{km}$
 P eZ 11 11 55.3
 S eNE 12 21.1

OJC $\Delta = 300.6\text{km}$
 Pn eZ 11 12 00.0

Pg iZ 12 09.9
 Sn eZ 12 31.8
 Sg eN 12 44.1

NIE $\Delta = 382.3\text{km}$
 P eZ 11 12 22.3
 S eE 13 07.1

KWP $\Delta = 516.3\text{km}$
 P eZ 11 12 43.1
 S eNE 13 38.2

JAN 28

$\phi = 51.448^\circ\text{N}$, $\lambda = 16.162^\circ\text{E}$
H = 13:26:10.5, M = 2.8

KSP $\Delta = 68.1\text{km}$
 Pg eNEZ 13 26 21.7
 Sg eNEZ 26 30.0

OJC $\Delta = 291.1\text{km}$
 Pg eZ 13 27 00.6
 Sg eE 27 34.6

FEB 1

$\phi = 51.462^\circ\text{N}$, $\lambda = 16.135^\circ\text{E}$
H = 03:36:20.7, M = 2.7

KSP $\Delta = 70.0\text{km}$
 Pg eNEZ 03 36 32.2
 Sg eNEZ 36 40.4

FEB 1

$\phi = 51.484^\circ\text{N}$, $\lambda = 16.095^\circ\text{E}$
H = 03:39:24.0, M = 2.7

KSP $\Delta = 72.8\text{km}$
 Pg eNEZ 03 39 36.0
 Sg eNEZ 39 44.5

FEB 2

$\phi = 51.519^\circ\text{N}$, $\lambda = 16.058^\circ\text{E}$
H = 17:14:17.7, M = 3.2

KSP $\Delta = 77.2\text{km}$
 Pg iNEZ 17 14 30.4
 Sg iNEZ 14 39.7

RAC $\Delta = 220.1\text{km}$
 P eZ 17 14 54.7
 S eN 15 19.6

OJC $\Delta = 301.1\text{km}$
 Pg eZ 17 15 07.8
 Sg eN 15 43.5

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<p>NIE $\Delta = 382.8\text{km}$ P eZ 17 15 23.2 S eNE 16 06.9</p> <p><u>FEB 3</u> $\varphi = 51.564^\circ\text{N}, \lambda = 16.007^\circ\text{E}$ H = 09:57:04.7, M = 2.7</p> <p>KSP $\Delta = 82.9\text{km}$ Pg eNZ 09 57 18.3 Sg eNEZ 57 28.0</p> <p>OJC $\Delta = 306.6\text{km}$ Pg eZ 09 57 57.0 Sg eN 58 31.9</p> <p><u>FEB 3</u> $\varphi = 51.563^\circ\text{N}, \lambda = 16.009^\circ\text{E}$ H = 17:13:10.8, M = 2.8</p> <p>KSP $\Delta = 82.8\text{km}$ Pg eNEZ 17 13 24.4 Sg eNEZ 13 34.3</p> <p><u>FEB 5</u> $\varphi = 51.449^\circ\text{N}, \lambda = 16.163^\circ\text{E}$ H = 04:02:34.5, M = 2.5</p> <p>KSP $\Delta = 68.2\text{km}$ Pg eNEZ 04 02 45.7 Sg eNEZ 02 53.9</p> <p><u>FEB 5</u> $\varphi = 51.551^\circ\text{N}, \lambda = 16.050^\circ\text{E}$ H = 13:50:03.1, M = 2.5</p> <p>KSP $\Delta = 80.8\text{km}$ Pg eNEZ 13 50 16.3 Sg eNEZ 50 26.0</p> <p><u>FEB 6</u> $\varphi = 51.560^\circ\text{N}, \lambda = 16.007^\circ\text{E}$ H = 02:17:27.2, M = 2.8</p> <p>KSP $\Delta = 82.5\text{km}$ Pg eNEZ 02 17 40.7 Sg iNEZ 17 50.6</p> <p>OJC $\Delta = 306.4\text{km}$ Pg eZ 02 18 19.8 Sg eN 18 54.7</p> <p><u>FEB 6</u> $\varphi = 51.54^\circ\text{N}, \lambda = 16.01^\circ\text{E}$ H = 03:58:46, M = 2.7</p> <p>KSP $\Delta = 80\text{km}$</p>	<p>Pg eNEZ 03 58 59.6 Sg eNEZ 59 09.2</p> <p>OJC $\Delta = 305\text{km}$ Pg eZ 03 59 38.8 Sg eN 04 00 14.5</p> <p><u>FEB 6</u> $\varphi = 51.521^\circ\text{N}, \lambda = 16.112^\circ\text{E}$ H = 14:22:47.0, M = 3.1</p> <p>KSP $\Delta = 76.7\text{km}$ Pg iNEZ 14 22 59.6 Sg iNEZ 23 09.1</p> <p>OJC $\Delta = 297.9\text{km}$ Pn eZ 14 23 28.0 Pg eZ 23 37.2 Sg eE 24 12.8</p> <p>NIE $\Delta = 379.9\text{km}$ P eZ 14 23 50.5 S eE 24 37.0</p> <p><u>FEB 7</u> $\varphi = 51.470^\circ\text{N}, \lambda = 16.110^\circ\text{E}$ H = 05:35:00.9, M = 2.6</p> <p>KSP $\Delta = 71.1\text{km}$ Pg eN 05 35 12.6 Sg eNEZ 35 20.8</p> <p><u>FEB 7</u> $\varphi = 51.46^\circ\text{N}, \lambda = 16.11^\circ\text{E}$ H = 16:46:05, M = 2.7</p> <p>KSP $\Delta = 70\text{km}$ Pg eNEZ 16 46 16.1 Sg eNEZ 46 24.5</p> <p><u>FEB 9</u> $\varphi = 51.456^\circ\text{N}, \lambda = 16.074^\circ\text{E}$ H = 16:38:29.4, M = 2.7</p> <p>KSP $\Delta = 70.1\text{km}$ Pg eNEZ 16 38 40.9 Sg eNEZ 38 49.5</p> <p><u>FEB 10</u> $\varphi = 51.516^\circ\text{N}, \lambda = 16.119^\circ\text{E}$ H = 01:14:35.8, M = 3.7</p> <p>KSP $\Delta = 76.1\text{km}$ Pg iNEZ 01 14 48.3 Sg iNEZ 14 57.4</p> <p>RAC $\Delta = 216.9\text{km}$ Pn eZ 01 15 08.0 Pg eZ 15 11.7 Sn eE 15 31.6</p>
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	Sg eN		15 36.7
OJC	$\Delta = 297.2\text{km}$		
	Pn eZ	01	15 18.3
	Pg iZ		15 26.3
	Sg iE		16 00.7
NIE	$\Delta = 379.1\text{km}$		
	P eZ	01	15 41.4
	S eE		16 24.7
KWP	$\Delta = 512.7\text{km}$		
	Pn eZ	01	15 59.4
	Sg eNE		17 18.2
SUW	$\Delta = 552.9\text{km}$		
	Pn eZ	01	16 10.7
	Sn eNE		17 15.3
	Sg eNE		17 38.5

FEB 10

$\phi = 51.564^\circ\text{N}, \lambda = 16.007^\circ\text{E}$
H = 11:52:58.5, M = 2.6

KSP	$\Delta = 82.9\text{km}$		
	Pg eNEZ	11	53 12.1
	Sg eNEZ		53 21.3

FEB 10

$\phi = 51.448^\circ\text{N}, \lambda = 16.161^\circ\text{E}$
H = 13:10:49.9, M = 2.7

KSP	$\Delta = 68.1\text{km}$		
	Pg eNEZ	13	11 01.1
	Sg eNEZ		11 09.3

FEB 10

$\phi = 51.552^\circ\text{N}, \lambda = 16.053^\circ\text{E}$
H = 18:36:20.1, M = 2.6

KSP	$\Delta = 80.9\text{km}$		
	Pg eNEZ	18	36 33.4
	Sg eNEZ		36 42.9

FEB 11

$\phi = 51.54^\circ\text{N}, \lambda = 16.12^\circ\text{E}$
H = 04:34:20, M = 2.6

KSP	$\Delta = 79\text{km}$		
	Pg eNEZ	04	34 32.7
	Sg eNEZ		34 40.9

OJC	$\Delta = 298\text{km}$		
	Pg eZ	04	35 09.8
	Sg eN		35 44.9

FEB 12

$\phi = 51.555^\circ\text{N}, \lambda = 16.096^\circ\text{E}$

H = 05:12:02.1, M = 2.9

KSP	$\Delta = 80.6\text{km}$		
	Pg eNEZ	05	12 15.3
	Sg eNEZ		12 24.9

RAC	$\Delta = 221.2\text{km}$		
	P eZ	05	12 41.1
	S eN		13 05.8

OJC	$\Delta = 300.6\text{km}$		
	Pg eZ	05	12 52.6
	Sg eN		13 27.5

NIE	$\Delta = 383.0\text{km}$		
	(P) eZ	05	13 08.1
	(S) eN		13 52.3

FEB 13

$\phi = 51.461^\circ\text{N}, \lambda = 16.132^\circ\text{E}$
H = 02:35:59.9, M = 3.3

KSP	$\Delta = 69.9\text{km}$		
	Pg iNEZ	02	36 11.4
	Sg iNEZ		36 19.4

RAC	$\Delta = 211.8\text{km}$		
	Pn eZ	02	36 31.4
	Pg eZ		36 35.2
	Sn eE		36 54.7
	Sg eN		37 00.6

OJC	$\Delta = 293.6\text{km}$		
	Pn eZ	02	36 40.6
	Pg eZ		36 50.0
	Sg eN		37 25.5

NIE	$\Delta = 374.8\text{km}$		
	P eZ	02	37 02.7
	S eN		37 46.0

KWP	$\Delta = 509.6\text{km}$		
	Pn eZ	02	37 22.4
	Sn eNE		38 17.1

FEB 13

$\phi = 51.496^\circ\text{N}, \lambda = 16.101^\circ\text{E}$
H = 11:54:43.0, M = 2.8

KSP	$\Delta = 74.1\text{km}$		
	Pg eNEZ	11	54 55.2
	Sg eNEZ		55 04.0

OJC	$\Delta = 297.3\text{km}$		
	Pg eZ	11	55 33.2
	Sg eN		56 08.1

FEB 13

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$\varphi = 51.54^\circ\text{N}$, $\lambda = 16.05^\circ\text{E}$
H = 16:55:47, M = 2.7

KSP $\Delta = 80\text{km}$
 Pg eNEZ 16 56 00.4
 Sg eNEZ 56 09.9

FEB 14

$\varphi = 51.51^\circ\text{N}$, $\lambda = 16.06^\circ\text{E}$
H = 16:32:59, M = 2.7

KSP $\Delta = 76\text{km}$
 Pg eNEZ 16 33 11.6
 Sg eNEZ 33 20.6

FEB 14

$\varphi = 51.513^\circ\text{N}$, $\lambda = 16.129^\circ\text{E}$
H = 16:45:46.4, M = 3.2

KSP $\Delta = 75.6\text{km}$
 Pg iNEZ 16 45 58.8
 Sg eNEZ 46 07.7

RAC $\Delta = 216.2\text{km}$
 P eZ 16 46 22.1
 S eN 46 47.7

OJC $\Delta = 296.4\text{km}$
 Pn eZ 16 46 28.8
 Pg iZ 46 36.9
 Sg eNE 47 11.2

NIE $\Delta = 378.4\text{km}$
 P eZ 16 46 52.7
 S eE 47 35.3

KWP $\Delta = 511.9\text{km}$
 P eZ 16 47 10.0

FEB 15

$\varphi = 51.48^\circ\text{N}$, $\lambda = 16.10^\circ\text{E}$
H = 04:39:57, M = 3.9

KSP $\Delta = 72\text{km}$
 Pg iNEZ 04 40 08.6
 Sg iNEZ 40 17.9

RAC $\Delta = 215\text{km}$
 Pn eZ 04 40 28.5
 Sn eNE 40 52.5

OJC $\Delta = 296\text{km}$
 Pn eZ 04 40 37.7
 Pg iZ 40 46.9
 Sn eEN 41 08.2
 Sg iN 41 21.7

NIE $\Delta = 378\text{km}$
 Pn eZ 04 40 50.6

eZ 41 03.0
 S iN 41 46.6

KWP $\Delta = 512\text{km}$
 Pn eZ 04 41 06.2
 P eZ 41 20.2
 S eNE 42 27.6

SUW $\Delta = 556\text{km}$
 Pn eZ 04 41 11.0
 Pg eZ 41 29.6
 Sn eNE 42 08.3
 Sg eNE 42 38.9

FEB 17

$\varphi = 51.456^\circ\text{N}$, $\lambda = 16.074^\circ\text{E}$
H = 01:51:40.5, M = 2.6

KSP $\Delta = 70.1\text{km}$
 Pg eNEZ 01 51 52.0
 Sg eNEZ 52 00.5

FEB 18

$\varphi = 51.47^\circ\text{N}$, $\lambda = 16.11^\circ\text{E}$
H = 16:36:28, M = 3.4

KSP $\Delta = 71\text{km}$
 Pg iNEZ 16 36 39.7
 Sg iNEZ 36 48.5

RAC $\Delta = 214\text{km}$
 P eZ 16 37 03.1
 S eN 37 27.8

OJC $\Delta = 295\text{km}$
 Pn eZ 16 37 09.0
 Pg eZ 37 18.6
 Sg eE 37 53.6

FEB 19

$\varphi = 51.564^\circ\text{N}$, $\lambda = 16.007^\circ\text{E}$
H = 03:31:00.0, M = 2.8

KSP $\Delta = 82.9\text{km}$
 Pg eNEZ 03 31 13.6
 Sg eNEZ 31 23.5

OJC $\Delta = 306.6\text{km}$
 Pn eZ 03 31 41.6
 Pg iZ 31 51.4
 Sn eN 32 18.1
 Sg iN 32 27.5

FEB 20

$\varphi = 51.504^\circ\text{N}$, $\lambda = 16.088^\circ\text{E}$
H = 04:43:25.8, M = 2.6

KSP $\Delta = 75.1\text{km}$
 Pg eNEZ 04 43 38.1

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Sg eNEZ 43 46.9

FEB 20

$\phi = 51.476^\circ\text{N}$, $\lambda = 16.111^\circ\text{E}$
H = 17:30:34.6, M = 2.8

KSP $\Delta = 71.8\text{km}$
 Pg eNEZ 17 30 46.4
 Sg eNEZ 30 54.9

OJC $\Delta = 295.6\text{km}$
 Pg eZ 17 31 25.0
 Sg eN 32 00.1

FEB 20

$\phi = 51.502^\circ\text{N}$, $\lambda = 16.097^\circ\text{E}$
H = 17:32:21.9, M = 2.7

KSP $\Delta = 74.8\text{km}$
 Pg eNEZ 17 32 34.2
 Sg eNEZ 32 43.1

OJC $\Delta = 297.8\text{km}$
 Pg eZ 17 33 12.1
 Sg eN 33 47.6

FEB 23

$\phi = 51.563^\circ\text{N}$, $\lambda = 16.008^\circ\text{E}$
H = 17:22:54.9, M = 2.8

KSP $\Delta = 82.8\text{km}$
 Pg eNEZ 17 23 08.5
 Sg iNEZ 23 18.4

OJC $\Delta = 306.5\text{km}$
 Pg eZ 17 23 46.2
 Sg eN 24 21.8

FEB 24

$\phi = 51.531^\circ\text{N}$, $\lambda = 16.136^\circ\text{E}$
H = 05:29:04.7, M = 2.9

KSP $\Delta = 77.6\text{km}$
 Pg eNEZ 05 29 17.4
 Sg eNEZ 29 26.8

NIE $\Delta = 379.2\text{km}$
 P eZ 05 30 10.6
 S eE 30 53.2

FEB 24

$\phi = 51.505^\circ\text{N}$, $\lambda = 16.035^\circ\text{E}$
H = 06:08:12.2, M = 3.0

KSP $\Delta = 76.0\text{km}$
 Pg iNEZ 06 08 24.7
 Sg eNEZ 08 33.7

OJC $\Delta = 301.8\text{km}$

Pg iZ 06 09 02.5
 Sg iN 09 38.5

FEB 24

$\phi = 51.513^\circ\text{N}$, $\lambda = 16.063^\circ\text{E}$
H = 12:25:18.4, M = 2.7

KSP $\Delta = 76.5\text{km}$
 Pg eNEZ 12 25 30.9
 Sg eNEZ 25 39.9

FEB 25

$\phi = 51.502^\circ\text{N}$, $\lambda = 16.085^\circ\text{E}$
H = 16:45:25.1, M = 2.8

KSP $\Delta = 75.0\text{km}$
 Pg iNEZ 16 45 37.4
 Sg eNEZ 45 46.5

OJC $\Delta = 298.6\text{km}$
 Pg eZ 16 46 16.1
 Sg eE 46 51.1

FEB 25

$\phi = 51.542^\circ\text{N}$, $\lambda = 16.130^\circ\text{E}$
H = 21:55:57.0, M = 3.0

KSP $\Delta = 78.8\text{km}$
 Pg iNEZ 21 56 09.9
 Sg eNEZ 56 19.2

RAC $\Delta = 218.5\text{km}$
 P eZ 21 56 32.2
 S eNE 56 59.3

OJC $\Delta = 297.9\text{km}$
 Pg eZ 21 56 47.8
 Sg eE 57 22.9

NIE $\Delta = 380.3\text{km}$
 P eZ 21 57 02.4
 S eN 57 45.0

FEB 26

$\phi = 51.495^\circ\text{N}$, $\lambda = 16.105^\circ\text{E}$
H = 08:06:15.0, M = 2.6

KSP $\Delta = 73.9\text{km}$
 Pg eNEZ 08 06 27.1
 Sg eNEZ 06 35.7

FEB 28

$\phi = 51.506^\circ\text{N}$, $\lambda = 16.090^\circ\text{E}$
H = 20:37:50.7, M = 2.7

KSP $\Delta = 75.3\text{km}$
 Pg eNEZ 20 38 03.0
 Sg eNEZ 38 11.9

OJC $\Delta = 298.5\text{km}$

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Pg eZ 20 38 41.2
Sg eN 39 15.9

FEB 29

$\phi = 51.445^\circ\text{N}$, $\lambda = 16.117^\circ\text{E}$
H = 15:14:16.8, M = 2.8

KSP $\Delta = 68.3\text{km}$
Pg eNEZ 15 14 28.0
Sg eNEZ 14 35.6

OJC $\Delta = 293.7\text{km}$
Pg eZ 15 15 06.7
Sg eN 15 41.0

NIE $\Delta = 374.6\text{km}$
P eZ 15 15 20.7
S eN 16 03.4

FEB 29

$\phi = 51.456^\circ\text{N}$, $\lambda = 16.072^\circ\text{E}$
H = 16:26:25.3, M = 2.5

KSP $\Delta = 70.1\text{km}$
Pg eNEZ 16 26 36.8
Sg eNEZ 26 44.4

MAR 1

$\phi = 51.467^\circ\text{N}$, $\lambda = 16.138^\circ\text{E}$
H = 13:22:15.3, M = 2.7

KSP $\Delta = 70.5\text{km}$
Pg eNEZ 13 22 26.8
Sg eNEZ 22 29.6

OJC $\Delta = 293.5\text{km}$
Pg eZ 13 23 05.5
Sg eNE 23 40.0

MAR 1

$\phi = 51.539^\circ\text{N}$, $\lambda = 16.055^\circ\text{E}$
H = 16:09:25.7, M = 2.7

KSP $\Delta = 79.4\text{km}$
Pg eNEZ 16 09 38.7
Sg eNEZ 09 48.1

MAR 1

$\phi = 51.455^\circ\text{N}$, $\lambda = 16.074^\circ\text{E}$
H = 16:56:05.7, M = 3.1

KSP $\Delta = 70.0\text{km}$
Pg iNEZ 16 56 17.2
Sg eNEZ 56 25.7

RAC $\Delta = 214.2\text{km}$
P eZ 16 56 40.9
S eN 57 06.4

OJC $\Delta = 296.9\text{km}$
Pn eZ 16 56 46.9
Pg eZ 56 56.4
Sn eN 57 18.9
Sg eN 57 31.5

NIE $\Delta = 377.7\text{km}$
P eZ 16 57 08.3
S eE 57 53.2

MAR 1

$\phi = 51.457^\circ\text{N}$, $\lambda = 16.072^\circ\text{E}$
H = 22:47:27.5, M = 2.7

KSP $\Delta = 70.2\text{km}$
Pg iNEZ 22 47 39.0
Sg iNEZ 47 47.6

OJC $\Delta = 297.1\text{km}$
Pg eZ 22 48 17.1
Sg eN 48 52.5

MAR 1

$\phi = 51.492^\circ\text{N}$, $\lambda = 16.097^\circ\text{E}$
H = 23:08:22.5, M = 2.5

KSP $\Delta = 73.7\text{km}$
Pg eNEZ 23 08 34.6
Sg eNEZ 08 43.5

MAR 2

$\phi = 51.541^\circ\text{N}$, $\lambda = 16.016^\circ\text{E}$
H = 05:02:06.9, M = 2.8

KSP $\Delta = 80.3\text{km}$
Pg eNEZ 05 02 20.1
Sg iNEZ 02 29.8

MAR 2

$\phi = 51.476^\circ\text{N}$, $\lambda = 16.113^\circ\text{E}$
H = 19:51:12.9, M = 2.7

KSP $\Delta = 71.7\text{km}$
Pg eNEZ 19 51 24.7
Sg eNEZ 51 33.1

OJC $\Delta = 295.5\text{km}$
Pg eZ 19 52 03.4
Sg eN 52 37.5

MAR 3

$\phi = 51.504^\circ\text{N}$, $\lambda = 16.089^\circ\text{E}$
H = 05:05:08.2, M = 3.4

KSP $\Delta = 75.1\text{km}$
Pg iNEZ 05 05 20.5
Sg eNEZ 05 29.5

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RAC	$\Delta = 217.4\text{km}$		
	Pn eZ	05 05	40.4
	eZ		05 44.1
	Sn eE		06 04.0
	eNE		06 09.3
OJC	$\Delta = 298.4\text{km}$		
	Pn eZ	05 05	49.2
	Pg iZ		05 57.8
	Sn eE		06 21.5
	Sg iE		06 33.7
NIE	$\Delta = 380.0\text{km}$		
	Pn eZ	05 06	01.7
	eZ		06 11.3
	S eN		06 56.3
KWP	$\Delta = 514.2\text{km}$		
	P eZ	05 06	31.8
	S eNE		07 37.5
<u>MAR 3</u>			
	$\phi = 51.451^\circ\text{N}, \lambda = 16.172^\circ\text{E}$		
	$H = 20:48:29.1, M = 2.6$		
OJC	$\Delta = 290.6\text{km}$		
	Pg eZ	20 49	15.2
	Sg eN		49 48.8
<u>MAR 5</u>			
	$\phi = 51.512^\circ\text{N}, \lambda = 16.063^\circ\text{E}$		
	$H = 17:04:26.3, M = 3.6$		
KSP	$\Delta = 76.4\text{km}$		
	Pg iNEZ	17 04	38.8
	Sg iNEZ		04 48.5
RAC	$\Delta = 219.3\text{km}$		
	P eZ	17 05	02.7
	S eNE		05 30.0
OJC	$\Delta = 300.4\text{km}$		
	Pn eZ	17 05	07.8
	Pg iZ		05 17.6
	Sn eE		05 41.3
	Sg iN		05 52.4
NIE	$\Delta = 382.0\text{km}$		
	P eZ	17 05	33.8
	S eE		06 16.3
KWP	$\Delta = 516.2\text{km}$		
	(Pn) eZ	17 05	37.8
	eZ		05 50.6
	S eNE		06 59.7
SUW	$\Delta = 556.4\text{km}$		
	Pg eZ	17 05	58.3

	Sn eNE		06 41.0
	Sg eNE		07 12.0
<u>MAR 5</u>			
	$\phi = 51.476^\circ\text{N}, \lambda = 16.112^\circ\text{E}$		
	$H = 19:06:34.0, M = 2.6$		
KSP	$\Delta = 71.8\text{km}$		
	Pg eNEZ	19 06	45.8
	Sg eNE		06 54.3
<u>MAR 6</u>			
	$\phi = 51.487^\circ\text{N}, \lambda = 16.099^\circ\text{E}$		
	$H = 20:47:18.6, M = 2.8$		
KSP	$\Delta = 73.1\text{km}$		
	Pg iNEZ	20 47	30.6
	Sg eNEZ		47 39.2
OJC	$\Delta = 296.9\text{km}$		
	Pg eZ	20 48	07.6
	Sn eN		48 31.5
	Sg eN		48 43.3
NIE	$\Delta = 378.4\text{km}$		
	P eZ	20 48	23.7
	S eN		49 08.8
<u>MAR 6</u>			
	$\phi = 51.54^\circ\text{N}, \lambda = 16.05^\circ\text{E}$		
	$H = 23:59:40, M = 2.6$		
KSP	$\Delta = 80\text{km}$		
	Pg eNEZ	23 59	53.3
	Sg eNEZ		00 00 02.6
OJC	$\Delta = 303\text{km}$		
	Pg eZ	00 00	30.7
	Sg eN		01 06.6
<u>MAR 7</u>			
	$\phi = 51.48^\circ\text{N}, \lambda = 16.10^\circ\text{E}$		
	$H = 04:36:06, M = 3.5$		
KSP	$\Delta = 72\text{km}$		
	Pg iNEZ	04 36	17.9
	Sg iNEZ		36 26.6
RAC	$\Delta = 215\text{km}$		
	Pn eZ	04 36	37.9
	eZ		36 41.1
	Sn eN		37 01.6
	eNE		37 07.5
OJC	$\Delta = 296\text{km}$		
	Pn eZ	04 36	46.8
	Pg iZ		36 55.8

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	Sn eN	37	16.9
	Sg iN	37	31.2
NIE	$\Delta = 378\text{km}$		
	Pn eZ	04	36 59.0
	eZ	37	08.9
	S eE	37	53.4
KWP	$\Delta = 512\text{km}$		
	Pn eZ	04	37 14.8
	eZ	37	29.6
	(Sn) eNE	38	14.9
SUW	$\Delta = 556\text{km}$		
	Pn eZ	04	37 20.5
	Pg eZ	37	44.9
	Sg eNE	38	48.6
<u>MAR 8</u>			
	$\phi = 51.563^\circ\text{N}, \lambda = 16.008^\circ\text{E}$		
	H = 07:28:06.4, M = 2.9		
KSP	$\Delta = 82.8\text{km}$		
	Pg iNEZ	07	28 20.0
	Sg iNEZ	28	30.0
OJC	$\Delta = 306.5\text{km}$		
	Pg eZ	07	28 58.9
	Sg eE	29	34.3
<u>MAR 8</u>			
	$\phi = 51.475^\circ\text{N}, \lambda = 16.114^\circ\text{E}$		
	H = 17:07:58.7, M = 2.7		
KSP	$\Delta = 71.6\text{km}$		
	Pg eNEZ	17	08 10.4
	Sg eNEZ	08	18.7
<u>MAR 10</u>			
	$\phi = 51.496^\circ\text{N}, \lambda = 16.102^\circ\text{E}$		
	H = 23:08:49.3, M = 2.8		
KSP	$\Delta = 74.1\text{km}$		
	Pg iNEZ	23	09 01.4
	Sg eNEZ	09	10.4
OJC	$\Delta = 297.2\text{km}$		
	Pg eZ	23	09 39.5
	Sg eN	10	14.0
<u>MAR 11</u>			
	$\phi = 51.523^\circ\text{N}, \lambda = 16.111^\circ\text{E}$		
	H = 01:00:52.8, M = 2.7		
KSP	$\Delta = 76.9\text{km}$		
	Pg eNEZ	01	01 05.4
	Sg eNEZ	01	14.0

MAR 11
 $\phi = 51.448^\circ\text{N}, \lambda = 16.162^\circ\text{E}$
H = 07:12:55.6, M = 2.6

KSP $\Delta = 68.1\text{km}$
Pg eNEZ 07 13 06.8
Sg eNEZ 13 14.6

MAR 11
 $\phi = 51.449^\circ\text{N}, \lambda = 16.084^\circ\text{E}$
H = 11:20:31.5, M = 2.6

KSP $\Delta = 69.2\text{km}$
Pg eNEZ 11 20 42.9
Sg eNEZ 20 51.2

MAR 11
 $\phi = 51.514^\circ\text{N}, \lambda = 16.084^\circ\text{E}$
H = 21:32:52.4, M = 2.8

KSP $\Delta = 76.3\text{km}$
Pg iNEZ 21 33 04.9
Sg eNEZ 33 13.8

OJC $\Delta = 299.3\text{km}$
Pg eZ 21 33 42.7
Sg eN 34 17.7

NIE $\Delta = 381.0\text{km}$
P eZ 21 33 56.5
S eN 34 42.2

MAR 12
 $\phi = 51.503^\circ\text{N}, \lambda = 16.089^\circ\text{E}$
H = 06:07:26.3, M = 3.1

KSP $\Delta = 75.0\text{km}$
Pg eNEZ 06 07 38.6
Sg eNEZ 07 47.7

RAC $\Delta = 217.3\text{km}$
P eZ 06 08 03.3
S eN 08 28.5

OJC $\Delta = 298.4\text{km}$
Pg eZ 06 08 15.9
Sg eE 08 52.0

NIE $\Delta = 380.0\text{km}$
P eZ 06 08 29.7
S eN 09 14.6

KWP $\Delta = 514.1\text{km}$
P eZ 06 08 50.6

MAR 13
 $\phi = 51.519^\circ\text{N}, \lambda = 16.014^\circ\text{E}$
H = 07:04:59.6, M = 2.7

KSP $\Delta = 77.9\text{km}$

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Pg eNEZ 07 05 12.1
Sg eNEZ 05 21.2

MAR 13

$\phi = 51.501^\circ\text{N}$, $\lambda = 16.087^\circ\text{E}$
H = 12:14:24.3, M = 2.8

KSP $\Delta = 74.8\text{km}$
Pg eNEZ 12 14 36.6
Sg eNEZ 14 45.5

OJC $\Delta = 298.4\text{km}$
Pg eZ 12 15 15.2
Sg eE 15 50.6

NIE $\Delta = 380.0\text{km}$
P eZ 12 15 28.1
S eE 16 14.2

MAR 13

$\phi = 51.46^\circ\text{N}$, $\lambda = 16.11^\circ\text{E}$
H = 16:32:40, M = 2.9

KSP $\Delta = 70\text{km}$
Pg eNEZ 16 32 51.6
Sg eNEZ 33 00.0

OJC $\Delta = 295\text{km}$
Pg eZ 16 33 31.2
Sg eN 34 04.7

NIE $\Delta = 376\text{km}$
P eZ 16 33 43.0
S eN 34 29.6

MAR 14

$\phi = 51.490^\circ\text{N}$, $\lambda = 16.103^\circ\text{E}$
H = 21:28:57.5, M = 2.7

KSP $\Delta = 73.4\text{km}$
Pg iNEZ 21 29 09.5
Sg eNEZ 29 17.7

OJC $\Delta = 296.8\text{km}$
Pg eZ 21 29 48.0
Sg eN 30 22.8

MAR 15

$\phi = 51.513^\circ\text{N}$, $\lambda = 16.064^\circ\text{E}$
H = 16:32:48.1, M = 3.4

KSP $\Delta = 76.5\text{km}$
Pg iNEZ 16 33 00.6
Sg iNEZ 33 09.5

RAC $\Delta = 219.3\text{km}$
P eZ 16 33 23.5
S eNE 33 51.1

OJC $\Delta = 300.4\text{km}$
Pn eZ 16 33 30.5
Pg eZ 33 38.1
Sg eN 34 13.2

NIE $\Delta = 382.0\text{km}$
Pn eZ 16 33 41.7
iZ 33 51.7
S eE 34 36.2

KWP $\Delta = 516.2\text{km}$
Pn eZ 16 33 56.6
eZ 34 17.4
S eNE 35 21.4

MAR 16

$\phi = 51.506^\circ\text{N}$, $\lambda = 16.035^\circ\text{E}$
H = 21:10:02.9, M = 2.7

KSP $\Delta = 76.2\text{km}$
Pg eNEZ 21 10 15.4
Sg eNEZ 10 24.5

MAR 16

$\phi = 51.532^\circ\text{N}$, $\lambda = 16.137^\circ\text{E}$
H = 22:16:51.6, M = 2.6

KSP $\Delta = 77.7\text{km}$
Pg eNEZ 22 17 04.3
Sg eNEZ 17 13.7

MAR 16

$\phi = 51.532^\circ\text{N}$, $\lambda = 16.138^\circ\text{E}$
H = 22:17:32.5, M = 3.1

KSP $\Delta = 77.7\text{km}$
Pg iNEZ 22 17 45.2
Sg eNEZ 17 54.3

RAC $\Delta = 217.3\text{km}$
P eZ 22 18 07.8
S eN 18 32.7

OJC $\Delta = 296.9\text{km}$
Pn eZ 22 18 12.8
Pg eZ 18 22.2
Sg eN 18 58.0

NIE $\Delta = 379.2\text{km}$
P eZ 22 18 35.3
S eN 19 20.2

MAR 17

$\phi = 51.451^\circ\text{N}$, $\lambda = 16.085^\circ\text{E}$
H = 10:02:40.9, M = 3.0

KSP $\Delta = 69.4\text{km}$
Pg eNEZ 10 02 52.3

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Sg eNEZ 03 00.8

RAC $\Delta = 213.4\text{km}$
 P eZ 10 03 16.6
 S eN 03 41.6

OJC $\Delta = 296.0\text{km}$
 Pn eZ 10 03 21.7
 Pg iZ 03 31.9
 Sn eN 03 51.3
 Sg iN 04 08.2

NIE $\Delta = 376.8\text{km}$
 P eZ 10 03 43.4
 S eN 04 28.7

MAR 18

$\phi = 51.451^\circ\text{N}, \lambda = 16.084^\circ\text{E}$
H = 17:33:29.0, M = 2.5

KSP $\Delta = 69.4\text{km}$
 Pg eNEZ 17 33 40.4
 Sg eNEZ 33 48.7

MAR 19

$\phi = 51.450^\circ\text{N}, \lambda = 16.164^\circ\text{E}$
H = 16:57:31.0, M = 2.7

KSP $\Delta = 68.3\text{km}$
 Pg eNEZ 16 57 42.2
 Sg eNEZ 57 50.0

MAR 20

$\phi = 51.503^\circ\text{N}, \lambda = 16.087^\circ\text{E}$
H = 02:42:38.8, M = 2.5

KSP $\Delta = 75.0\text{km}$
 Pg eNEZ 02 42 51.1
 Sg eNEZ 43 00.0

MAR 21

$\phi = 51.552^\circ\text{N}, \lambda = 16.051^\circ\text{E}$
H = 03:17:17.1, M = 2.6

KSP $\Delta = 80.9\text{km}$
 Pg eNEZ 03 17 30.4
 Sg eNEZ 17 40.1

MAR 22

$\phi = 51.47^\circ\text{N}, \lambda = 16.11^\circ\text{E}$
H = 16:40:45, M = 2.6

KSP $\Delta = 71\text{km}$
 Pg eNEZ 16 40 57.0
 Sg eNEZ 41 05.4

MAR 24

$\phi = 51.50^\circ\text{N}, \lambda = 16.09^\circ\text{E}$

H = 19:44:49, M = 2.8

KSP $\Delta = 75\text{km}$
 Pg eNEZ 19 45 01.4
 Sg eNEZ 45 10.4

OJC $\Delta = 298\text{km}$
 Pn eZ 19 45 32.6
 Pg iZ 45 40.0
 Sn eN 46 02.2
 Sg iN 46 15.2

NIE $\Delta = 380\text{km}$
 P eZ 19 45 53.0
 S eE 46 38.5

MAR 26

$\phi = 51.538^\circ\text{N}, \lambda = 16.055^\circ\text{E}$
H = 04:40:19.6, M = 2.7

KSP $\Delta = 79.3\text{km}$
 Pg eNEZ 04 40 32.6
 Sg eNEZ 40 42.0

MAR 26

$\phi = 51.54^\circ\text{N}, \lambda = 16.12^\circ\text{E}$
H = 04:44:16, M = 2.9

KSP $\Delta = 79\text{km}$
 Pg iNEZ 04 44 29.1
 Sg eNEZ 44 38.3

OJC $\Delta = 298\text{km}$
 Pn eZ 04 44 58.1
 Pg iZ 45 06.9
 Sn eE 45 29.8
 Sg iEN 45 41.0

NIE $\Delta = 381\text{km}$
 (Pg) eZ 04 45 22.1
 S eE 46 05.6

MAR 27

$\phi = 51.521^\circ\text{N}, \lambda = 16.112^\circ\text{E}$
H = 11:58:58.0, M = 2.7

KSP $\Delta = 76.7\text{km}$
 Pg eNEZ 11 59 10.6
 Sg eNEZ 59 13.3

OJC $\Delta = 297.9\text{km}$
 Pg eZ 11 59 48.8
 (Sg) eE 12 00 23.3

KWP $\Delta = 513.4\text{km}$
 (Pn) eZ 12 01 08.8
 eNE 01 15.2

MAR 28

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$\phi = 51.450^{\circ}\text{N}$, $\lambda = 16.084^{\circ}\text{E}$
H = 16:05:49.2, M = 2.8

KSP $\Delta = 69.3\text{km}$
 Pg iNEZ 16 06 00.6
 Sg eNEZ 06 09.0

OJC $\Delta = 296.0\text{km}$
 (Pg) eZ 16 06 39.8
 (Sg) eN 07 16.3

NIE $\Delta = 376.8\text{km}$
 P eZ 16 06 56.8
 S eE 07 39.0

MAR 30

$\phi = 51.539^{\circ}\text{N}$, $\lambda = 16.056^{\circ}\text{E}$
H = 13:41:09.5, M = 2.7

KSP $\Delta = 79.4\text{km}$
 Pg eNEZ 13 41 22.5
 Sg eNEZ 41 32.3

MAR 30

$\phi = 51.539^{\circ}\text{N}$, $\lambda = 16.056^{\circ}\text{E}$
H = 16:22:41.9, M = 2.8

KSP $\Delta = 79.4\text{km}$
 Pg eNEZ 16 22 54.9
 Sg eNEZ 23 03.7

MAR 30

$\phi = 51.556^{\circ}\text{N}$, $\lambda = 16.097^{\circ}\text{E}$
H = 20:49:54.2, M = 2.7

KSP $\Delta = 80.7\text{km}$
 Pg eNEZ 20 50 07.4
 Sg eNEZ 50 17.0

MAR 31

$\phi = 51.521^{\circ}\text{N}$, $\lambda = 16.112^{\circ}\text{E}$
H = 10:11:06.9, M = 2.6

KSP $\Delta = 76.7\text{km}$
 Pg eNEZ 10 11 19.5
 Sg eNEZ 11 28.5

OJC $\Delta = 297.9\text{km}$
 Pg eZ 10 11 57.8
 Sg eN 12 33.7

MAR 31

$\phi = 51.496^{\circ}\text{N}$, $\lambda = 16.102^{\circ}\text{E}$
H = 13:42:07.1, M = 2.8

KSP $\Delta = 74.1\text{km}$
 Pg eNEZ 13 42 19.2

Sg eNEZ 42 27.9

APR 1

$\phi = 51.555^{\circ}\text{N}$, $\lambda = 16.096^{\circ}\text{E}$
H = 10:17:31.2, M = 2.7

KSP $\Delta = 80.6\text{km}$
 Pg eNEZ 10 17 44.4
 Sg eNEZ 17 54.1

APR 2

$\phi = 51.506^{\circ}\text{N}$, $\lambda = 16.090^{\circ}\text{E}$
H = 08:01:26.9, M = 2.7

KSP $\Delta = 75.3\text{km}$
 Pg eNEZ 08 01 39.3
 Sg eNEZ 01 48.3

OJC $\Delta = 298.5\text{km}$
 Pg eZ 08 02 17.7
 Sg eN 02 52.4

APR 3

$\phi = 51.514^{\circ}\text{N}$, $\lambda = 16.126^{\circ}\text{E}$
H = 09:38:26.9, M = 2.9

KSP $\Delta = 75.8\text{km}$
 Pg eNEZ 09 38 39.3
 Sg eNEZ 38 48.3

OJC $\Delta = 296.7\text{km}$
 Pg eZ 09 39 15.7
 Sg eE 39 50.3

APR 3

$\phi = 51.503^{\circ}\text{N}$, $\lambda = 16.088^{\circ}\text{E}$
H = 19:33:48.6, M = 2.9

KSP $\Delta = 75.0\text{km}$
 Pg eNEZ 19 34 00.9
 Sg eNEZ 34 09.9

APR 5

$\phi = 51.539^{\circ}\text{N}$, $\lambda = 16.056^{\circ}\text{E}$
H = 14:20:06.5, M = 2.6

KSP $\Delta = 79.4\text{km}$
 Pg eNEZ 14 20 19.5
 Sg eNEZ 20 29.0

OJC $\Delta = 302.3\text{km}$
 Pg eZ 14 20 57.8
 Sg eN 21 33.2

APR 5

$\phi = 51.45^{\circ}\text{N}$, $\lambda = 16.16^{\circ}\text{E}$
H = 15:54:47, M = 2.7

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KSP	Δ = 68km				
	Pg iNEZ	15	54	58.2	
	Sg iNEZ		55	06.4	
OJC	Δ = 291km				
	Pg eZ	15	55	36.9	
	Sg eN		56	09.8	
<u>APR 7</u>					
φ = 51.450°N, λ = 16.121°E					
H = 15:30:02.2, M = 2.5					
KSP	Δ = 68.8km				
	Pg eNEZ	15	30	13.5	
	Sg eNEZ		30	20.8	
<u>APR 7</u>					
φ = 51.505°N, λ = 16.084°E					
H = 15:31:05.5, M = 3.3					
KSP	Δ = 75.3km				
	Pg iNEZ	15	31	17.8	
	Sg eNEZ		31	26.9	
RAC	Δ = 217.7km				
	P eZ	15	31	41.9	
	S eNE		32	07.5	
OJC	Δ = 298.8km				
	Pg eZ	15	31	55.1	
	Sg eN		32	30.1	
KWP	Δ = 514.5km				
	Pn eZ	15	32	15.1	
	eZ		32	29.3	
	Sn eNE		33	10.2	
<u>APR 7</u>					
φ = 51.504°N, λ = 16.088°E					
H = 16:13:36.4, M = 2.6					
KSP	Δ = 75.1km				
	Pg eNEZ	16	13	48.7	
	Sg eNEZ		13	57.6	
<u>APR 7</u>					
φ = 51.504°N, λ = 16.088°E					
H = 17:46:05.1, M = 2.7					
KSP	Δ = 75.1km				
	Pg eNEZ	17	46	17.4	
	Sg eNEZ		46	26.6	
<u>APR 7</u>					
φ = 51.448°N, λ = 16.159°E					
H = 19:20:29.6, M = 2.6					

KSP	Δ = 68.2km				
	Pg eNEZ	19	20	40.8	
	Sg eNEZ		20	49.1	

APR 9

φ = 51.461°N, λ = 16.110°E
H = 06:54:14.6, M = 2.6

KSP	Δ = 70.1km				
	Pg eNEZ	06	54	26.1	
	Sg eNEZ		54	34.6	

APR 9

φ = 51.450°N, λ = 16.167°E
H = 11:57:19.3, M = 2.7

KSP	Δ = 68.3km				
	Pg eNEZ	11	57	30.5	
	Sg eNEZ		57	38.4	

OJC	Δ = 290.8km				
	Pg eNZ	11	58	08.9	
	Sg eEN		58	42.6	

APR 9

φ = 51.51°N, λ = 16.03°E
H = 16:03:58, M = 2.7

KSP	Δ = 77km				
	Pg iNEZ	16	04	10.5	
	Sg eNEZ		04	19.5	

OJC	Δ = 302km				
	Pg eZ	16	04	49.3	
	Sg eN		05	24.3	

APR 10

φ = 51.476°N, λ = 16.113°E
H = 01:13:51.9, M = 2.7

KSP	Δ = 71.7km				
	Pg eNEZ	01	14	03.7	
	Sg eNEZ		14	11.9	

APR 11

φ = 51.563°N, λ = 16.009°E
H = 04:38:16.5, M = 3.0

KSP	Δ = 82.8km				
	Pg iNEZ	04	38	30.1	
	Sg iNEZ		38	40.0	

RAC	Δ = 226.0km				
	P eZ	04	38	54.6	
	S eE		39	20.9	

OJC	Δ = 306.4km				
	Pn eZ	04	38	58.7	
	Pg eZ		39	07.9	
	Sn eN		39	31.9	

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Sg eN 39 43.9

APR 11

$\phi = 51.455^\circ\text{N}$, $\lambda = 16.073^\circ\text{E}$
H = 05:06:37.6, M = 2.6

KSP $\Delta = 70.0\text{km}$
 Pg eNEZ 05 06 49.1
 Sg eNEZ 06 57.7

APR 13

$\phi = 51.552^\circ\text{N}$, $\lambda = 16.051^\circ\text{E}$
H = 00:32:50.4, M = 2.8

KSP $\Delta = 80.9\text{km}$
 Pg eNEZ 00 33 03.7
 Sg eNEZ 33 13.3

OJC $\Delta = 303.3\text{km}$
 Pg eZ 00 33 41.6
 Sg eE 34 17.4

APR 13

$\phi = 51.505^\circ\text{N}$, $\lambda = 16.086^\circ\text{E}$
H = 14:11:48.6, M = 2.8

KSP $\Delta = 75.3\text{km}$
 Pg eNEZ 14 12 00.9
 Sg eNEZ 12 09.8

OJC $\Delta = 298.7\text{km}$
 Pg eZ 14 12 40.1
 Sg eN 13 13.3

APR 14

$\phi = 51.524^\circ\text{N}$, $\lambda = 16.115^\circ\text{E}$
H = 06:35:26.3, M = 2.7

KSP $\Delta = 77.0\text{km}$
 Pg eNEZ 06 35 38.9
 Sg eNEZ 35 47.9

APR 14

$\phi = 51.485^\circ\text{N}$, $\lambda = 16.101^\circ\text{E}$
H = 13:43:49.5, M = 2.9

KSP $\Delta = 72.9\text{km}$
 Pg eNEZ 13 44 01.4
 Sg eNEZ 44 10.1

APR 15

$\phi = 51.454^\circ\text{N}$, $\lambda = 16.074^\circ\text{E}$
H = 02:04:55.8, M = 2.6

KSP $\Delta = 69.9\text{km}$
 Pg eNEZ 02 05 07.3
 Sg eNEZ 05 15.9

APR 15

$\phi = 51.546^\circ\text{N}$, $\lambda = 16.018^\circ\text{E}$
H = 11:51:08.1, M = 2.9

KSP $\Delta = 80.8\text{km}$
 Pg iNEZ 11 51 21.3
 Sg iNEZ 51 30.9

OJC $\Delta = 305.0\text{km}$
 Pg eZ 11 51 59.0
 Sn N 52 23.2
 Sg eN 52 34.6

APR 15

$\phi = 51.45^\circ\text{N}$, $\lambda = 16.17^\circ\text{E}$
H = 15:52:32, M = 2.6

KSP $\Delta = 68\text{km}$
 Pg eNEZ 15 52 42.9
 Sg eNEZ 52 50.9

APR 15

$\phi = 51.552^\circ\text{N}$, $\lambda = 16.053^\circ\text{E}$
H = 15:58:15.4, M = 2.7

KSP $\Delta = 80.9\text{km}$
 Pg eNEZ 15 58 28.7
 Sg eNEZ 58 38.4

APR 16

$\phi = 51.538^\circ\text{N}$, $\lambda = 16.085^\circ\text{E}$
H = 15:39:11.1, M = 2.6

KSP $\Delta = 78.9\text{km}$
 Pg eNEZ 15 39 24.0
 Sg eNEZ 39 33.7

APR 17

$\phi = 51.477^\circ\text{N}$, $\lambda = 16.114^\circ\text{E}$
H = 03:59:49.1, M = 2.6

KSP $\Delta = 71.8\text{km}$
 Pg eNEZ 04 00 00.9
 Sg eNEZ 00 09.6

APR 17

$\phi = 51.504^\circ\text{N}$, $\lambda = 16.089^\circ\text{E}$
H = 15:31:02.7, M = 3.2

KSP $\Delta = 75.1\text{km}$
 Pg iNEZ 15 31 15.0

Lubin Copper Basin 2004

	Sg iNEZ		31 24.0
RAC	$\Delta = 217.4\text{km}$		
	P eZ	15 31	38.3
	S eEZ	32	05.3
OJC	$\Delta = 298.4\text{km}$		
	Pg eZ	15 31	52.7
	Sg eN	32	28.7

APR 18

**$\phi = 51.518^\circ\text{N}$, $\lambda = 16.133^\circ\text{E}$
H = 13:11:08.9, M = 2.7**

KSP	$\Delta = 76.1\text{km}$		
	Pg eNEZ	13 11	21.4
	Sg eNEZ	11	30.6

APR 20

**$\phi = 51.483^\circ\text{N}$, $\lambda = 16.072^\circ\text{E}$
H = 04:07:24.0, M = 2.7**

KSP	$\Delta = 73.1\text{km}$		
	Pg eNEZ	04 07	36.0
	Sg eNEZ	07	44.8

APR 21

**$\phi = 51.535^\circ\text{N}$, $\lambda = 16.092^\circ\text{E}$
H = 01:38:17.6, M = 2.9**

KSP	$\Delta = 78.5\text{km}$		
	Pg iNEZ	01 38	30.5
	Sg eNEZ	38	39.9

RAC	$\Delta = 219.7\text{km}$		
	P eZ	01 38	54.2
	S eN	39	19.6

OJC	$\Delta = 299.8\text{km}$		
	Pg eZ	01 39	07.8
	Sg eN	39	42.8

APR 22

**$\phi = 51.518^\circ\text{N}$, $\lambda = 16.116^\circ\text{E}$
H = 12:26:30.0, M = 2.7**

KSP	$\Delta = 76.3\text{km}$		
	Pg eNEZ	12 26	42.5
	Sg eNEZ	26	51.3

APR 22

**$\phi = 51.534^\circ\text{N}$, $\lambda = 16.093^\circ\text{E}$
H = 15:35:25.7, M = 2.8**

KSP	$\Delta = 78.4\text{km}$		
	Pg eNEZ	15 35	38.5
	Sg eNEZ	35	47.5

APR 23

**$\phi = 51.499^\circ\text{N}$, $\lambda = 16.088^\circ\text{E}$
H = 05:00:33.0, M = 2.6**

KSP	$\Delta = 74.6\text{km}$		
	Pg eNEZ	05 00	45.2
	Sg eNEZ	00	54.1

OJC	$\Delta = 298.2\text{km}$		
	Pg eZ	05 01	24.0
	Sg eN	01	58.9

APR 24

**$\phi = 51.513^\circ\text{N}$, $\lambda = 16.125^\circ\text{E}$
H = 03:44:41.3, M = 3.6**

KSP	$\Delta = 75.7\text{km}$		
	Pg iNEZ	03 44	53.7
	Sg iNEZ	45	02.7

RAC	$\Delta = 216.4\text{km}$		
	P eNE	03 45	17.0
	S eNE	45	43.4

OJC	$\Delta = 296.7\text{km}$		
	Pn eZ	03 45	22.4
	Pg eZ	45	31.6
	Sn eN	45	53.8
	Sg eN	46	05.8

KWP	$\Delta = 512.2\text{km}$		
	Pn eZ	03 45	50.4

SUW	$\Delta = 552.7\text{km}$		
	Pn eZ	03 45	55.3
	Sn eNE	46	52.3

APR 24

**$\phi = 51.514^\circ\text{N}$, $\lambda = 16.127^\circ\text{E}$
H = 03:56:42.9, M = 3.0**

KSP	$\Delta = 75.8\text{km}$		
	Pg iNEZ	03 56	55.3
	Sg eNEZ	57	05.1

RAC	$\Delta = 216.4\text{km}$		
	P eNE	03 57	19.2
	S eNE	57	45.3

OJC	$\Delta = 296.6\text{km}$		
	Pg eZ	03 57	32.6
	Sn eN	57	56.0
	Sg eN	58	08.1

APR 24

**$\phi = 51.511^\circ\text{N}$, $\lambda = 16.129^\circ\text{E}$
H = 03:59:25.7, M = 2.6**

KSP	$\Delta = 75.4\text{km}$		
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Lubin Copper Basin 2004

Pg eNEZ 03 59 38.1
Sg eNEZ 59 47.1

APR 25

$\phi = 51.503^\circ\text{N}$, $\lambda = 16.089^\circ\text{E}$
H = 01:16:54.1, M = 2.7

KSP $\Delta = 75.0\text{km}$
Pg eNEZ 01 17 06.4
Sg eNEZ 17 15.1

APR 27

$\phi = 51.45^\circ\text{N}$, $\lambda = 16.08^\circ\text{E}$
H = 01:04:21, M = 2.7

KSP $\Delta = 69\text{km}$
Pg eNEZ 01 04 32.4
Sg eNEZ 04 40.7

APR 27

$\phi = 51.498^\circ\text{N}$, $\lambda = 16.089^\circ\text{E}$
H = 08:13:51.9, M = 2.5

KSP $\Delta = 74.5\text{km}$
Pg eNEZ 08 14 04.1
Sg eNEZ 14 13.1

OJC $\Delta = 298.1\text{km}$
Pg eZ 08 14 42.3
Sg eN 15 18.1

APR 27

$\phi = 51.552^\circ\text{N}$, $\lambda = 16.049^\circ\text{E}$
H = 11:39:17.8, M = 2.7

KSP $\Delta = 80.9\text{km}$
Pg eNEZ 11 39 31.1
Sg eNEZ 39 40.9

APR 29

$\phi = 51.49^\circ\text{N}$, $\lambda = 16.01^\circ\text{E}$
H = 15:58:29, M = 2.8

OJC $\Delta = 303\text{km}$
Pg eZ 15 59 17.5
Sg eN 59 54.2

APR 30

$\phi = 51.564^\circ\text{N}$, $\lambda = 16.008^\circ\text{E}$
H = 04:04:08.8, M = 2.6

KSP $\Delta = 82.9\text{km}$
Pg eNEZ 04 04 22.4
Sg eNEZ 04 31.6

APR 30

$\phi = 51.564^\circ\text{N}$, $\lambda = 16.008^\circ\text{E}$
H = 04:17:51.6, M = 2.6

KSP $\Delta = 82.9\text{km}$
Pg eNEZ 04 18 05.2
Sg eNEZ 18 15.2

OJC $\Delta = 306.5\text{km}$
Pg eZ 04 18 42.1
Sg eN 19 18.0

APR 30

$\phi = 51.496^\circ\text{N}$, $\lambda = 16.102^\circ\text{E}$
H = 21:18:15.6, M = 2.7

KSP $\Delta = 74.1\text{km}$
Pg eNEZ 21 18 27.7
Sg eNEZ 18 36.5

MAY 1

$\phi = 51.504^\circ\text{N}$, $\lambda = 16.092^\circ\text{E}$
H = 01:56:10.1, M = 2.9

KSP $\Delta = 75.1\text{km}$
Pg eNEZ 01 56 22.4
Sg iNEZ 56 31.5

RAC $\Delta = 217.2\text{km}$
P eZ 01 56 47.4
S eNE 57 13.6

OJC $\Delta = 298.2\text{km}$
Pg eZ 01 56 59.7
Sg eN 57 35.3

KWP $\Delta = 512.2\text{km}$
P eZ 01 57 34.2

MAY 1

$\phi = 51.452^\circ\text{N}$, $\lambda = 16.172^\circ\text{E}$
H = 12:47:29.0, M = 2.5

KSP $\Delta = 68.5\text{km}$
Pg eNEZ 12 47 40.2
Sg eNEZ 47 48.0

MAY 5

$\phi = 51.538^\circ\text{N}$, $\lambda = 16.055^\circ\text{E}$
H = 16:09:55.4, M = 3.2

KSP $\Delta = 79.3\text{km}$
Pg iNEZ 16 10 08.4
Sg eNEZ 10 17.6

RAC $\Delta = 221.7\text{km}$

Lubin Copper Basin 2004

	P eZ	16	10	32.7
	S eN		10	58.1
OJC	$\Delta = 302.3\text{km}$			
	Pg eZ	16	10	45.1
	Sg eE		11	19.8
KWP	$\Delta = 517.8\text{km}$			
	P eZ	16	11	20.1

MAY 5

**$\phi = 51.489^\circ\text{N}$, $\lambda = 16.087^\circ\text{E}$
H = 21:44:25.6, M = 2.8**

KSP	$\Delta = 73.5\text{km}$			
	Pg iNEZ	21	44	37.6
	Sg eNEZ		44	46.2
OJC	$\Delta = 297.8\text{km}$			
	Pg eZ	21	45	15.5
	Sg eN		45	50.6

MAY 8

**$\phi = 51.454^\circ\text{N}$, $\lambda = 16.074^\circ\text{E}$
H = 01:05:50.3, M = 2.5**

KSP	$\Delta = 69.9\text{km}$			
	Pg iNEZ	01	06	01.8
	Sg iNEZ		06	10.4
OJC	$\Delta = 296.9\text{km}$			
	Pg eZ	01	06	39.8
	Sg eE		07	16.6

MAY 8

**$\phi = 51.563^\circ\text{N}$, $\lambda = 16.008^\circ\text{E}$
H = 01:21:36.9, M = 2.7**

KSP	$\Delta = 82.8\text{km}$			
	Pg eNEZ	01	21	50.5
	Sg iNEZ		22	00.4

MAY 8

**$\phi = 51.555^\circ\text{N}$, $\lambda = 16.097^\circ\text{E}$
H = 09:54:59.4, M = 2.6**

KSP	$\Delta = 80.6\text{km}$			
	Pg eNEZ	09	55	12.6
	Sg eNEZ		55	22.1

MAY 8

**$\phi = 51.524^\circ\text{N}$, $\lambda = 16.112^\circ\text{E}$
H = 10:50:39.8, M = 2.6**

KSP	$\Delta = 77.0\text{km}$			
	Pg eNEZ	10	50	52.4
	Sg eNEZ		51	02.0

OJC	$\Delta = 298.0\text{km}$			
	Pg eZ	10	51	29.8
	Sg eN		52	05.5

MAY 9

**$\phi = 51.499^\circ\text{N}$, $\lambda = 16.088^\circ\text{E}$
H = 02:45:51.3, M = 2.5**

KSP	$\Delta = 74.6\text{km}$			
	Pg eNEZ	02	46	03.5
	Sg eNEZ		46	11.4

MAY 9

**$\phi = 51.512^\circ\text{N}$, $\lambda = 16.081^\circ\text{E}$
H = 04:09:59.2, M = 2.7**

KSP	$\Delta = 76.1\text{km}$			
	Pg iNEZ	04	10	11.7
	Sg eNEZ		10	20.5

OJC	$\Delta = 299.3\text{km}$			
	Pg eZ	04	10	49.6
	Sg eN		11	24.5

MAY 9

**$\phi = 51.501^\circ\text{N}$, $\lambda = 16.086^\circ\text{E}$
H = 06:50:31.5, M = 3.1**

KSP	$\Delta = 74.9\text{km}$			
	Pg eNEZ	06	50	43.8
	Sg eNEZ		50	52.7

RAC	$\Delta = 217.3\text{km}$			
	P eZ	06	51	07.6
	S eNE		51	34.3

OJC	$\Delta = 298.5\text{km}$			
	Pn eZ	06	51	13.1
	Pg iZ		51	22.3
	Sg eN		51	57.0

MAY 9

**$\phi = 51.483^\circ\text{N}$, $\lambda = 16.098^\circ\text{E}$
H = 19:17:36.7, M = 2.6**

KSP	$\Delta = 72.7\text{km}$			
	Pg eNEZ	19	17	48.6
	Sg eNEZ		17	57.5

MAY 10

**$\phi = 51.505^\circ\text{N}$, $\lambda = 16.086^\circ\text{E}$
H = 13:33:26.5, M = 3.0**

KSP	$\Delta = 75.3\text{km}$			
	Pg iNEZ	13	33	38.8
	Sg iNEZ		33	47.9

OJC	$\Delta = 298.7\text{km}$			
	Pg eZ	13	34	16.1

Lubin Copper Basin 2004

Sg eE 34 51.8
 KWP $\Delta = 514.4\text{km}$
 Pg eZ 13 34 50.4
 Sg eE 36 01.4

MAY 12

$\phi = 51.499^\circ\text{N}$, $\lambda = 16.089^\circ\text{E}$
H = 22:21:02.7, M = 2.9

KSP $\Delta = 74.6\text{km}$
 Pg iNEZ 22 21 14.9
 Sg iNEZ 21 24.0

RAC $\Delta = 217.0\text{km}$
 P eZ 22 21 39.5
 S eN 22 06.7

OJC $\Delta = 298.2\text{km}$
 Pg eZ 22 21 52.4
 Sg eE 22 28.1

KWP $\Delta = 514.0\text{km}$
 Pg eZ 22 22 26.7

MAY 15

$\phi = 51.521^\circ\text{N}$, $\lambda = 16.112^\circ\text{E}$
H = 07:35:33.6, M = 2.8

KSP $\Delta = 76.7\text{km}$
 Pg iNEZ 07 35 46.2
 Sg eNEZ 35 55.7

OJC $\Delta = 297.9\text{km}$
 Pg eZ 07 36 23.1
 Sg eE 36 59.1

MAY 15

$\phi = 51.486^\circ\text{N}$, $\lambda = 16.094^\circ\text{E}$
H = 11:09:02.4, M = 2.9

KSP $\Delta = 73.1\text{km}$
 Pg eNEZ 11 09 14.4
 Sg eNEZ 09 23.0

RAC $\Delta = 215.7\text{km}$
 P eZ 11 09 39.8
 S eNE 10 05.3

OJC $\Delta = 297.2\text{km}$
 (Pn) eZ 11 09 44.8
 Pg eZ 09 51.9
 Sg iN 10 26.8

MAY 16

$\phi = 51.509^\circ\text{N}$, $\lambda = 16.065^\circ\text{E}$
H = 09:53:31.6, M = 4.1

KSP $\Delta = 76.0\text{km}$
 Pg iNEZ 09 53 44.1
 Sg iNEZ 53 53.9

RAC $\Delta = 218.9\text{km}$
 Pn eZ 09 54 04.5
 eZ 54 08.3
 Sn eNE 54 28.3
 eNE 54 35.3

OJC $\Delta = 300.2\text{km}$
 Pn eZ 09 54 12.9
 Pg iZ 54 23.0
 Sn eEN 54 46.7
 Sg eN 54 57.7

NIE $\Delta = 381.7\text{km}$
 Pn eZ 09 54 25.4
 S eN 55 21.3

KWP $\Delta = 515.9\text{km}$
 Pn eZ 09 54 41.3
 eZ 54 56.0
 S eNE 56 01.8

SUW $\Delta = 556.4\text{km}$
 Pn eZ 09 54 46.8
 Pg eZ 55 08.2
 Sn eNE 55 46.1
 Sg eNE 56 16.7

MAY 16

$\phi = 51.509^\circ\text{N}$, $\lambda = 16.065^\circ\text{E}$
H = 09:58:47.2, M = 3.6

KSP $\Delta = 76.0\text{km}$
 Pg iNEZ 09 58 59.7
 Sg iNEZ 59 09.2

RAC $\Delta = 218.9\text{km}$
 P eZ 09 59 22.7
 S eNE 59 49.6

OJC $\Delta = 300.2\text{km}$
 Pn eZ 09 59 28.8
 Pg iZ 59 37.6
 Sn eE 10 00 01.4
 Sg eN 00 12.9

MAY 17

$\phi = 51.46^\circ\text{N}$, $\lambda = 16.11^\circ\text{E}$
H = 15:49:32, M = 3.1

KSP $\Delta = 70\text{km}$
 Pg iNEZ 15 49 43.9
 Sg iNEZ 49 52.4

RAC $\Delta = 213\text{km}$
 P eZ 15 50 07.6
 S eN 50 32.4

Lubin Copper Basin 2004

<p>OJC $\Delta = 295\text{km}$ Pn eZ 15 50 14.7 Pg eZ 50 23.0 Sg eE 50 57.8</p> <p><u>MAY 20</u></p> <p>$\varphi = 51.40^\circ\text{N}, \lambda = 16.19^\circ\text{E}$ H = 05:24:06, M = 2.6</p> <p>KSP $\Delta = 63\text{km}$ Pg eNEZ 05 24 16.3 Sg eNEZ 24 23.8</p> <p><u>MAY 21</u></p> <p>$\varphi = 51.467^\circ\text{N}, \lambda = 16.139^\circ\text{E}$ H = 11:04:33.9, M = 2.8</p> <p>KSP $\Delta = 70.5\text{km}$ Pg eNEZ 11 04 45.4 Sg eNEZ 04 53.9</p> <p><u>MAY 21</u></p> <p>$\varphi = 51.503^\circ\text{N}, \lambda = 16.090^\circ\text{E}$ H = 17:04:05.8, M = 2.6</p> <p>KSP $\Delta = 75.0\text{km}$ Pg eNEZ 17 04 18.1 Sg eNEZ 04 26.7</p> <p><u>MAY 22</u></p> <p>$\varphi = 51.513^\circ\text{N}, \lambda = 16.126^\circ\text{E}$ H = 15:32:58.3, M = 2.7</p> <p>KSP $\Delta = 75.7\text{km}$ Pg eNEZ 15 33 10.8 Sg eNEZ 33 19.6</p> <p>OJC $\Delta = 296.6\text{km}$ Pg eZ 15 33 47.3 Sg eN 34 21.4</p> <p><u>MAY 23</u></p> <p>$\varphi = 51.501^\circ\text{N}, \lambda = 16.085^\circ\text{E}$ H = 04:47:07.3, M = 2.7</p> <p>KSP $\Delta = 74.9\text{km}$ Pg eNEZ 04 47 19.6 Sg eNEZ 47 28.0</p> <p><u>MAY 23</u></p> <p>$\varphi = 51.482^\circ\text{N}, \lambda = 16.097^\circ\text{E}$ H = 06:05:47.0, M = 2.6</p> <p>KSP $\Delta = 72.6\text{km}$</p>	<p>Pg eNEZ 06 05 58.9 Sg eNEZ 06 08.1</p> <p>OJC $\Delta = 296.8\text{km}$ Pg eZ 06 06 36.0 Sg eE 07 11.9</p> <p><u>MAY 23</u></p> <p>$\varphi = 51.519^\circ\text{N}, \lambda = 16.066^\circ\text{E}$ H = 19:57:32.2, M = 2.6</p> <p>KSP $\Delta = 77.1\text{km}$ Pg eNEZ 19 57 44.8 Sg eNEZ 57 54.2</p> <p>OJC $\Delta = 300.6\text{km}$ Pg eZ 19 58 22.5 Sg eN 58 57.9</p> <p><u>MAY 24</u></p> <p>$\varphi = 51.482^\circ\text{N}, \lambda = 16.073^\circ\text{E}$ H = 00:21:33.6, M = 2.7</p> <p>KSP $\Delta = 72.9\text{km}$ Pg iNEZ 00 21 45.6 Sg eNEZ 21 54.2</p> <p><u>MAY 24</u></p> <p>$\varphi = 51.511^\circ\text{N}, \lambda = 16.086^\circ\text{E}$ H = 15:43:07.2, M = 2.7</p> <p>KSP $\Delta = 75.9\text{km}$ Pg eNEZ 15 43 19.6 Sg eNEZ 43 28.5</p> <p>OJC $\Delta = 299.0\text{km}$ Pg eZ 15 43 56.1 Sg eN 44 31.6</p> <p><u>MAY 24</u></p> <p>$\varphi = 51.564^\circ\text{N}, \lambda = 16.007^\circ\text{E}$ H = 23:25:38.1, M = 2.6</p> <p>KSP $\Delta = 82.9\text{km}$ Pg eNEZ 23 25 51.7 Sg iNEZ 26 01.7</p> <p><u>MAY 25</u></p> <p>$\varphi = 51.502^\circ\text{N}, \lambda = 16.088^\circ\text{E}$ H = 03:49:57.7, M = 3.2</p> <p>KSP $\Delta = 74.9\text{km}$ Pg eNEZ 03 50 10.0 Sg iNEZ 50 19.1</p> <p>RAC $\Delta = 217.3\text{km}$ P eZ 03 50 33.4 S eNE 51 00.8</p> <p>OJC $\Delta = 298.4\text{km}$ Pg iZ 03 50 48.1</p>
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	Sg iE		51 23.4	
KWP	$\Delta = 514.2\text{km}$			
	Pn eZ	03 51	13.4	
<u>MAY 25</u>				
	$\varphi = 51.518^\circ\text{N}$, $\lambda = 16.116^\circ\text{E}$			
	$H = 07:44:17.5$, $M = 2.8$			
KSP	$\Delta = 76.3\text{km}$			
	Pg eNEZ	07 44	30.0	
	Sg eNEZ	44 39.0		
<u>MAY 26</u>				
	$\varphi = 51.535^\circ\text{N}$, $\lambda = 16.029^\circ\text{E}$			
	$H = 17:18:48.9$, $M = 2.8$			
KSP	$\Delta = 79.4\text{km}$			
	Pg eNEZ	17 19	01.9	
	Sg eNEZ	19 11.4		
OJC	$\Delta = 303.7\text{km}$			
	Pg eZ	17 19	40.8	
	Sn eN	20 04.8		
	Sg eE	20 15.9		
<u>MAY 27</u>				
	$\varphi = 51.453^\circ\text{N}$, $\lambda = 16.072^\circ\text{E}$			
	$H = 02:27:45.5$, $M = 2.6$			
KSP	$\Delta = 69.8\text{km}$			
	Pg eNEZ	02 27	57.0	
	Sg eNEZ	28 05.7		
OJC	$\Delta = 296.9\text{km}$			
	Pg eZ	02 28	35.6	
	Sg eN	29 11.0		
<u>MAY 27</u>				
	$\varphi = 51.584^\circ\text{N}$, $\lambda = 15.996^\circ\text{E}$			
	$H = 04:32:02.9$, $M = 3.1$			
KSP	$\Delta = 85.3\text{km}$			
	Pg iNEZ	04 32	16.9	
	Sg iNEZ	32 27.0		
OJC	$\Delta = 308.3\text{km}$			
	Pn eZ	04 32	45.0	
	Pg eZ	32 55.6		
	Sn eN	33 21.5		
	Sg eN	33 31.2		
<u>MAY 27</u>				
	$\varphi = 51.521^\circ\text{N}$, $\lambda = 16.112^\circ\text{E}$			
	$H = 14:20:01.5$, $M = 2.7$			
KSP	$\Delta = 76.7\text{km}$			
	Pg eNEZ	14 20	14.1	
	Sg eNEZ	20 23.3		

<u>MAY 27</u>				
	$\varphi = 51.552^\circ\text{N}$, $\lambda = 16.050^\circ\text{E}$			
	$H = 22:50:33.9$, $M = 2.7$			
KSP	$\Delta = 80.9\text{km}$			
	Pg eNEZ	22 50	47.2	
	Sg eNEZ	50 56.8		
<u>MAY 31</u>				
	$\varphi = 51.492^\circ\text{N}$, $\lambda = 16.098^\circ\text{E}$			
	$H = 12:51:37.9$, $M = 2.6$			
KSP	$\Delta = 73.7\text{km}$			
	Pg eNEZ	12 51	50.0	
	Sg eNEZ	51 58.3		
<u>JUN 1</u>				
	$\varphi = 51.563^\circ\text{N}$, $\lambda = 16.008^\circ\text{E}$			
	$H = 12:51:22.5$, $M = 2.8$			
KSP	$\Delta = 82.8\text{km}$			
	Pg eNEZ	12 51	36.1	
	Sg iNEZ	51 46.1		
OJC	$\Delta = 306.5\text{km}$			
	Pg eZ	12 52	15.0	
	Sg eN	52 49.7		
<u>JUN 1</u>				
	$\varphi = 51.451^\circ\text{N}$, $\lambda = 16.119^\circ\text{E}$			
	$H = 13:48:23.0$, $M = 2.7$			
KSP	$\Delta = 68.9\text{km}$			
	Pg eNEZ	13 48	34.3	
	Sg eNEZ	48 42.3		
<u>JUN 1</u>				
	$\varphi = 51.503^\circ\text{N}$, $\lambda = 16.090^\circ\text{E}$			
	$H = 18:01:44.0$, $M = 2.6$			
KSP	$\Delta = 75.0\text{km}$			
	Pg eNEZ	18 01	56.3	
	Sg eNEZ	02 05.2		
<u>JUN 2</u>				
	$\varphi = 51.450^\circ\text{N}$, $\lambda = 16.166^\circ\text{E}$			
	$H = 14:57:34.3$, $M = 2.7$			
KSP	$\Delta = 68.3\text{km}$			
	Pg eNEZ	14 57	45.5	
	Sg eNEZ	57 53.9		
<u>JUN 3</u>				
	$\varphi = 51.500^\circ\text{N}$, $\lambda = 16.087^\circ\text{E}$			
	$H = 02:24:18.7$, $M = 2.6$			
KSP	$\Delta = 74.7\text{km}$			

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	Pg eNEZ	02	24	30.9
	Sg eNEZ		24	39.6
OJC	$\Delta = 298.4\text{km}$			
	Pg eZ	02	25	10.0
	Sg eN		25	44.8
<u>JUN 4</u>				
	$\phi = 51.451^\circ\text{N}, \lambda = 16.163^\circ\text{E}$			
	H = 01:39:24.9, M = 2.6			
KSP	$\Delta = 68.4\text{km}$			
	Pg eNEZ	01	39	36.1
	Sg eNEZ		39	44.2
<u>JUN 4</u>				
	$\phi = 51.471^\circ\text{N}, \lambda = 16.034^\circ\text{E}$			
	H = 02:35:12.7, M = 2.6			
KSP	$\Delta = 72.4\text{km}$			
	Pg iNEZ	02	35	24.6
	Sg iNEZ		35	33.5
<u>JUN 4</u>				
	$\phi = 51.503^\circ\text{N}, \lambda = 16.149^\circ\text{E}$			
	H = 15:30:59.7, M = 2.6			
KSP	$\Delta = 74.3\text{km}$			
	Pg eNEZ	15	31	11.9
	Sg eNEZ		31	20.8
<u>JUN 5</u>				
	$\phi = 51.485^\circ\text{N}, \lambda = 16.097^\circ\text{E}$			
	H = 03:52:09.8, M = 2.7			
KSP	$\Delta = 72.9\text{km}$			
	Pg eNEZ	03	52	21.8
	Sg eNEZ		52	30.0
OJC	$\Delta = 297.0\text{km}$			
	Pg eZ	03	52	59.7
	Sg eE		53	34.4
<u>JUN 5</u>				
	$\phi = 51.556^\circ\text{N}, \lambda = 16.097^\circ\text{E}$			
	H = 06:15:43.5, M = 2.6			
KSP	$\Delta = 80.7\text{km}$			
	Pg eNEZ	06	15	56.7
	Sg eNEZ		16	06.2
OJC	$\Delta = 300.6\text{km}$			
	Pg eZ	06	16	34.8
	Sg eN		17	09.4

JUN 6
 $\phi = 51.483^\circ\text{N}, \lambda = 16.097^\circ\text{E}$
H = 04:26:45.6, M = 2.4

KSP	$\Delta = 72.7\text{km}$			
	Pg eNEZ	04	26	58.1
	Sg eNEZ		27	07.3
OJC	$\Delta = 296.9\text{km}$			
	Pg eZ	04	27	35.6
	Sg eN		28	09.8

JUN 6
 $\phi = 51.467^\circ\text{N}, \lambda = 16.132^\circ\text{E}$
H = 09:14:35.8, M = 2.8

KSP	$\Delta = 70.5\text{km}$			
	Pg eNEZ	09	14	47.4
	Sg eNEZ		14	56.8
OJC	$\Delta = 293.9\text{km}$			
	Pg eZ	09	15	26.0
	Sg eN		16	00.3

JUN 7
 $\phi = 51.503^\circ\text{N}, \lambda = 16.088^\circ\text{E}$
H = 11:37:20.8, M = 3.1

KSP	$\Delta = 75.0\text{km}$			
	Pg eNEZ	11	37	33.1
	Sg iNEZ		37	42.1
RAC	$\Delta = 217.3\text{km}$			
	P eZ	11	37	59.0
	S eN		38	25.0

OJC	$\Delta = 298.4\text{km}$			
	Pg eZ	11	38	11.7
	Sg eE		38	46.7

KWP	$\Delta = 514.2\text{km}$			
	P eZ	11	38	45.0

JUN 9
 $\phi = 51.449^\circ\text{N}, \lambda = 16.163^\circ\text{E}$
H = 09:30:30.5, M = 2.6

KSP	$\Delta = 68.2\text{km}$			
	Pg eNEZ	09	30	41.7
	Sg eNEZ		30	50.3

JUN 9
 $\phi = 51.454^\circ\text{N}, \lambda = 16.073^\circ\text{E}$
H = 15:24:22.1, M = 3.0

KSP	$\Delta = 69.9\text{km}$			
	Pg iNEZ	15	24	33.6

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	Sg eNEZ		24	41.7	
OJC	$\Delta = 296.9\text{km}$				
	Pg eZ		15	25 12.7	
	Sg eN		25	47.1	
<u>JUN 10</u>					
	$\phi = 51.499^\circ\text{N}, \lambda = 16.088^\circ\text{E}$				
	$H = 07:50:45.5, M = 2.8$				
KSP	$\Delta = 74.6\text{km}$				
	Pg eNEZ		07	50 57.7	
	Sg eNEZ		51	06.7	
OJC	$\Delta = 298.2\text{km}$				
	Pg eZ		07	51 36.9	
	Sn eN		51	59.9	
	Sg eN		52	11.6	
<u>JUN 10</u>					
	$\phi = 51.564^\circ\text{N}, \lambda = 16.007^\circ\text{E}$				
	$H = 08:23:27.5, M = 2.8$				
KSP	$\Delta = 82.9\text{km}$				
	Pg eNEZ		08	23 41.1	
	Sg eNEZ		23	51.0	
OJC	$\Delta = 306.6\text{km}$				
	Pg eZ		08	24 18.9	
	Sg eN		24	54.9	
<u>JUN 10</u>					
	$\phi = 51.45^\circ\text{N}, \lambda = 16.08^\circ\text{E}$				
	$H = 14:58:46, M = 2.7$				
KSP	$\Delta = 69\text{km}$				
	Pg iNEZ		14	58 57.5	
	Sg eNEZ		59	05.7	
OJC	$\Delta = 296\text{km}$				
	Pg eZ		14	59 35.9	
	Sg eE		15	00 11.2	
<u>JUN 10</u>					
	$\phi = 51.498^\circ\text{N}, \lambda = 16.088^\circ\text{E}$				
	$H = 18:53:37.3, M = 2.8$				
KSP	$\Delta = 74.5\text{km}$				
	Pg eNEZ		18	53 49.5	
	Sg eNEZ		53	58.4	
OJC	$\Delta = 298.2\text{km}$				
	Pg eZ		18	54 28.0	
	Sg eN		55	03.3	

JUN 12
 $\phi = 51.541^\circ\text{N}, \lambda = 16.129^\circ\text{E}$
 $H = 15:30:28.2, M = 2.6$

KSP $\Delta = 78.7\text{km}$
 Pg eNEZ 15 30 41.1
 Sg eE 30 50.1

JUN 12
 $\phi = 51.541^\circ\text{N}, \lambda = 16.130^\circ\text{E}$
 $H = 15:32:17.1, M = 2.6$

KSP $\Delta = 78.7\text{km}$
 Pg eNEZ 15 32 30.0
 Sg eE 32 39.0

JUN 12
 $\phi = 51.449^\circ\text{N}, \lambda = 16.163^\circ\text{E}$
 $H = 21:24:57.6, M = 2.6$

KSP $\Delta = 68.2\text{km}$
 Pg iNEZ 21 25 08.8
 Sg eEZ 25 16.1

JUN 13
 $\phi = 51.512^\circ\text{N}, \lambda = 16.081^\circ\text{E}$
 $H = 03:30:36.1, M = 2.5$

KSP $\Delta = 76.1\text{km}$
 Pg iNEZ 03 30 48.6
 Sg eNEZ 30 51.0

OJC $\Delta = 299.3\text{km}$
 Pg eZ 03 31 26.6
 Sg eN 31 59.9

JUN 13
 $\phi = 51.563^\circ\text{N}, \lambda = 16.008^\circ\text{E}$
 $H = 07:52:10.2, M = 2.7$

KSP $\Delta = 82.8\text{km}$
 Pg eNEZ 07 52 23.8
 Sg eNEZ 52 33.8

JUN 13
 $\phi = 51.474^\circ\text{N}, \lambda = 16.108^\circ\text{E}$
 $H = 10:54:15.5, M = 2.6$

KSP $\Delta = 71.6\text{km}$
 Pg eNEZ 10 54 27.2
 Sg eNEZ 54 35.8

JUN 14
 $\phi = 51.45^\circ\text{N}, \lambda = 16.16^\circ\text{E}$
 $H = 16:19:55, M = 2.7$

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KSP $\Delta = 68\text{km}$
 Pg eNEZ 16 20 06.3
 Sg eNEZ 20 14.3

JUN 15
 $\phi = 51.453^\circ\text{N}, \lambda = 16.075^\circ\text{E}$
H = 04:25:39.7, M = 2.7

KSP $\Delta = 69.7\text{km}$
 Pg eNEZ 04 25 51.1
 Sg eNEZ 25 59.4

JUN 15
 $\phi = 51.476^\circ\text{N}, \lambda = 16.112^\circ\text{E}$
H = 05:18:40.9, M = 2.7

KSP $\Delta = 71.8\text{km}$
 Pg eNEZ 05 18 52.7
 Sg eNEZ 19 01.4

JUN 15
 $\phi = 51.461^\circ\text{N}, \lambda = 16.109^\circ\text{E}$
H = 15:41:17.6, M = 2.7

KSP $\Delta = 70.2\text{km}$
 Pg eNEZ 15 41 29.1
 Sg eNEZ 41 37.3

JUN 16
 $\phi = 51.503^\circ\text{N}, \lambda = 16.089^\circ\text{E}$
H = 03:43:53.2, M = 3.5

KSP $\Delta = 75.0\text{km}$
 Pg iNEZ 03 44 05.5
 Sg eNEZ 44 14.5

RAC $\Delta = 217.3\text{km}$
 P eZ 03 44 28.7
 S eNE 44 54.2

OJC $\Delta = 298.4\text{km}$
 Pn eZ 03 44 33.1
 Pg iZ 44 42.9
 Sn eE 45 06.7
 Sg iE 45 18.7

JUN 16
 $\phi = 51.455^\circ\text{N}, \lambda = 16.075^\circ\text{E}$
H = 15:44:40.8, M = 3.0

KSP $\Delta = 70.0\text{km}$
 Pg iNEZ 15 44 52.3
 Sg eNEZ 44 59.9

OJC $\Delta = 296.8\text{km}$
 Pn eZ 15 45 21.0
 Pg iZ 45 31.5
 Sn eE 45 57.3

Sg iN 46 07.1

JUN 16
 $\phi = 51.534^\circ\text{N}, \lambda = 16.094^\circ\text{E}$
H = 15:47:25.8, M = 2.6

KSP $\Delta = 78.3\text{km}$
 Pg eNEZ 15 47 38.7
 Sg eNEZ 47 46.3

JUN 16
 $\phi = 51.532^\circ\text{N}, \lambda = 16.090^\circ\text{E}$
H = 17:33:12.8, M = 3.3

KSP $\Delta = 78.2\text{km}$
 Pg iNEZ 17 33 25.6
 Sg eNEZ 33 33.3

RAC $\Delta = 219.6\text{km}$
 P eZ 17 33 49.2
 S eNE 34 15.3

OJC $\Delta = 299.8\text{km}$
 Pg iZ 17 34 03.0
 Sg iN 34 37.9

JUN 17
 $\phi = 51.500^\circ\text{N}, \lambda = 16.087^\circ\text{E}$
H = 03:47:17.7, M = 2.8

KSP $\Delta = 74.7\text{km}$
 Pg eNEZ 03 47 30.0
 Sg eNEZ 47 38.7

JUN 17
 $\phi = 51.461^\circ\text{N}, \lambda = 16.131^\circ\text{E}$
H = 15:37:38.1, M = 2.6

KSP $\Delta = 69.9\text{km}$
 Pg eNEZ 15 37 49.6
 Sg eNEZ 37 57.0

OJC $\Delta = 293.6\text{km}$
 Pg eZ 15 38 26.9
 Sg eE 39 02.1

JUN 18
 $\phi = 51.560^\circ\text{N}, \lambda = 16.013^\circ\text{E}$
H = 07:44:17.1, M = 2.7

KSP $\Delta = 82.4\text{km}$
 Pg eNEZ 07 44 30.6
 Sg eNEZ 44 40.5

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JUN 18

$\phi = 51.500^{\circ}\text{N}$, $\lambda = 16.086^{\circ}\text{E}$
H = 13:33:34.7, M = 2.7

KSP $\Delta = 74.7\text{km}$
 Pg eNEZ 13 33 47.0
 Sg eNEZ 33 56.2

JUN 18

$\phi = 51.496^{\circ}\text{N}$, $\lambda = 16.100^{\circ}\text{E}$
H = 15:22:29.7, M = 2.9

KSP $\Delta = 74.1\text{km}$
 Pg eNEZ 15 22 41.8
 Sg eNEZ 22 50.8

OJC $\Delta = 297.3\text{km}$
 Pg eZ 15 23 19.1
 Sg eN 23 54.2

JUN 18

$\phi = 51.501^{\circ}\text{N}$, $\lambda = 16.088^{\circ}\text{E}$
H = 21:31:06.8, M = 2.6

KSP $\Delta = 74.8\text{km}$
 Pg eNEZ 21 31 19.1
 Sg eNEZ 31 28.0

JUN 18

$\phi = 51.550^{\circ}\text{N}$, $\lambda = 16.049^{\circ}\text{E}$
H = 22:18:20.8, M = 2.7

KSP $\Delta = 80.7\text{km}$
 Pg eNEZ 22 18 34.0
 Sg eNEZ 18 43.6

JUN 19

$\phi = 51.500^{\circ}\text{N}$, $\lambda = 16.087^{\circ}\text{E}$
H = 20:29:32.2, M = 2.7

KSP $\Delta = 74.7\text{km}$
 Pg eNEZ 20 29 44.4
 Sg eNEZ 29 53.3

OJC $\Delta = 298.4\text{km}$
 Pg eZ 20 30 22.2
 Sg eN 30 56.7

JUN 20

$\phi = 51.482^{\circ}\text{N}$, $\lambda = 16.097^{\circ}\text{E}$
H = 03:59:41.9, M = 3.7

KSP $\Delta = 72.6\text{km}$
 Pg iNEZ 03 59 53.8
 Sg iNEZ 04 00 02.5

RAC $\Delta = 215.2\text{km}$
 Pn eZ 04 00 13.8

S eNE 00 43.0

GKP $\Delta = 214.1\text{km}$
 Pn eZ 04 00 15.0
 S eE 00 44.6

OJC $\Delta = 296.8\text{km}$
 Pn eZ 04 00 22.6
 Pg iZ 00 32.3
 Sn eE 00 54.4
 Sg iN 01 07.3

NIE $\Delta = 378.1\text{km}$
 Pn eZ 04 00 34.1
 iZ 00 44.1
 S eE 01 28.7

KWP $\Delta = 512.8\text{km}$
 Pn eZ 04 00 51.0
 Sn eNE 01 45.7

SUW $\Delta = 556.2\text{km}$
 Pn eZ 04 00 56.4
 Pg eZ 01 13.1
 Sn eNE 01 53.6
 Sg eNE 02 13.4

JUN 21

$\phi = 51.539^{\circ}\text{N}$, $\lambda = 16.056^{\circ}\text{E}$
H = 06:02:34.8, M = 3.0

KSP $\Delta = 79.4\text{km}$
 Pg iNEZ 06 02 47.8
 Sg eNEZ 02 57.0

OJC $\Delta = 302.3\text{km}$
 Pn eZ 06 03 15.8
 Pg eZ 03 26.0
 Sn eN 03 50.8
 Sg eN 04 01.6

JUN 22

$\phi = 51.506^{\circ}\text{N}$, $\lambda = 16.089^{\circ}\text{E}$
H = 03:04:01.9, M = 2.8

KSP $\Delta = 75.3\text{km}$
 Pg eNEZ 03 04 14.3
 Sg iNEZ 04 23.4

OJC $\Delta = 298.5\text{km}$
 Pg eZ 03 04 52.4
 Sg eE 05 26.9

JUN 22

$\phi = 51.536^{\circ}\text{N}$, $\lambda = 16.090^{\circ}\text{E}$
H = 10:36:09.3, M = 2.6

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KSP $\Delta = 78.6\text{km}$
 Pg eNEZ 10 36 22.2
 Sg eNEZ 36 31.6

JUN 22
 $\phi = 51.564^\circ\text{N}, \lambda = 16.008^\circ\text{E}$
 $H = 13:58:02.5, M = 2.6$

KSP $\Delta = 82.9\text{km}$
 Pg eNEZ 13 58 16.1
 Sg eNEZ 58 25.9

JUN 24
 $\phi = 51.448^\circ\text{N}, \lambda = 16.163^\circ\text{E}$
 $H = 20:25:57.6, M = 2.7$

KSP $\Delta = 68.1\text{km}$
 Pg eNEZ 20 26 08.8
 Sg eNEZ 26 17.5

JUN 26
 $\phi = 51.560^\circ\text{N}, \lambda = 16.007^\circ\text{E}$
 $H = 13:27:08.3, M = 2.8$

KSP $\Delta = 82.5\text{km}$
 Pg eNEZ 13 27 21.8
 Sg eNEZ 27 31.5

OJC $\Delta = 306.4\text{km}$
 Pg eZ 13 28 00.0
 Sg eE 28 36.0

JUN 26
 $\phi = 51.500^\circ\text{N}, \lambda = 16.088^\circ\text{E}$
 $H = 14:02:39.5, M = 2.7$

KSP $\Delta = 74.7\text{km}$
 Pg eNEZ 14 02 51.7
 Sg eNEZ 03 00.6

JUN 26
 $\phi = 51.501^\circ\text{N}, \lambda = 16.088^\circ\text{E}$
 $H = 16:07:02.5, M = 2.8$

KSP $\Delta = 74.8\text{km}$
 Pg eNEZ 16 07 14.8
 Sg eNEZ 07 23.7

OJC $\Delta = 298.3\text{km}$
 Pg eZ 16 07 53.0
 Sg eN 08 28.5

JUN 28
 $\phi = 51.500^\circ\text{N}, \lambda = 16.087^\circ\text{E}$

$H = 19:00:30.9, M = 2.5$

KSP $\Delta = 74.7\text{km}$
 Pg eNEZ 19 00 43.1
 Sg eNEZ 00 51.9

JUN 30
 $\phi = 51.46^\circ\text{N}, \lambda = 16.13^\circ\text{E}$
 $H = 03:46:52, M = 3.0$

KSP $\Delta = 70\text{km}$
 Pg eNEZ 03 47 03.3
 Sg eNEZ 47 10.7

GKP $\Delta = 216\text{km}$
 Pn eZ 03 47 24.7

OJC $\Delta = 294\text{km}$
 Pn eZ 03 47 32.6
 Pg eZ 47 42.2
 Sn eE 48 03.0
 Sg eN 48 17.5

JUN 30
 $\phi = 51.495^\circ\text{N}, \lambda = 16.105^\circ\text{E}$
 $H = 04:37:49.9, M = 2.6$

KSP $\Delta = 73.9\text{km}$
 Pg eNEZ 04 38 02.0
 Sg eNEZ 38 10.6

JUN 30
 $\phi = 51.466^\circ\text{N}, \lambda = 16.139^\circ\text{E}$
 $H = 13:13:12.6, M = 2.6$

KSP $\Delta = 70.3\text{km}$
 Pg eNEZ 13 13 24.1
 Sg eNEZ 13 32.6

OJC $\Delta = 293.4\text{km}$
 Pg eZ 13 14 01.2
 Sg eE 14 35.7

JUL 1
 $\phi = 51.551^\circ\text{N}, \lambda = 16.049^\circ\text{E}$
 $H = 15:50:42.2, M = 2.7$

KSP $\Delta = 80.8\text{km}$
 Pg iNEZ 15 50 55.4
 Sg iNEZ 51 05.1

JUL 4
 $\phi = 51.477^\circ\text{N}, \lambda = 16.113^\circ\text{E}$
 $H = 00:13:43.6, M = 3.0$

KSP $\Delta = 71.9\text{km}$
 Pg eNEZ 00 13 55.4
 Sg eNEZ 14 04.0

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RAC	$\Delta = 214.0\text{km}$			
	Pn eZ	00	14	15.3
	eZ		14	19.2
	S eNE		14	46.1
OJC	$\Delta = 295.6\text{km}$			
	Pg eZ	00	14	32.8
	Sg eE		15	08.9
KWP	$\Delta = 511.5\text{km}$			
	Pg eZ	00	15	07.2
	Sg eNE		16	19.5
<u>JUL 5</u>				
	$\phi = 51.563^\circ\text{N}, \lambda = 16.008^\circ\text{E}$			
	$H = 13:51:50.5, M = 2.8$			
KSP	$\Delta = 82.8\text{km}$			
	Pg eNEZ	13	52	04.1
	Sg eNEZ		52	14.1
<u>JUL 7</u>				
	$\phi = 51.499^\circ\text{N}, \lambda = 16.087^\circ\text{E}$			
	$H = 04:53:09.1, M = 2.7$			
KSP	$\Delta = 74.6\text{km}$			
	Pg eNEZ	04	53	21.3
	Sg eNEZ		53	30.2
OJC	$\Delta = 298.3\text{km}$			
	Pg eZ	04	53	59.1
	Sg eE		54	34.9
<u>JUL 9</u>				
	$\phi = 51.525^\circ\text{N}, \lambda = 16.110^\circ\text{E}$			
	$H = 07:59:06.2, M = 2.9$			
KSP	$\Delta = 77.2\text{km}$			
	Pg eNEZ	07	59	18.8
	Sg eNEZ		59	27.9
OJC	$\Delta = 298.2\text{km}$			
	Pg eZ	07	59	57.1
	Sg eN		08	00
<u>JUL 10</u>				
	$\phi = 51.584^\circ\text{N}, \lambda = 15.996^\circ\text{E}$			
	$H = 05:44:03.9, M = 3.2$			
KSP	$\Delta = 85.3\text{km}$			
	Pg iNEZ	05	44	17.9
	Sg eNEZ		44	28.1
OJC	$\Delta = 308.3\text{km}$			
	Pn eZ	05	44	48.9
	Pg eZ		44	55.9
	Sg eN		45	31.6
KWP	$\Delta = 523.5\text{km}$			
	Pn eZ	05	45	21.7
	Pg eZ		45	42.2

	Sn eNE		46	15.1
	Sg eNE		46	42.8
<u>JUL 10</u>				
	$\phi = 51.500^\circ\text{N}, \lambda = 16.089^\circ\text{E}$			
	$H = 11:56:00.2, M = 2.6$			
KSP	$\Delta = 74.7\text{km}$			
	Pg eNEZ	11	56	12.4
	Sg eNEZ		56	20.9
<u>JUL 11</u>				
	$\phi = 51.511^\circ\text{N}, \lambda = 16.079^\circ\text{E}$			
	$H = 03:30:43.7, M = 2.6$			
KSP	$\Delta = 76.0\text{km}$			
	Pg iNEZ	03	30	56.2
	Sg eNEZ		31	05.1
OJC	$\Delta = 299.4\text{km}$			
	Pg eZ	03	31	34.1
	Sg eN		32	09.0
<u>JUL 14</u>				
	$\phi = 51.519^\circ\text{N}, \lambda = 16.117^\circ\text{E}$			
	$H = 10:47:19.6, M = 2.9$			
KSP	$\Delta = 76.4\text{km}$			
	Pg eNEZ	10	47	32.1
	Sg eNEZ		47	41.2
OJC	$\Delta = 297.5\text{km}$			
	Pn eZ	10	48	01.0
	Pg eZ		48	09.9
	Sn eN		48	32.8
	Sg eN		48	45.3
<u>JUL 14</u>				
	$\phi = 51.515^\circ\text{N}, \lambda = 16.120^\circ\text{E}$			
	$H = 17:02:00.1, M = 2.7$			
KSP	$\Delta = 75.9\text{km}$			
	Pg eNEZ	17	02	12.6
	Sg eNEZ		02	21.6
OJC	$\Delta = 297.1\text{km}$			
	Pn eZ	17	02	41.8
	Pg iZ		02	50.7
	Sn eN		03	13.3
	Sg iE		03	25.9
<u>JUL 15</u>				
	$\phi = 51.536^\circ\text{N}, \lambda = 16.095^\circ\text{E}$			
	$H = 15:33:58.4, M = 2.8$			
KSP	$\Delta = 78.6\text{km}$			
	Pg eNEZ	15	34	11.3
	Sg eNEZ		34	20.7

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OJC $\Delta = 299.7\text{km}$
 Pg eZ 15 34 49.0
 Sg eN 35 23.8

JUL 16
 $\phi = 51.502^\circ\text{N}, \lambda = 16.089^\circ\text{E}$
 $H = 10:51:43.4, M = 2.6$

KSP $\Delta = 74.9\text{km}$
 Pg eNEZ 10 51 55.7
 Sg eNEZ 52 04.8

JUL 18
 $\phi = 51.450^\circ\text{N}, \lambda = 16.166^\circ\text{E}$
 $H = 09:34:36.0, M = 2.6$

KSP $\Delta = 68.3\text{km}$
 Pg eNEZ 09 34 47.2
 Sg eNEZ 34 55.5

JUL 18
 $\phi = 51.554^\circ\text{N}, \lambda = 16.097^\circ\text{E}$
 $H = 20:23:51.9, M = 2.8$

KSP $\Delta = 80.5\text{km}$
 Pg eNEZ 20 24 05.1
 Sg eNEZ 24 14.6

OJC $\Delta = 300.5\text{km}$
 Pn eZ 20 24 32.0
 Pg eZ 24 42.1
 Sg eE 25 17.9

JUL 18
 $\phi = 51.501^\circ\text{N}, \lambda = 16.088^\circ\text{E}$
 $H = 23:06:06.0, M = 3.2$

KSP $\Delta = 74.8\text{km}$
 Pg eNEZ 23 06 18.3
 Sg eNEZ 06 27.1

RAC $\Delta = 217.2\text{km}$
 P eZ 23 06 43.1
 S eNE 07 09.0

OJC $\Delta = 298.3\text{km}$
 Pn eZ 23 06 46.4
 Pg iZ 06 56.9
 Sn eZ 07 19.8
 Sg iN 07 31.4

KWP $\Delta = 514.1\text{km}$
 Pn eZ 23 07 22.3
 Pg eZ 07 38.9

JUL 20
 $\phi = 51.457^\circ\text{N}, \lambda = 16.080^\circ\text{E}$
 $H = 20:48:27.1, M = 2.6$

KSP $\Delta = 70.1\text{km}$
 Pg eNEZ 20 48 38.6
 Sg eNEZ 48 47.4

JUL 21

$\phi = 51.485^\circ\text{N}, \lambda = 16.097^\circ\text{E}$
 $H = 03:37:02.8, M = 2.7$

KSP $\Delta = 72.9\text{km}$
 Pg eNEZ 03 37 14.8
 Sg eNEZ 37 23.6

OJC $\Delta = 297.0\text{km}$
 Pn eZ 03 37 45.0
 Pg iZ 37 54.3
 Sn iN 38 16.2
 Sg eN 38 28.0

JUL 21

$\phi = 51.500^\circ\text{N}, \lambda = 16.087^\circ\text{E}$
 $H = 03:50:48.6, M = 3.0$

KSP $\Delta = 74.7\text{km}$
 Pg eNEZ 03 51 00.9
 Sg eNEZ 51 09.9

RAC $\Delta = 217.2\text{km}$
 P eZ 03 51 26.7
 S eN 51 52.0

OJC $\Delta = 298.4\text{km}$
 Pn eZ 03 51 30.4
 Pg iZ 51 39.3
 Sn eN 52 02.4
 Sg iN 52 14.6

KWP $\Delta = 514.1\text{km}$
 Pg eZ 03 52 12.6

JUL 21

$\phi = 51.515^\circ\text{N}, \lambda = 15.977^\circ\text{E}$
 $H = 09:14:10.5, M = 2.7$

KSP $\Delta = 78.2\text{km}$
 Pg eNEZ 09 14 23.3
 Sg eNEZ 14 31.8

OJC $\Delta = 305.9\text{km}$
 Pg eZ 09 15 03.3
 Sg eN 15 37.2

JUL 23

$\phi = 51.492^\circ\text{N}, \lambda = 16.096^\circ\text{E}$
 $H = 12:10:28.5, M = 3.1$

KSP $\Delta = 73.7\text{km}$
 Pg iNEZ 12 10 40.6
 Sg eNEZ 10 49.4

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RAC $\Delta = 216.1\text{km}$
 P eZ 12 11 04.7
 S eN 11 30.5

OJC $\Delta = 297.4\text{km}$
 Pg eZ 12 11 18.1
 Sg eEN 11 54.3

JUL 24

**$\varphi = 51.562^\circ\text{N}$, $\lambda = 16.008^\circ\text{E}$
H = 16:33:18.8, M = 2.7**

KSP $\Delta = 82.7\text{km}$
 Pg eNEZ 16 33 32.4
 Sg iNEZ 33 42.3

JUL 26

**$\varphi = 51.544^\circ\text{N}$, $\lambda = 16.013^\circ\text{E}$
H = 04:39:15.1, M = 2.6**

KSP $\Delta = 80.6\text{km}$
 Pg eNEZ 04 39 28.3
 Sg eNEZ 39 37.9

JUL 28

**$\varphi = 51.516^\circ\text{N}$, $\lambda = 16.118^\circ\text{E}$
H = 07:16:24.2, M = 2.6**

KSP $\Delta = 76.1\text{km}$
 Pg eNEZ 07 16 36.7
 Sg eNEZ 16 45.8

OJC $\Delta = 297.3\text{km}$
 Pg eZ 07 17 14.0
 Sg eE 17 49.0

JUL 29

**$\varphi = 51.486^\circ\text{N}$, $\lambda = 16.095^\circ\text{E}$
H = 03:51:44.1, M = 2.7**

KSP $\Delta = 73.1\text{km}$
 Pg eNEZ 03 51 56.1
 Sg eNEZ 52 05.1

OJC $\Delta = 297.1\text{km}$
 Pg eZ 03 52 33.9
 Sg eN 53 09.4

JUL 31

**$\varphi = 51.448^\circ\text{N}$, $\lambda = 16.163^\circ\text{E}$
H = 11:52:02.2, M = 2.6**

KSP $\Delta = 68.1\text{km}$
 Pg eNEZ 11 52 13.4
 Sg eNEZ 52 21.1

OJC $\Delta = 291.0\text{km}$
 Pg eZ 11 52 50.0
 Sg eN 53 25.3

AUG 3

**$\varphi = 51.563^\circ\text{N}$, $\lambda = 16.007^\circ\text{E}$
H = 16:04:58.8, M = 2.6**

KSP $\Delta = 82.8\text{km}$
 Pg eNEZ 16 05 12.4
 Sg eNEZ 05 22.3

AUG 3

**$\varphi = 51.501^\circ\text{N}$, $\lambda = 16.087^\circ\text{E}$
H = 23:04:57.3, M = 2.8**

KSP $\Delta = 74.8\text{km}$
 Pg eNEZ 23 05 09.6
 Sg eNEZ 05 18.5

OJC $\Delta = 298.4\text{km}$
 Pg eZ 23 05 47.4
 Sg eN 06 23.2

KWP $\Delta = 514.2\text{km}$
 Pn eZ 23 06 18.3

AUG 4

**$\varphi = 51.550^\circ\text{N}$, $\lambda = 16.049^\circ\text{E}$
H = 08:31:31.2, M = 2.6**

KSP $\Delta = 80.7\text{km}$
 Pg eNZ 08 31 44.4
 Sg eNEZ 31 54.2

AUG 4

**$\varphi = 51.450^\circ\text{N}$, $\lambda = 16.085^\circ\text{E}$
H = 13:32:23.9, M = 2.6**

KSP $\Delta = 69.3\text{km}$
 Pg eNEZ 13 32 35.3
 Sg eNEZ 32 43.1

AUG 6

**$\varphi = 51.452^\circ\text{N}$, $\lambda = 16.084^\circ\text{E}$
H = 17:06:18.8, M = 2.7**

KSP $\Delta = 69.5\text{km}$
 Pg eNEZ 17 06 30.2
 Sg eNEZ 06 38.4

AUG 8

**$\varphi = 51.450^\circ\text{N}$, $\lambda = 16.118^\circ\text{E}$
H = 18:34:11.6, M = 2.7**

KSP $\Delta = 68.8\text{km}$
 Pg iNEZ 18 34 22.9
 Sg eNEZ 34 30.3

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OJC $\Delta = 293.9\text{km}$
 Pn eZ 18 34 53.6
 Pg eZ 35 01.5
 Sg eN 35 36.3

AUG 11

$\varphi = 51.406^\circ\text{N}, \lambda = 16.242^\circ\text{E}$
H = 01:18:13.8, M = 2.7

KSP $\Delta = 62.9\text{km}$
 Pg iNEZ 01 18 24.1
 Sg eNEZ 18 31.9

OJC $\Delta = 284.0\text{km}$
 Pg eZ 01 19 01.9
 Sg eN 19 35.8

AUG 11

$\varphi = 51.448^\circ\text{N}, \lambda = 16.161^\circ\text{E}$
H = 11:04:29.8, M = 2.7

KSP $\Delta = 68.1\text{km}$
 Pg eNEZ 11 04 41.0
 Sg eNEZ 04 49.0

OJC $\Delta = 291.1\text{km}$
 Pg eZ 11 05 17.8
 Sg eN 05 52.6

AUG 12

$\varphi = 51.514^\circ\text{N}, \lambda = 16.126^\circ\text{E}$
H = 00:47:25.9, M = 2.7

OJC $\Delta = 296.7\text{km}$
 Pg eZ 00 48 13.0
 Sg eN 48 48.2

AUG 13

$\varphi = 51.473^\circ\text{N}, \lambda = 16.029^\circ\text{E}$
H = 05:30:05.0, M = 2.8

KSP $\Delta = 72.7\text{km}$
 Pg eNEZ 05 30 16.9
 Sg iNEZ 30 25.8

OJC $\Delta = 300.6\text{km}$
 Pn eZ 05 30 48.8
 Pg iZ 30 58.2
 Sn eN 31 19.1
 Sg iN 31 32.9

AUG 13

$\varphi = 51.523^\circ\text{N}, \lambda = 16.109^\circ\text{E}$
H = 15:30:57.5, M = 2.8

KSP $\Delta = 77.0\text{km}$
 Pg eNEZ 15 31 10.1
 Sg eNEZ 31 19.4

OJC $\Delta = 298.2\text{km}$
 Pg eZ 15 31 48.3
 Sg eN 32 22.3

AUG 14

$\varphi = 51.562^\circ\text{N}, \lambda = 16.008^\circ\text{E}$
H = 06:55:34.6, M = 2.8

KSP $\Delta = 82.7\text{km}$
 Pg eNEZ 06 55 48.2
 Sg eNEZ 55 58.1

OJC $\Delta = 306.4\text{km}$
 Pg eZ 06 56 25.7
 Sg eE 57 02.6

AUG 14

$\varphi = 51.542^\circ\text{N}, \lambda = 16.130^\circ\text{E}$
H = 19:56:13.3, M = 2.9

KSP $\Delta = 78.8\text{km}$
 Pg iNEZ 19 56 26.2
 Sg eNEZ 56 34.3

RAC $\Delta = 218.5\text{km}$
 P eZ 19 56 49.9
 S eN 57 16.0

OJC $\Delta = 297.9\text{km}$
 Pn eZ 19 56 54.0
 Pg eZ 57 03.9
 Sg eE 57 39.1

AUG 16

$\varphi = 51.474^\circ\text{N}, \lambda = 16.030^\circ\text{E}$
H = 02:26:27.7, M = 2.8

KSP $\Delta = 72.8\text{km}$
 Pg iNEZ 02 26 39.6
 Sg eNEZ 26 47.8

OJC $\Delta = 300.6\text{km}$
 Pg eZ 02 27 17.1
 Sg eN 27 53.7

AUG 16

$\varphi = 51.512^\circ\text{N}, \lambda = 16.081^\circ\text{E}$
H = 03:30:41.4, M = 2.7

KSP $\Delta = 76.1\text{km}$
 Pg eNEZ 03 30 53.9
 Sg eNEZ 31 02.8

AUG 16

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$\phi = 51.513^{\circ}\text{N}$, $\lambda = 16.082^{\circ}\text{E}$
H = 03:32:35.3, M = 2.6

KSP $\Delta = 76.2\text{km}$
 Pg eNEZ 03 32 47.8
 Sg eNEZ 32 57.0

AUG 16

$\phi = 51.513^{\circ}\text{N}$, $\lambda = 16.082^{\circ}\text{E}$
H = 08:44:41.1, M = 3.1

KSP $\Delta = 76.2\text{km}$
 Pg eNEZ 08 44 53.6
 Sg eNEZ 45 02.3

RAC $\Delta = 218.4\text{km}$
 P eZ 08 45 18.9
 S eN 45 43.7

OJC $\Delta = 299.3\text{km}$
 Pg eZ 08 45 30.5
 Sg iN 46 06.4

AUG 16

$\phi = 51.513^{\circ}\text{N}$, $\lambda = 16.084^{\circ}\text{E}$
H = 09:47:59.1, M = 2.8

KSP $\Delta = 76.2\text{km}$
 Pg iNEZ 09 48 11.6
 Sg eNEZ 48 20.5

OJC $\Delta = 299.2\text{km}$
 Pg eZ 09 48 49.6
 Sg iN 49 24.5

AUG 17

$\phi = 51.501^{\circ}\text{N}$, $\lambda = 16.087^{\circ}\text{E}$
H = 08:37:21.5, M = 3.0

KSP $\Delta = 74.8\text{km}$
 Pg eNEZ 08 37 33.8
 Sg eNEZ 37 42.5

OJC $\Delta = 298.4\text{km}$
 Pg eZ 08 38 11.3
 Sg eN 38 46.6

AUG 20

$\phi = 51.564^{\circ}\text{N}$, $\lambda = 16.008^{\circ}\text{E}$
H = 00:19:10.7, M = 2.6

KSP $\Delta = 82.9\text{km}$
 Pg eNEZ 00 19 24.3
 Sg eNEZ 19 34.3

AUG 20

$\phi = 51.537^{\circ}\text{N}$, $\lambda = 16.090^{\circ}\text{E}$
H = 03:43:41.3, M = 2.7

KSP $\Delta = 78.7\text{km}$
 Pg eNEZ 03 43 54.2
 Sg eNEZ 44 03.7

AUG 20

$\phi = 51.536^{\circ}\text{N}$, $\lambda = 16.094^{\circ}\text{E}$
H = 03:47:52.7, M = 2.6

KSP $\Delta = 78.6\text{km}$
 Pg eNEZ 03 48 05.6
 Sg eNEZ 48 15.1

AUG 20

$\phi = 51.450^{\circ}\text{N}$, $\lambda = 16.166^{\circ}\text{E}$
H = 10:11:21.1, M = 2.8

KSP $\Delta = 68.3\text{km}$
 Pg eNEZ 10 11 32.3
 Sg eNEZ 11 40.5

AUG 22

$\phi = 51.485^{\circ}\text{N}$, $\lambda = 16.095^{\circ}\text{E}$
H = 03:47:40.4, M = 2.6

KSP $\Delta = 73.0\text{km}$
 Pg eNEZ 03 47 52.4
 Sg eNEZ 48 01.1

OJC $\Delta = 297.1\text{km}$
 Pg eZ 03 48 30.5
 Sg eN 49 05.4

AUG 24

$\phi = 51.466^{\circ}\text{N}$, $\lambda = 16.110^{\circ}\text{E}$
H = 04:46:50.3, M = 2.7

KSP $\Delta = 70.7\text{km}$
 Pg eNEZ 04 47 01.9
 Sg eNEZ 48 10.0

OJC $\Delta = 295.2\text{km}$
 Pg eZ 04 47 41.4
 Sg eE 48 15.1

AUG 24

$\phi = 51.501^{\circ}\text{N}$, $\lambda = 16.087^{\circ}\text{E}$
H = 13:14:15.8, M = 2.7

KSP $\Delta = 74.8\text{km}$
 Pg eNEZ 13 14 28.1
 Sg eNEZ 14 37.2

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AUG 25

**$\phi = 51.473^{\circ}\text{N}$, $\lambda = 16.119^{\circ}\text{E}$
H = 06:55:11.1, M = 3.6**

KSP $\Delta = 71.3\text{km}$
 Pg iNEZ 06 55 22.8
 Sg iNEZ 55 31.4

RAC $\Delta = 213.4\text{km}$
 P eZ 06 55 46.7
 S eNE 56 13.4

OJC $\Delta = 295.0\text{km}$
 Pn eZ 06 55 51.5
 Pg iZ 56 01.3
 Sn eE 56 22.6
 Sg iE 56 36.5

NIE $\Delta = 376.3\text{km}$
 P eZ 06 56 03.0
 S eN 56 58.2

KWP $\Delta = 511.0\text{km}$
 Pn eZ 06 56 19.7
 Pg iZ 56 33.8
 Sn eNE 57 14.4
 Sg eNE 57 37.9

SUW $\Delta = 555.5\text{km}$
 Pg eZ 06 56 49.0

AUG 25

**$\phi = 51.448^{\circ}\text{N}$, $\lambda = 16.162^{\circ}\text{E}$
H = 07:15:44.4, M = 2.6**

KSP $\Delta = 68.1\text{km}$
 Pg eNEZ 07 15 55.6
 Sg eNEZ 16 04.1

AUG 25

**$\phi = 51.500^{\circ}\text{N}$, $\lambda = 16.087^{\circ}\text{E}$
H = 07:52:43.0, M = 2.9**

KSP $\Delta = 74.7\text{km}$
 Pg eNEZ 07 52 55.3
 Sg iNEZ 53 04.2

OJC $\Delta = 298.4\text{km}$
 Pg eZ 07 53 35.2
 Sg eN 54 09.3

AUG 27

**$\phi = 51.531^{\circ}\text{N}$, $\lambda = 16.136^{\circ}\text{E}$
H = 00:34:40.4, M = 2.9**

KSP $\Delta = 77.6\text{km}$
 Pg eNEZ 00 34 53.1
 Sg eNEZ 35 02.2

RAC $\Delta = 217.3\text{km}$
 P eZ 00 35 16.7
 S eE 35 41.4

OJC $\Delta = 296.9\text{km}$
 Pg eZ 00 35 29.9
 Sg eN 36 05.1

AUG 27

**$\phi = 51.548^{\circ}\text{N}$, $\lambda = 16.054^{\circ}\text{E}$
H = 18:09:17.8, M = 3.0**

KSP $\Delta = 80.4\text{km}$
 Pg eNEZ 18 09 31.0
 Sg eNEZ 09 40.5

OJC $\Delta = 302.9\text{km}$
 Pg eZ 18 10 07.9
 Sg eE 10 43.7

KWP $\Delta = 518.2\text{km}$
 Pn eZ 18 10 43.6

AUG 27

**$\phi = 51.451^{\circ}\text{N}$, $\lambda = 16.083^{\circ}\text{E}$
H = 18:34:57.8, M = 2.6**

KSP $\Delta = 69.4\text{km}$
 Pg eNEZ 18 35 09.2
 Sg eNEZ 35 17.5

OJC $\Delta = 296.1\text{km}$
 Pg eZ 18 35 48.7
 Sg eN 36 23.8

AUG 29

**$\phi = 51.484^{\circ}\text{N}$, $\lambda = 16.097^{\circ}\text{E}$
H = 03:34:40.5, M = 3.6**

KSP $\Delta = 72.8\text{km}$
 Pg iNEZ 03 34 52.4
 Sg iNEZ 35 01.1

RAC $\Delta = 215.4\text{km}$
 Pn eZ 03 35 12.4
 eZ 35 15.5
 Sn eN 35 36.1
 eNE 35 41.5

GKP $\Delta = 213.9\text{km}$
 Pn eZ 03 35 13.9
 S eE 35 43.3

OJC $\Delta = 296.9\text{km}$
 Pn eZ 03 35 21.3

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	Pg eZ	35	30.3
	Sg eN	36	05.2
NIE	$\Delta = 378.3\text{km}$		
	Pn eZ	03	35 32.2
	eZ	35	42.1
	S eN	36	28.3
KWP	$\Delta = 512.8\text{km}$		
	Pn eZ	03	35 49.6
	Pg eZ	36	04.5
	Sn eNE	36	37.8
	Sg eNE	37	14.5
SUW	$\Delta = 556.1\text{km}$		
	Pn eZ	03	35 55.9
	Pg eZ	36	19.6
	Sn eNE	36	52.1
	Sg eNE	37	23.2

AUG 29

$\phi = 51.471^\circ\text{N}$, $\lambda = 16.031^\circ\text{E}$
H = 23:01:51.4, M = 2.9

KSP	$\Delta = 72.4\text{km}$		
	Pg eNEZ	23	02 03.3
	Sg eNEZ	02	12.2
OJC	$\Delta = 300.4\text{km}$		
	Pg eZ	23	02 44.2
	Sg eN	03	18.6

AUG 30

$\phi = 51.476^\circ\text{N}$, $\lambda = 16.030^\circ\text{E}$
H = 12:50:54.5, M = 2.7

KSP	$\Delta = 73.0\text{km}$		
	Pg eNEZ	12	51 06.5
	Sg eNEZ	51	14.1

AUG 30

$\phi = 51.539^\circ\text{N}$, $\lambda = 16.056^\circ\text{E}$
H = 22:41:05.1, M = 2.7

KSP	$\Delta = 79.4\text{km}$		
	Pg eNEZ	22	41 18.1
	Sg eNEZ	41	27.9

SEP 2

$\phi = 51.514^\circ\text{N}$, $\lambda = 16.125^\circ\text{E}$
H = 05:24:55.0, M = 3.9

KSP	$\Delta = 75.8\text{km}$		
	Pg iNEZ	05	25 07.4
	Sg iNEZ	25	16.0

RAC	$\Delta = 216.4\text{km}$		
	Pn eZ	05	25 26.4

	eZ	25	30.6
	S eNE	25	56.4
GKP	$\Delta = 210.1\text{km}$		
	Pn eZ	05	25 27.6
	S eE	25	56.6
OJC	$\Delta = 296.7\text{km}$		
	Pn eZ	05	25 35.7
	Pg iZ	25	45.4
	Sg iE	26	19.7
NIE	$\Delta = 378.7\text{km}$		
	Pn eZ	05	25 46.9
	eZ	26	00.3
	S eE	26	42.6
KWP	$\Delta = 512.2\text{km}$		
	Pn eZ	05	26 03.6
	Pg eZ	26	18.5
	Sn eNE	27	26.6
	Sg eNE	27	46.6

SUW	$\Delta = 552.6\text{km}$		
	Pn eZ	05	26 08.8
	Pg eZ	26	28.3
	Sn eNE	27	04.1

SEP 2

$\phi = 51.450^\circ\text{N}$, $\lambda = 16.165^\circ\text{E}$
H = 07:02:16.3, M = 2.6

KSP	$\Delta = 68.3\text{km}$		
	Pg eNEZ	07	02 27.9
	Sg eNEZ	02	36.1

SEP 2

$\phi = 51.518^\circ\text{N}$, $\lambda = 16.057^\circ\text{E}$
H = 12:23:05.9, M = 3.1

KSP	$\Delta = 77.1\text{km}$		
	Pg eNEZ	12	23 18.5
	Sg eNEZ	23	27.4

OJC	$\Delta = 301.1\text{km}$		
	Pn eZ	12	23 47.5
	Pg eZ	23	56.6
	Sn eN	24	19.3
	Sg eN	24	31.6

KWP	$\Delta = 516.8\text{km}$		
	Pn eZ	12	24 31.8
	Sn eNE	25	33.5

SEP 2

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$\varphi = 51.455^{\circ}\text{N}$, $\lambda = 16.076^{\circ}\text{E}$
H = 13:58:28.9, M = 2.6

KSP $\Delta = 70.0\text{km}$
 Pg eNEZ 13 58 40.4
 Sg eNEZ 58 48.9

SEP 3

$\varphi = 51.504^{\circ}\text{N}$, $\lambda = 16.087^{\circ}\text{E}$
H = 03:48:45.7, M = 3.1

KSP $\Delta = 75.1\text{km}$
 Pg iNEZ 03 48 58.0
 Sg iNEZ 49 07.1

RAC $\Delta = 217.5\text{km}$
 P eZ 03 49 21.3
 S eN 49 47.9

GKP $\Delta = 212.1\text{km}$
 P eZ 03 49 25.1
 S eE 49 47.7

OJC $\Delta = 298.6\text{km}$
 Pg eZ 03 49 35.3
 Sg eN 50 10.9

KWP $\Delta = 514.3\text{km}$
 P eZ 03 50 09.8
 Sg eNE 51 28.1

SEP 3

$\varphi = 51.510^{\circ}\text{N}$, $\lambda = 16.063^{\circ}\text{E}$
H = 08:59:40.2, M = 2.7

KSP $\Delta = 76.1\text{km}$
 Pg eNEZ 08 59 52.7
 Sg eNEZ 09 00 02.1

OJC $\Delta = 300.3\text{km}$
 Pg eZ 09 00 30.3
 Sg eE 01 06.4

SEP 3

$\varphi = 51.535^{\circ}\text{N}$, $\lambda = 16.087^{\circ}\text{E}$
H = 18:24:47.7, M = 2.7

KSP $\Delta = 78.6\text{km}$
 Pg iNEZ 18 25 00.6
 Sg eNEZ 25 09.7

OJC $\Delta = 300.2\text{km}$
 Pg eZ 18 25 38.2
 Sg eN 26 13.1

SEP 4

$\varphi = 51.448^{\circ}\text{N}$, $\lambda = 16.162^{\circ}\text{E}$
H = 02:27:54.3, M = 2.7

KSP $\Delta = 68.1\text{km}$
 Pg eNEZ 02 28 05.5
 Sg eNEZ 28 13.3

SEP 4

$\varphi = 51.556^{\circ}\text{N}$, $\lambda = 16.098^{\circ}\text{E}$
H = 13:00:53.1, M = 2.7

KSP $\Delta = 80.7\text{km}$
 Pg eNEZ 13 01 06.3
 Sg eNEZ 01 15.9

SEP 4

$\varphi = 51.500^{\circ}\text{N}$, $\lambda = 16.088^{\circ}\text{E}$
H = 21:40:30.6, M = 2.6

KSP $\Delta = 74.7\text{km}$
 Pg eNEZ 21 40 42.8
 Sg eNEZ 40 51.0

SEP 4

$\varphi = 51.564^{\circ}\text{N}$, $\lambda = 16.007^{\circ}\text{E}$
H = 23:32:06.9, M = 2.7

KSP $\Delta = 82.9\text{km}$
 Pg eNEZ 23 32 20.5
 Sg eNEZ 32 30.7

SEP 6

$\varphi = 51.520^{\circ}\text{N}$, $\lambda = 16.060^{\circ}\text{E}$
H = 15:51:13.7, M = 2.9

KSP $\Delta = 77.3\text{km}$
 Pg eNEZ 15 51 26.4
 Sg eNEZ 51 35.5

OJC $\Delta = 301.0\text{km}$
 Pg eZ 15 52 03.3
 (Sg) eN 52 39.1

SEP 6

$\varphi = 51.518^{\circ}\text{N}$, $\lambda = 16.082^{\circ}\text{E}$
H = 20:22:52.3, M = 2.6

KSP $\Delta = 76.7\text{km}$
 Pg eNEZ 20 23 04.9
 Sg eNEZ 23 13.4

SEP 7

$\varphi = 51.447^{\circ}\text{N}$, $\lambda = 16.117^{\circ}\text{E}$
H = 03:47:56.6, M = 2.7

KSP $\Delta = 68.5\text{km}$
 Pg iNEZ 03 48 07.8

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	Sg eNEZ	48	16.2
OJC	$\Delta = 293.8\text{km}$		
	Pg eZ	03	48 46.6
	Sg eN	49	21.2
<u>SEP 7</u>			
	$\varphi = 51.525^\circ\text{N}, \lambda = 16.050^\circ\text{E}$		
	$H = 13:58:17.8, M = 2.6$		
KSP	$\Delta = 78.0\text{km}$		
	Pg eNZ	13	58 30.6
	Sg eNEZ	58	39.9
<u>SEP 8</u>			
	$\varphi = 51.564^\circ\text{N}, \lambda = 16.008^\circ\text{E}$		
	$H = 20:36:49.3, M = 2.6$		
KSP	$\Delta = 82.9\text{km}$		
	Pg eNZ	20	37 02.9
	Sg iNEZ	37	12.9
<u>SEP 9</u>			
	$\varphi = 51.505^\circ\text{N}, \lambda = 16.085^\circ\text{E}$		
	$H = 03:31:04.3, M = 2.6$		
KSP	$\Delta = 75.3\text{km}$		
	Pg eNEZ	03	31 16.6
	Sg eNEZ	31	25.8
OJC	$\Delta = 298.7\text{km}$		
	Pg eZ	03	31 54.6
	Sg eN	32	30.3
<u>SEP 9</u>			
	$\varphi = 51.491^\circ\text{N}, \lambda = 16.100^\circ\text{E}$		
	$H = 20:52:41.9, M = 3.9$		
KSP	$\Delta = 73.5\text{km}$		
	Pg iNEZ	20	52 54.0
	Sg eNEZ	53	02.6
RAC	$\Delta = 215.8\text{km}$		
	Pn eZ	20	53 13.8
	eZ		53 17.3
	S eNE		53 42.5
GKP	$\Delta = 213.1\text{km}$		
	Pn eZ	20	53 15.3
	S eE		53 44.4
OJC	$\Delta = 297.1\text{km}$		
	Pn eZ	20	53 22.8
	Pg iZ		53 31.5
	Sn iN		53 55.1
	Sg eEZ		54 07.4
NIE	$\Delta = 378.6\text{km}$		
	Pn eZ	20	53 32.7
	iZ		53 46.6
	S eN		54 29.4

KWP	$\Delta = 512.9\text{km}$		
	Pn eZ	20	53 51.6
	Pg eZ		54 05.7 c
SUW	$\Delta = 555.5\text{km}$		
	Pn eZ	20	53 56.3
	Sn eNE		54 52.8

SEP 9
 $\varphi = 51.496^\circ\text{N}, \lambda = 16.100^\circ\text{E}$
 $H = 22:02:07.1, M = 3.0$

KSP	$\Delta = 74.1\text{km}$		
	Pg eNEZ	22	02 19.2
	Sg iNEZ		02 28.1

RAC	$\Delta = 216.2\text{km}$		
	P eZ	22	02 42.3
	S eNE		03 08.3

OJC	$\Delta = 297.3\text{km}$		
	Pg eZ	22	02 55.9
	Sn eN		03 20.6
	Sg eN		03 31.6

SEP 10
 $\varphi = 51.49^\circ\text{N}, \lambda = 16.05^\circ\text{E}$
 $H = 04:06:06, M = 3.2$

KSP	$\Delta = 74\text{km}$		
	Pg iNEZ	04	06 18.4
	Sg eNEZ		06 26.1

RAC	$\Delta = 218\text{km}$		
	P eZ	04	06 42.8
	S eN		07 08.5

OJC	$\Delta = 300\text{km}$		
	Pn eZ	04	06 47.9
	Pg eZ		06 56.3
	Sn eN		07 20.3
	Sg eN		07 31.9

SEP 10
 $\varphi = 51.472^\circ\text{N}, \lambda = 16.030^\circ\text{E}$
 $H = 09:04:56.4, M = 2.8$

KSP	$\Delta = 72.6\text{km}$		
	Pg eNEZ	09	05 08.3
	Sg iNEZ		05 17.2

SEP 10
 $\varphi = 51.449^\circ\text{N}, \lambda = 16.162^\circ\text{E}$
 $H = 21:26:24.7, M = 3.2$

KSP	$\Delta = 68.2\text{km}$		
	Pg iNEZ	21	26 35.9
	Sg eNEZ		26 43.7

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RAC $\Delta = 209.4\text{km}$
 P eZ 21 26 58.7
 S eNE 27 23.4

OJC $\Delta = 291.1\text{km}$
 Pg eZ 21 27 13.7
 Sg eN 27 48.7

KWP $\Delta = 507.2\text{km}$
 Pn eZ 21 27 34.0
 Pg eZ 27 54.4
 Sg eNE 28 50.2

SEP 11

$\varphi = 51.556^\circ\text{N}, \lambda = 16.098^\circ\text{E}$
H = 00:38:22.4, M = 3.5

KSP $\Delta = 80.7\text{km}$
 Pg iNEZ 00 38 35.6
 Sg iNEZ 38 45.3

RAC $\Delta = 221.1\text{km}$
 P eZ 00 38 58.5
 S eNE 39 24.5

OJC $\Delta = 300.6\text{km}$
 Pn eZ 00 39 05.2
 Pg eZ 39 13.1
 Sg eE 39 48.0

NIE $\Delta = 383.0\text{km}$
 Pn eZ 00 39 17.2
 eZ 39 26.9
 S eE 40 09.2

KWP $\Delta = 515.7\text{km}$
 Pn eZ 00 39 31.7
 Pg eZ 39 51.1
 Sg eNE 40 58.7

SEP 11

$\varphi = 51.479^\circ\text{N}, \lambda = 16.076^\circ\text{E}$
H = 04:11:00.6, M = 2.9

KSP $\Delta = 72.6\text{km}$
 Pg iNEZ 04 11 12.5
 Sg eNEZ 11 21.0

OJC $\Delta = 298.0\text{km}$
 Pg eZ 04 11 51.2
 Sg eN 12 26.0

SEP 11

$\varphi = 51.556^\circ\text{N}, \lambda = 16.098^\circ\text{E}$
H = 07:04:29.2, M = 2.6

KSP $\Delta = 80.7\text{km}$
 Pg eNEZ 07 04 42.4
 Sg eNEZ 04 52.0

SEP 12

$\varphi = 51.513^\circ\text{N}, \lambda = 16.081^\circ\text{E}$
H = 03:36:50.2, M = 2.7

KSP $\Delta = 76.2\text{km}$
 Pg eNZ 03 37 02.7
 Sg eNEZ 37 11.6

OJC $\Delta = 299.4\text{km}$
 Pg eZ 03 37 44.7
 Sg eN 38 19.5

SEP 12

$\varphi = 51.46^\circ\text{N}, \lambda = 16.13^\circ\text{E}$
H = 11:41:43, M = 2.8

KSP $\Delta = 70\text{km}$
 Pg iNEZ 11 41 54.5
 Sg eNEZ 42 01.9

OJC $\Delta = 294\text{km}$
 Pg eNZ 11 42 32.7
 Sg eN 43 07.5

SEP 12

$\varphi = 51.460^\circ\text{N}, \lambda = 16.132^\circ\text{E}$
H = 13:35:42.0, M = 2.8

KSP $\Delta = 69.7\text{km}$
 Pg iNEZ 13 35 53.4
 Sg eNEZ 36 00.8

OJC $\Delta = 293.5\text{km}$
 Pg eZ 13 36 32.2
 Sg eE 37 06.7

SEP 14

$\varphi = 51.448^\circ\text{N}, \lambda = 16.163^\circ\text{E}$
H = 06:59:24.1, M = 2.8

KSP $\Delta = 68.1\text{km}$
 Pg eNEZ 06 59 35.3
 Sg eNEZ 59 42.5

SEP 15

$\varphi = 51.451^\circ\text{N}, \lambda = 16.084^\circ\text{E}$
H = 02:16:27.9, M = 2.7

KSP $\Delta = 69.4\text{km}$
 Pg eNEZ 02 16 39.3
 Sg eNEZ 16 47.5

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SEP 15

**$\phi = 51.449^{\circ}\text{N}$, $\lambda = 16.159^{\circ}\text{E}$
H = 06:12:09.5, M = 2.9**

KSP $\Delta = 68.3\text{km}$
 Pg eNEZ 06 12 20.7
 Sg iNEZ 12 29.0

OJC $\Delta = 291.3\text{km}$
 Pg eZ 06 12 58.3
 Sg eE 13 34.2

SEP 15

**$\phi = 51.490^{\circ}\text{N}$, $\lambda = 16.095^{\circ}\text{E}$
H = 16:13:14.3, M = 2.7**

KSP $\Delta = 73.5\text{km}$
 Pg eNEZ 16 13 26.4
 Sg eNEZ 13 35.2

SEP 16

**$\phi = 51.531^{\circ}\text{N}$, $\lambda = 16.085^{\circ}\text{E}$
H = 15:40:48.5, M = 2.8**

KSP $\Delta = 78.2\text{km}$
 Pg eNEZ 15 41 01.3
 Sg eNEZ 41 10.6

OJC $\Delta = 300.1\text{km}$
 Pg eZ 15 41 38.5
 Sg eN 42 13.8

SEP 16

**$\phi = 51.501^{\circ}\text{N}$, $\lambda = 16.088^{\circ}\text{E}$
H = 18:03:09.7, M = 2.8**

KSP $\Delta = 74.8\text{km}$
 Pg eNEZ 18 03 22.0
 Sg iNEZ 03 30.8

OJC $\Delta = 298.3\text{km}$
 Pg eZ 18 03 59.8
 Sg eN 04 35.4

SEP 17

**$\phi = 51.500^{\circ}\text{N}$, $\lambda = 16.085^{\circ}\text{E}$
H = 00:49:41.4, M = 2.6**

KSP $\Delta = 74.8\text{km}$
 Pg eNEZ 00 49 53.7
 Sg eNEZ 50 02.5

OJC $\Delta = 298.5\text{km}$
 Pg eZ 00 50 30.5
 Sg eE 51 05.4

SEP 18

**$\phi = 51.495^{\circ}\text{N}$, $\lambda = 16.104^{\circ}\text{E}$
H = 22:22:34.7, M = 2.6**

KSP $\Delta = 73.9\text{km}$
 Pg eNEZ 22 22 46.8
 Sg eNEZ 22 55.7

SEP 19

**$\phi = 51.495^{\circ}\text{N}$, $\lambda = 16.105^{\circ}\text{E}$
H = 10:19:56.1, M = 2.6**

KSP $\Delta = 73.9\text{km}$
 Pg eNEZ 10 20 08.2
 Sg eNEZ 20 16.7

OJC $\Delta = 297.0\text{km}$
 Pg eZ 10 20 45.5
 Sg eN 21 19.9

SEP 20

**$\phi = 51.448^{\circ}\text{N}$, $\lambda = 16.163^{\circ}\text{E}$
H = 05:12:56.0, M = 2.7**

KSP $\Delta = 68.1\text{km}$
 Pg eNEZ 05 13 07.2
 Sg eNEZ 13 15.4

OJC $\Delta = 291.0\text{km}$
 Pg eZ 05 13 44.1
 Sg eN 14 19.1

SEP 20

**$\phi = 51.563^{\circ}\text{N}$, $\lambda = 16.008^{\circ}\text{E}$
H = 16:20:28.5, M = 2.8**

KSP $\Delta = 82.8\text{km}$
 Pg eNEZ 16 20 42.1
 Sg eNEZ 20 51.9

SEP 22

**$\phi = 51.503^{\circ}\text{N}$, $\lambda = 16.092^{\circ}\text{E}$
H = 05:50:37.1, M = 3.1**

KSP $\Delta = 75.0\text{km}$
 Pg eNEZ 05 50 49.4
 Sg eNEZ 50 58.2

OJC $\Delta = 298.2\text{km}$
 Pg iZ 05 51 27.3
 Sg iE 52 02.4

SEP 22

**$\phi = 51.474^{\circ}\text{N}$, $\lambda = 16.105^{\circ}\text{E}$
H = 09:38:33.5, M = 2.6**

KSP $\Delta = 71.6\text{km}$
 Pg iNEZ 09 38 45.2
 Sg eNEZ 38 53.7

SEP 22

$\phi = 51.506^{\circ}\text{N}$, $\lambda = 16.090^{\circ}\text{E}$

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H = 11:36:59.5, M = 2.7

KSP $\Delta = 75.3\text{km}$
Pg eNEZ 11 37 11.9
Sg eNEZ 37 20.9

OJC $\Delta = 298.5\text{km}$
Pg eZ 11 37 49.5
Sg eN 38 25.2

SEP 22

**$\phi = 51.542^\circ\text{N}$, $\lambda = 16.129^\circ\text{E}$
H = 15:35:08.8, M = 3.5**

KSP $\Delta = 78.8\text{km}$
Pg iNEZ 15 35 21.7
Sg eNEZ 35 30.7

RAC $\Delta = 218.5\text{km}$
P eZ 15 35 45.1
S eNE 36 10.8

OJC $\Delta = 297.9\text{km}$
Pn eZ 15 35 50.0
Pg eZ 35 59.1
Sg eN 36 33.4

KWP $\Delta = 513.1\text{km}$
Pg eZ 15 36 34.0
Sg eNE 37 44.7

SEP 23

**$\phi = 51.517^\circ\text{N}$, $\lambda = 16.118^\circ\text{E}$
H = 03:46:18.1, M = 2.9**

KSP $\Delta = 76.2\text{km}$
Pg eNEZ 03 46 30.6
Sg eNEZ 46 39.6

OJC $\Delta = 297.3\text{km}$
Pg eZ 03 47 08.1
Sg eN 47 43.1

SEP 23

**$\phi = 51.486^\circ\text{N}$, $\lambda = 16.093^\circ\text{E}$
H = 06:59:24.8, M = 2.7**

KSP $\Delta = 73.1\text{km}$
Pg eNEZ 06 59 36.8
Sg eNEZ 59 45.4

OJC $\Delta = 297.3\text{km}$
Pg eZ 07 00 15.8
Sg eN 00 50.7

SEP 24

$\phi = 51.480^\circ\text{N}$, $\lambda = 16.078^\circ\text{E}$

H = 07:17:57.6, M = 3.2

KSP $\Delta = 72.6\text{km}$
Pg eNEZ 07 18 09.5
Sg eNEZ 18 17.9

RAC $\Delta = 216.0\text{km}$
P eZ 07 18 33.8
S eNE 18 59.4

OJC $\Delta = 297.9\text{km}$
Pn eZ 07 18 40.4
Pg eZ 18 48.3
Sg eN 19 23.2

SEP 25

**$\phi = 51.551^\circ\text{N}$, $\lambda = 16.055^\circ\text{E}$
H = 01:02:11.6, M = 2.7**

KSP $\Delta = 80.8\text{km}$
Pg eNEZ 01 02 24.8
Sg iNEZ 02 34.5

SEP 25

**$\phi = 51.510^\circ\text{N}$, $\lambda = 16.063^\circ\text{E}$
H = 15:48:11.5, M = 2.9**

KSP $\Delta = 76.1\text{km}$
Pg iNEZ 15 48 24.0
Sg eNEZ 48 32.8

SEP 26

**$\phi = 51.524^\circ\text{N}$, $\lambda = 16.110^\circ\text{E}$
H = 02:11:55.5, M = 3.5**

KSP $\Delta = 77.1\text{km}$
Pg iNEZ 02 12 08.0
Sg eNEZ 12 17.1

RAC $\Delta = 218.0\text{km}$
P eZ 02 12 31.4
S eNE 12 58.7

GKP $\Delta = 209.4\text{km}$
Pn eZ 02 12 28.3
eZ 12 31.6
S eE 12 57.7

OJC $\Delta = 298.2\text{km}$
Pn eZ 02 12 36.3
Pg iZ 12 45.1
Sg eE 13 20.5

NIE $\Delta = 380.2\text{km}$
Pn eZ 02 12 47.7
eZ 12 59.6
S eE 13 43.4

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KWP $\Delta = 513.6\text{km}$
 Pn eZ 02 13 03.6
 Pg eZ 13 19.3
 Sg eNE 14 32.3

SEP 26
 $\phi = 51.484^\circ\text{N}, \lambda = 16.097^\circ\text{E}$
 $H = 19:32:18.7, M = 2.7$

KSP $\Delta = 72.8\text{km}$
 Pg eNEZ 19 32 30.6
 Sg eNEZ 32 39.2

OJC $\Delta = 296.9\text{km}$
 Pg eZ 19 33 08.1
 Sg eE 33 43.6

SEP 28
 $\phi = 51.447^\circ\text{N}, \lambda = 16.165^\circ\text{E}$
 $H = 03:03:02.4, M = 2.7$

KSP $\Delta = 68.0\text{km}$
 Pg eNEZ 03 03 13.6
 Sg eNEZ 03 21.9

OJC $\Delta = 290.8\text{km}$
 Pg eZ 03 03 52.7
 Sg eE 04 26.5

SEP 28
 $\phi = 51.447^\circ\text{N}, \lambda = 16.163^\circ\text{E}$
 $H = 09:47:08.8, M = 2.8$

KSP $\Delta = 68.0\text{km}$
 Pg eNEZ 09 47 20.0
 Sg eNEZ 47 28.1

SEP 28
 $\phi = 51.448^\circ\text{N}, \lambda = 16.163^\circ\text{E}$
 $H = 09:47:43.3, M = 3.0$

KSP $\Delta = 68.1\text{km}$
 Pg iNEZ 09 47 54.5
 Sg eNEZ 48 02.6

OJC $\Delta = 291.0\text{km}$
 Pg eZ 09 48 32.1
 Sg eN 49 07.2

SEP 29
 $\phi = 51.487^\circ\text{N}, \lambda = 16.054^\circ\text{E}$
 $H = 04:03:37.8, M = 2.9$

KSP $\Delta = 73.8\text{km}$
 Pg eNEZ 04 03 49.9
 Sg eNEZ 03 58.4

OJC $\Delta = 299.7\text{km}$
 Pg eZ 04 04 27.5

Sg eE 05 03.8

SEP 29
 $\phi = 51.452^\circ\text{N}, \lambda = 16.084^\circ\text{E}$
 $H = 12:00:02.5, M = 2.6$

KSP $\Delta = 69.5\text{km}$
 Pg eNEZ 12 00 13.9
 Sg eNEZ 00 22.1

SEP 30
 $\phi = 51.472^\circ\text{N}, \lambda = 16.111^\circ\text{E}$
 $H = 01:06:33.6, M = 2.7$

KSP $\Delta = 71.3\text{km}$
 Pg eNEZ 01 06 45.3
 Sg eNEZ 06 53.3

SEP 30
 $\phi = 51.502^\circ\text{N}, \lambda = 16.091^\circ\text{E}$
 $H = 03:32:39.5, M = 2.7$

KSP $\Delta = 74.9\text{km}$
 Pg eNEZ 03 32 51.8
 Sg eNEZ 33 01.1

SEP 30
 $\phi = 51.562^\circ\text{N}, \lambda = 16.007^\circ\text{E}$
 $H = 20:36:41.8, M = 2.7$

KSP $\Delta = 82.7\text{km}$
 Pg eNEZ 20 36 55.4
 Sg eNEZ 37 05.1

OJC $\Delta = 306.5\text{km}$
 Pg eZ 20 37 34.2
 Sg eE 38 09.6

OCT 1
 $\phi = 51.473^\circ\text{N}, \lambda = 16.033^\circ\text{E}$
 $H = 06:45:03.1, M = 3.0$

KSP $\Delta = 72.6\text{km}$
 Pg eNEZ 06 45 15.0
 Sg eNEZ 45 23.8

OJC $\Delta = 300.4\text{km}$
 Pg eZ 06 45 53.9
 Sg eE 46 29.6

OCT 1

Lubin Copper Basin 2004

**$\phi = 51.563^{\circ}\text{N}$, $\lambda = 16.007^{\circ}\text{E}$
H = 15:00:52.4, M = 2.6**

KSP $\Delta = 82.8\text{km}$
 Pg eNEZ 15 01 06.0
 Sg eNEZ 01 16.0

OCT 2

**$\phi = 51.487^{\circ}\text{N}$, $\lambda = 16.094^{\circ}\text{E}$
H = 08:33:14.2, M = 2.6**

KSP $\Delta = 73.2\text{km}$
 Pg eNEZ 08 33 26.2
 Sg eNEZ 33 35.2

OCT 2

**$\phi = 51.459^{\circ}\text{N}$, $\lambda = 16.106^{\circ}\text{E}$
H = 12:57:00.7, M = 3.0**

KSP $\Delta = 70.0\text{km}$
 Pg eNEZ 12 57 12.2
 Sg eNEZ 57 20.7

OJC $\Delta = 295.1\text{km}$
 Pn eZ 12 57 42.8
 Pg iZ 57 50.6
 Sn eE 58 12.3
 Sg eN 58 25.9

OCT 3

**$\phi = 51.470^{\circ}\text{N}$, $\lambda = 16.036^{\circ}\text{E}$
H = 05:33:19.8, M = 2.9**

KSP $\Delta = 72.2\text{km}$
 Pg iNEZ 05 33 31.7
 Sg eNEZ 33 40.0

OJC $\Delta = 300.0\text{km}$
 Pn eZ 05 34 01.2
 Pg eZ 34 10.4
 Sg eN 34 46.3

OCT 4

**$\phi = 51.501^{\circ}\text{N}$, $\lambda = 16.088^{\circ}\text{E}$
H = 00:01:19.8, M = 2.6**

KSP $\Delta = 74.8\text{km}$
 Pg eNEZ 00 01 32.1
 Sg eNEZ 01 41.0

OCT 4

**$\phi = 51.452^{\circ}\text{N}$, $\lambda = 16.083^{\circ}\text{E}$
H = 10:03:47.1, M = 2.8**

KSP $\Delta = 69.5\text{km}$
 Pg eNEZ 10 03 58.5
 Sg eNEZ 04 06.5

OJC $\Delta = 296.2\text{km}$
 Pg eZ 10 04 34.8
 Sg eN 05 11.0

OCT 4

**$\phi = 51.52^{\circ}\text{N}$, $\lambda = 16.11^{\circ}\text{E}$
H = 16:02:19, M = 2.7**

KSP $\Delta = 77\text{km}$
 Pg eNEZ 16 02 32.1
 Sg eNEZ 02 41.1

OCT 5

**$\phi = 51.503^{\circ}\text{N}$, $\lambda = 16.090^{\circ}\text{E}$
H = 01:50:52.2, M = 2.7**

KSP $\Delta = 75.0\text{km}$
 Pg eNEZ 01 51 04.5
 Sg eNEZ 51 12.4

OCT 5

**$\phi = 51.539^{\circ}\text{N}$, $\lambda = 16.056^{\circ}\text{E}$
H = 15:19:32.3, M = 2.6**

KSP $\Delta = 79.4\text{km}$
 Pg eNEZ 15 19 45.3
 Sg eNEZ 19 54.7

OCT 5

**$\phi = 51.509^{\circ}\text{N}$, $\lambda = 15.993^{\circ}\text{E}$
H = 18:34:32.0, M = 2.7**

KSP $\Delta = 77.2\text{km}$
 Pg eNEZ 18 34 44.7
 Sg eNEZ 34 54.0

OCT 5

**$\phi = 51.451^{\circ}\text{N}$, $\lambda = 16.164^{\circ}\text{E}$
H = 22:30:37.1, M = 2.9**

KSP $\Delta = 68.4\text{km}$
 Pg eNEZ 22 30 48.3
 Sg eNEZ 30 56.7

OJC $\Delta = 291.1\text{km}$
 Pg eZ 22 31 26.7
 Sg eN 32 02.0

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OCT 6

$\phi = 51.564^{\circ}\text{N}$, $\lambda = 16.008^{\circ}\text{E}$
H = 09:30:16.6, M = 2.7

KSP $\Delta = 82.9\text{km}$
 Pg eNZ 09 30 30.2
 Sg eNEZ 30 40.2

OCT 6

$\phi = 51.448^{\circ}\text{N}$, $\lambda = 16.161^{\circ}\text{E}$
H = 17:30:18.3, M = 2.8

KSP $\Delta = 68.1\text{km}$
 Pg eNEZ 17 30 29.5
 Sg eNEZ 30 37.9

OJC $\Delta = 291.1\text{km}$
 Pg eZ 17 31 08.1
 Sg eN 31 43.3

OCT 7

$\phi = 51.539^{\circ}\text{N}$, $\lambda = 16.128^{\circ}\text{E}$
H = 15:31:04.4, M = 3.2

KSP $\Delta = 78.5\text{km}$
 Pg iNEZ 15 31 17.3
 Sg eNEZ 31 26.7

RAC $\Delta = 218.3\text{km}$
 P eZ 15 31 40.8
 S eN 32 08.4

OJC $\Delta = 297.8\text{km}$
 Pg eZ 15 31 54.9
 Sg eN 32 28.9

OCT 7

$\phi = 51.556^{\circ}\text{N}$, $\lambda = 16.098^{\circ}\text{E}$
H = 23:08:18.2, M = 3.5

KSP $\Delta = 80.7\text{km}$
 Pg iNEZ 23 08 31.4
 Sg eNEZ 08 41.0

RAC $\Delta = 221.1\text{km}$
 P eZ 23 08 54.4
 S eN 09 20.0

GKP $\Delta = 206.4\text{km}$
 P eZ 23 08 56.6
 S eE 09 19.0

OJC $\Delta = 300.6\text{km}$
 Pn eZ 23 09 01.0
 Pg eZ 09 09.1

Sg eNE 09 43.7

KWP $\Delta = 515.7\text{km}$
 Pn eZ 23 09 26.9
 Pg eZ 09 43.1
 Sg eNE 10 47.9

OCT 8

$\phi = 51.51^{\circ}\text{N}$, $\lambda = 16.03^{\circ}\text{E}$
H = 04:04:52, M = 2.8

KSP $\Delta = 77\text{km}$
 Pg iNEZ 04 05 04.9
 Sg eNEZ 05 13.9

OJC $\Delta = 302\text{km}$
 Pg eZ 04 05 43.7
 Sg eN 06 18.7

OCT 8

$\phi = 51.557^{\circ}\text{N}$, $\lambda = 16.099^{\circ}\text{E}$
H = 06:33:38.3, M = 2.8

KSP $\Delta = 80.8\text{km}$
 Pg eNEZ 06 33 51.6
 Sg eNEZ 34 01.2

OJC $\Delta = 300.6\text{km}$
 Pg eZ 06 34 29.2
 Sg eN 35 04.1

OCT 8

$\phi = 51.496^{\circ}\text{N}$, $\lambda = 16.100^{\circ}\text{E}$
H = 08:14:52.7, M = 2.9

KSP $\Delta = 74.1\text{km}$
 Pg eNEZ 08 15 04.8
 Sg eNEZ 15 13.4

OJC $\Delta = 297.3\text{km}$
 Pg eZ 08 15 42.3
 Sg eN 16 17.5

OCT 8

$\phi = 51.50^{\circ}\text{N}$, $\lambda = 16.09^{\circ}\text{E}$
H = 15:32:59, M = 2.9

KSP $\Delta = 75\text{km}$
 Pg eNEZ 15 33 11.1
 Sg eNEZ 33 20.4

OJC $\Delta = 298\text{km}$
 Pg eZ 15 33 48.5

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Sg eN 34 23.9

OCT 9

$\varphi = 51.45^\circ\text{N}$, $\lambda = 16.09^\circ\text{E}$
H = 04:30:31, M = 2.7

KSP $\Delta = 69\text{km}$
 Pg iPgc 04 30 42.2
 Sg eNEZ 30 50.6

OCT 9

$\varphi = 51.50^\circ\text{N}$, $\lambda = 16.14^\circ\text{E}$
H = 15:38:32, M = 4.0

KSP $\Delta = 74\text{km}$
 Pg iNEZ 15 38 44.5
 Sg eNEZ 38 53.6

RAC $\Delta = 215\text{km}$
 Pn eZ 15 39 03.9
 eZ 39 08.1
 Sn eNE 39 28.0
 eNE 39 33.5

GKP $\Delta = 211\text{km}$
 Pn eZ 15 39 05.0
 eZ 39 08.9
 S eE 39 34.8

OJC $\Delta = 295\text{km}$
 Pn eZ 15 39 13.1
 Pg iZ 39 21.8
 Sn eN 39 44.6
 Sg iE 39 57.7

KWP $\Delta = 511\text{km}$
 Pn eZ 15 39 41.0
 Pg eZ 40 01.5
 Sg eE 41 06.1

SUW $\Delta = 553\text{km}$
 Pn eZ 15 39 46.1
 Pg eZ 40 04.8
 Sn eNE 40 43.2
 Sg eNE 41 18.8

OCT 9

$\varphi = 51.501^\circ\text{N}$, $\lambda = 16.142^\circ\text{E}$
H = 17:06:15.0, M = 2.8

KSP $\Delta = 74.2\text{km}$
 Pg eNEZ 17 06 27.2
 Sg eNEZ 06 36.1

OJC $\Delta = 295.0\text{km}$
 (Pg) eZ 17 07 05.1

Sg eN 07 39.1

OCT 10

$\varphi = 51.484^\circ\text{N}$, $\lambda = 16.098^\circ\text{E}$
H = 04:57:52.2, M = 3.1

KSP $\Delta = 72.8\text{km}$
 Pg iNEZ 04 58 04.1
 Sg eNEZ 58 12.6

RAC $\Delta = 215.3\text{km}$
 P eZ 04 58 28.4
 S eN 58 53.6

OJC $\Delta = 296.9\text{km}$
 Pg eZ 04 58 42.2
 Sg eN 59 17.5

OCT 11

$\varphi = 51.562^\circ\text{N}$, $\lambda = 16.008^\circ\text{E}$
H = 14:08:19.0, M = 2.7

KSP $\Delta = 82.7\text{km}$
 Pg eNEZ 14 08 32.6
 Sg eNEZ 08 42.0

OCT 12

$\varphi = 51.450^\circ\text{N}$, $\lambda = 16.082^\circ\text{E}$
H = 08:26:31.4, M = 2.9

KSP $\Delta = 69.3\text{km}$
 Pg iNEZ 08 26 42.8
 Sg eNEZ 26 51.3

OJC $\Delta = 296.2\text{km}$
 Pg eZ 08 27 20.1
 Sg eN 27 56.2

OCT 12

$\varphi = 51.536^\circ\text{N}$, $\lambda = 16.090^\circ\text{E}$
H = 12:18:05.2, M = 2.6

KSP $\Delta = 78.6\text{km}$
 Pg eNEZ 12 18 18.1
 Sg eNEZ 18 27.1

OCT 12

$\varphi = 51.461^\circ\text{N}$, $\lambda = 16.107^\circ\text{E}$
H = 20:41:09.4, M = 2.6

KSP $\Delta = 70.2\text{km}$
 Pg iNEZ 20 41 20.9
 Sg eNEZ 41 29.8

OCT 13

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$\phi = 51.449^{\circ}\text{N}$, $\lambda = 16.083^{\circ}\text{E}$
H = 08:12:05.6, M = 2.7

KSP $\Delta = 69.2\text{km}$
 Pg eNEZ 08 12 17.0
 Sg iNEZ 12 25.2

OCT 13

$\phi = 51.47^{\circ}\text{N}$, $\lambda = 16.04^{\circ}\text{E}$
H = 14:28:45, M = 2.6

KSP $\Delta = 72\text{km}$
 Pg eNEZ 14 28 56.7
 Sg eNEZ 29 05.5

OCT 13

$\phi = 51.50^{\circ}\text{N}$, $\lambda = 16.09^{\circ}\text{E}$
H = 15:33:24, M = 2.7

KSP $\Delta = 75\text{km}$
 Pg eNEZ 15 33 36.8
 Sg eNEZ 33 46.2

OCT 14

$\phi = 51.50^{\circ}\text{N}$, $\lambda = 16.09^{\circ}\text{E}$
H = 03:40:04, M = 2.8

KSP $\Delta = 75\text{km}$
 Pg eNEZ 03 40 16.5
 Sg eNEZ 40 25.2

OJC $\Delta = 298\text{km}$
 Pn eZ 03 40 45.1
 Pg eZ 40 54.5
 Sn eN 41 17.7
 Sg eE 41 29.4

OCT 14

$\phi = 51.448^{\circ}\text{N}$, $\lambda = 16.163^{\circ}\text{E}$
H = 08:42:16.5, M = 2.8

KSP $\Delta = 68.1\text{km}$
 Pg eNEZ 08 42 27.7
 Sg eNEZ 42 36.0

OJC $\Delta = 291.0\text{km}$
 Pg eZ 08 43 06.4
 Sg eN 43 39.6

OCT 15

$\phi = 51.543^{\circ}\text{N}$, $\lambda = 16.131^{\circ}\text{E}$
H = 03:42:54.8, M = 2.7

KSP $\Delta = 78.9\text{km}$
 Pg eNEZ 03 43 07.7
 Sg eNEZ 43 16.8

OJC $\Delta = 297.9\text{km}$

Pg eZ 03 43 45.4
 Sg eN 44 21.8

OCT 16

$\phi = 51.452^{\circ}\text{N}$, $\lambda = 16.084^{\circ}\text{E}$
H = 07:44:28.6, M = 2.6

KSP $\Delta = 69.5\text{km}$
 Pg eNEZ 07 44 40.0
 Sg eNEZ 44 48.3

OCT 16

$\phi = 51.449^{\circ}\text{N}$, $\lambda = 16.118^{\circ}\text{E}$
H = 12:12:15.3, M = 2.8

KSP $\Delta = 68.7\text{km}$
 Pg iNEZ 12 12 26.6
 Sg eNEZ 12 34.0

OJC $\Delta = 293.9\text{km}$
 Pg eZ 12 13 05.5
 Sg eN 13 40.0

OCT 16

$\phi = 51.484^{\circ}\text{N}$, $\lambda = 16.097^{\circ}\text{E}$
H = 15:11:43.5, M = 2.8

KSP $\Delta = 72.8\text{km}$
 Pg eNEZ 15 11 55.4
 Sg eNEZ 12 04.0

OJC $\Delta = 296.9\text{km}$
 Pg eZ 15 12 34.9
 Sg eN 13 08.1

OCT 16

$\phi = 51.472^{\circ}\text{N}$, $\lambda = 16.106^{\circ}\text{E}$
H = 17:07:24.7, M = 2.8

KSP $\Delta = 71.4\text{km}$
 Pg iNEZ 17 07 36.4
 Sg eNEZ 07 38.1

OJC $\Delta = 295.8\text{km}$
 (Pg) eZ 17 08 16.0
 Sg eE 08 49.9

OCT 18

$\phi = 51.488^{\circ}\text{N}$, $\lambda = 16.053^{\circ}\text{E}$
H = 17:06:04.5, M = 2.7

KSP $\Delta = 73.9\text{km}$
 Pg eNEZ 17 06 16.6
 Sg iNEZ 06 25.4

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OJC $\Delta = 299.9\text{km}$
 Pg eZ 17 06 55.4
 Sg eE 07 30.6

OCT 19
 $\phi = 51.452^\circ\text{N}, \lambda = 16.084^\circ\text{E}$
 $H = 04:34:54.4, M = 2.8$

KSP $\Delta = 69.5\text{km}$
 Pg iNEZ 04 35 05.8
 Sg eNEZ 35 15.2

OJC $\Delta = 296.1\text{km}$
 Pg eZ 04 35 44.3
 Sg eN 36 18.5

KWP $\Delta = 512.4\text{km}$
 P eZ 04 36 27.3

OCT 19
 $\phi = 51.475^\circ\text{N}, \lambda = 16.032^\circ\text{E}$
 $H = 15:55:58.3, M = 2.7$

KSP $\Delta = 72.8\text{km}$
 Pg eNEZ 15 56 10.2
 Sg eNEZ 56 18.9

OCT 20
 $\phi = 51.448^\circ\text{N}, \lambda = 16.161^\circ\text{E}$
 $H = 11:14:22.6, M = 2.7$

KSP $\Delta = 68.1\text{km}$
 Pg eNEZ 11 14 33.8
 Sg eNEZ 14 42.2

OJC $\Delta = 291.1\text{km}$
 Pg eZ 11 15 11.3
 Sg eN 15 45.5

OCT 21
 $\phi = 51.487^\circ\text{N}, \lambda = 16.094^\circ\text{E}$
 $H = 08:32:00.2, M = 2.6$

KSP $\Delta = 73.2\text{km}$
 Pg eNEZ 08 33 12.2
 Sg eNEZ 33 21.0

OCT 21
 $\phi = 51.502^\circ\text{N}, \lambda = 16.092^\circ\text{E}$
 $H = 15:29:43.4, M = 2.6$

KSP $\Delta = 74.9\text{km}$
 Pg eNEZ 15 29 55.7
 Sg eNEZ 30 04.9

OCT 21
 $\phi = 51.503^\circ\text{N}, \lambda = 16.091^\circ\text{E}$
 $H = 23:46:15.5, M = 2.8$

KSP $\Delta = 75.0\text{km}$
 Pg eNEZ 23 46 27.8
 Sg eNEZ 46 36.8

OCT 22
 $\phi = 51.513^\circ\text{N}, \lambda = 16.084^\circ\text{E}$
 $H = 04:23:06.3, M = 3.0$

KSP $\Delta = 76.2\text{km}$
 Pg iNEZ 04 23 18.8
 Sg eNEZ 23 27.6

OJC $\Delta = 299.2\text{km}$
 Pg eZ 04 23 56.7
 Sg eN 24 31.6

OCT 22
 $\phi = 51.562^\circ\text{N}, \lambda = 16.007^\circ\text{E}$
 $H = 05:23:23.0, M = 2.8$

KSP $\Delta = 82.7\text{km}$
 Pg eNEZ 05 23 36.6
 Sg iNEZ 23 46.0

OCT 22
 $\phi = 51.56^\circ\text{N}, \lambda = 16.01^\circ\text{E}$
 $H = 19:09:13, M = 3.2$

KSP $\Delta = 82\text{km}$
 Pg iNEZ 19 09 27.0
 Sg iNEZ 09 36.6

RAC $\Delta = 226\text{km}$
 P eZ 19 09 50.8
 S eNE 10 17.2

OJC $\Delta = 306\text{km}$
 Pg eZ 19 10 03.8
 Sg eN 10 40.4

OCT 23
 $\phi = 51.532^\circ\text{N}, \lambda = 16.135^\circ\text{E}$
 $H = 16:00:47.6, M = 3.0$

KSP $\Delta = 77.7\text{km}$
 Pg iNEZ 16 01 00.3
 Sg eNEZ 01 09.4

OJC $\Delta = 297.0\text{km}$
 Pg eZ 16 01 37.0
 Sg eN 02 11.7

OCT 24

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$\phi = 51.406^{\circ}\text{N}$, $\lambda = 16.243^{\circ}\text{E}$
H = 09:27:05.5, M = 2.8

KSP $\Delta = 62.9\text{km}$
Pg eNEZ 09 27 15.8
Sg eNEZ 27 23.5

OJC $\Delta = 283.9\text{km}$
Pg eZ 09 27 53.5
Sg eN 28 27.7

OCT 24

$\phi = 51.532^{\circ}\text{N}$, $\lambda = 16.135^{\circ}\text{E}$
H = 23:39:44.4, M = 2.6

KSP $\Delta = 77.7\text{km}$
Pg eNEZ 23 39 57.1
Sg eNEZ 40 06.3

OCT 26

$\phi = 51.504^{\circ}\text{N}$, $\lambda = 16.092^{\circ}\text{E}$
H = 13:24:58.9, M = 2.8

KSP $\Delta = 75.1\text{km}$
Pg eNEZ 13 25 11.2
Sg eNEZ 25 20.1

OJC $\Delta = 298.2\text{km}$
Pg eZ 13 25 49.2
Sg eE 26 24.0

OCT 26

$\phi = 51.49^{\circ}\text{N}$, $\lambda = 16.05^{\circ}\text{E}$
H = 15:59:20, M = 3.1

KSP $\Delta = 74\text{km}$
Pg iNEZ 15 59 31.9 c
Sg eNEZ 59 39.5

OJC $\Delta = 300\text{km}$
Pg eZ 16 00 09.7
Sg eN 00 45.3

OCT 26

$\phi = 51.501^{\circ}\text{N}$, $\lambda = 16.087^{\circ}\text{E}$
H = 18:51:43.1, M = 2.6

KSP $\Delta = 74.8\text{km}$
Pg eNEZ 18 51 55.4
Sg eNEZ 52 04.2

OCT 27

$\phi = 51.448^{\circ}\text{N}$, $\lambda = 16.163^{\circ}\text{E}$
H = 01:51:04.6, M = 2.8

KSP $\Delta = 68.1\text{km}$
Pg iNEZc 01 51 15.8

Sg eNEZ 51 23.9

OCT 27

$\phi = 51.542^{\circ}\text{N}$, $\lambda = 16.127^{\circ}\text{E}$
H = 07:47:29.5, M = 2.6

KSP $\Delta = 78.9\text{km}$
Pg eNEZ 07 47 42.4
Sg eNEZ 47 51.7

OCT 27

$\phi = 51.539^{\circ}\text{N}$, $\lambda = 16.058^{\circ}\text{E}$
H = 12:07:42.9, M = 2.6

KSP $\Delta = 79.4\text{km}$
Pg eEZ 12 07 55.9
Sg eNEZ 08 05.2

OCT 27

$\phi = 51.542^{\circ}\text{N}$, $\lambda = 16.128^{\circ}\text{E}$
H = 20:19:30.2, M = 2.6

OJC $\Delta = 298.0\text{km}$
Pg eZ 20 20 17.5
Sg eN 20 54.0

OCT 28

$\phi = 51.50^{\circ}\text{N}$, $\lambda = 16.09^{\circ}\text{E}$
H = 15:30:53, M = 2.8

KSP $\Delta = 75\text{km}$
Pg eNEZ 15 31 05.6
Sg eNEZ 31 14.2

OJC $\Delta = 298\text{km}$
Pg eZ 15 31 42.9
Sg eN 32 19.5

OCT 29

$\phi = 51.494^{\circ}\text{N}$, $\lambda = 16.095^{\circ}\text{E}$
H = 15:58:34.6, M = 2.6

KSP $\Delta = 73.9\text{km}$
Pg eNEZ 15 58 46.7
Sg eNEZ 58 55.4

OCT 31

$\phi = 51.448^{\circ}\text{N}$, $\lambda = 16.162^{\circ}\text{E}$
H = 22:39:45.6, M = 2.7

KSP $\Delta = 68.1\text{km}$
Pg eNEZ 22 39 56.8
Sg eNEZ 40 05.0

NOV 2

$\phi = 51.460^{\circ}\text{N}$, $\lambda = 16.106^{\circ}\text{E}$
H = 17:07:24.7, M = 3.0

KSP $\Delta = 70.1\text{km}$
Pg iNEZ 17 07 36.2

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	Sg eNEZ	07 44.6			
OJC	$\Delta = 295.2\text{km}$				
	Pg eZ	17 08 15.2			
	Sg eN	08 50.2			
<u>NOV 2</u>					
	$\phi = 51.452^\circ\text{N}, \lambda = 16.084^\circ\text{E}$				
	$H = 18:32:41.8, M = 2.6$				
KSP	$\Delta = 69.5\text{km}$				
	Pg eNEZ	18 32 53.2			
	Sg eNEZ	33 01.6			
<u>NOV 3</u>					
	$\phi = 51.501^\circ\text{N}, \lambda = 16.088^\circ\text{E}$				
	$H = 12:58:50.7, M = 2.6$				
KSP	$\Delta = 74.8\text{km}$				
	Pg eNEZ	12 59 03.0			
	Sg eNEZ	59 12.0			
<u>NOV 3</u>					
	$\phi = 51.472^\circ\text{N}, \lambda = 16.029^\circ\text{E}$				
	$H = 14:03:24.5, M = 2.7$				
KSP	$\Delta = 72.6\text{km}$				
	Pg eNEZ	14 03 36.4			
	Sg eNEZ	03 45.4			
<u>NOV 4</u>					
	$\phi = 51.504^\circ\text{N}, \lambda = 16.087^\circ\text{E}$				
	$H = 17:40:48.6, M = 3.1$				
KSP	$\Delta = 75.1\text{km}$				
	Pg iNEZ	17 41 00.9			
	Sg eNEZ	41 09.9			
OJC	$\Delta = 298.6\text{km}$				
	Pg eZ	17 41 37.5			
	Sg eN	42 13.7			
KWP	$\Delta = 514.3\text{km}$				
	Pg eZ	17 42 12.9			
<u>NOV 4</u>					
	$\phi = 51.491^\circ\text{N}, \lambda = 16.097^\circ\text{E}$				
	$H = 22:45:12.1, M = 2.6$				
KSP	$\Delta = 73.6\text{km}$				
	Pg eNEZ	22 45 24.2			
	Sg eNEZ	45 33.1			
<u>NOV 5</u>					
	$\phi = 51.513^\circ\text{N}, \lambda = 16.081^\circ\text{E}$				
	$H = 10:43:36.9, M = 2.7$				
KSP	$\Delta = 76.2\text{km}$				
	Pg eNEZ	10 43 49.4			

	Sg eNEZ	43 58.3			
<u>NOV 6</u>					
	$\phi = 51.504^\circ\text{N}, \lambda = 16.090^\circ\text{E}$				
	$H = 01:08:13.6, M = 3.7$				
KSP	$\Delta = 75.1\text{km}$				
	Pg eNEZ	01 08 25.9			
	Sg eNEZ	08 35.0			
RAC	$\Delta = 217.3\text{km}$				
	Pn eZ	01 08 46.0			
	eZ	08 49.0			
	S eNE	09 14.7			
GKP	$\Delta = 212.0\text{km}$				
	Pn eZ	01 08 46.9			
	eZ	08 50.1			
	S eE	09 15.6			
OJC	$\Delta = 298.4\text{km}$				
	Pn eZ	01 08 56.5			
	Pg eZ	09 03.5			
	Sn eE	09 27.3			
	Sg iE	09 39.3			
KWP	$\Delta = 514.1\text{km}$				
	Pn eZ	01 09 23.9			
	Pg eZ	09 37.9			
	Sg eNE	10 39.6			
<u>NOV 6</u>					
	$\phi = 51.507^\circ\text{N}, \lambda = 16.091^\circ\text{E}$				
	$H = 02:06:02.2, M = 2.6$				
KSP	$\Delta = 75.4\text{km}$				
	Pg eNEZ	02 06 14.6			
	Sg eNEZ	06 23.7			
<u>NOV 6</u>					
	$\phi = 51.507^\circ\text{N}, \lambda = 16.091^\circ\text{E}$				
	$H = 02:07:16.1, M = 2.9$				
KSP	$\Delta = 75.4\text{km}$				
	Pg eNEZ	02 07 28.5			
	Sg eNEZ	07 37.7			
OJC	$\Delta = 298.5\text{km}$				
	Pg eZ	02 08 07.1			
	Sg eE	08 41.8			
<u>NOV 6</u>					
	$\phi = 51.54^\circ\text{N}, \lambda = 16.13^\circ\text{E}$				
	$H = 16:33:25, M = 2.6$				
KSP	$\Delta = 79\text{km}$				

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Pg eNEZ 16 33 37.5
Sg eNEZ 33 46.8

NOV 6

$\phi = 51.448^\circ\text{N}$, $\lambda = 16.162^\circ\text{E}$
H = 17:03:17.0, M = 2.8

KSP $\Delta = 68.1\text{km}$
Pg eNEZ 17 03 28.2
Sg eNEZ 03 36.4

OJC $\Delta = 291.1\text{km}$
(Pg) eZ 17 04 06.5
Sg eN 04 40.8

NOV 9

$\phi = 51.45^\circ\text{N}$, $\lambda = 16.16^\circ\text{E}$
H = 04:51:09, M = 2.7

KSP $\Delta = 68\text{km}$
Pg eNEZ 04 51 20.0
Sg eNEZ 51 28.1

NOV 13

$\phi = 51.447^\circ\text{N}$, $\lambda = 16.163^\circ\text{E}$
H = 04:57:21.0, M = 2.7

KSP $\Delta = 68.0\text{km}$
Pg iNEZ 04 57 32.1
Sg eNEZ 57 40.3

NOV 15

$\phi = 51.542^\circ\text{N}$, $\lambda = 16.133^\circ\text{E}$
H = 16:44:27.7, M = 2.7

KSP $\Delta = 78.8\text{km}$
Pg eNEZ 16 44 40.6
Sg eNEZ 44 49.9

NOV 16

$\phi = 51.496^\circ\text{N}$, $\lambda = 16.100^\circ\text{E}$
H = 07:13:16.2, M = 3.0

KSP $\Delta = 74.1\text{km}$
Pg eNEZ 07 13 28.3
Sg eNEZ 13 37.1

OJC $\Delta = 297.3\text{km}$
Pg eZ 07 14 05.8
Sg eN 14 41.0

NOV 16

$\phi = 51.452^\circ\text{N}$, $\lambda = 16.082^\circ\text{E}$
H = 07:25:03.6, M = 2.7

KSP $\Delta = 69.5\text{km}$

Pg eNEZ 07 25 15.0
Sg eNEZ 25 23.2

NOV 16

$\phi = 51.562^\circ\text{N}$, $\lambda = 16.007^\circ\text{E}$
H = 16:51:54.6, M = 2.6

KSP $\Delta = 82.7\text{km}$
Pg eNEZ 16 52 08.2
Sg eNEZ 52 17.9

NOV 17

$\phi = 51.446^\circ\text{N}$, $\lambda = 16.133^\circ\text{E}$
H = 03:45:49.4, M = 2.7

KSP $\Delta = 68.2\text{km}$
Pg eNEZ 03 46 00.6
Sg eNEZ 46 08.7

NOV 17

$\phi = 51.474^\circ\text{N}$, $\lambda = 16.104^\circ\text{E}$
H = 18:39:32.5, M = 2.8

KSP $\Delta = 71.6\text{km}$
Pg eNEZ 18 39 44.2
Sg eNEZ 39 52.6

NOV 17

$\phi = 51.447^\circ\text{N}$, $\lambda = 16.117^\circ\text{E}$
H = 19:25:39.0, M = 3.6

KSP $\Delta = 68.5\text{km}$
Pg iNEZ 19 25 50.2
Sg eNEZ 25 57.7

RAC $\Delta = 211.5\text{km}$
Pn eZ 19 26 10.2
eZ 26 14.5
S eNE 26 39.7

GKP $\Delta = 217.3\text{km}$
Pn eZ 19 26 12.8
eZ 26 15.7
S eE 26 43.4
eE 26 46.0

OJC $\Delta = 293.8\text{km}$
Pn eZ 19 26 19.9
Pg eZ 26 29.2
Sg eN 27 04.8

KWP $\Delta = 510.1\text{km}$
Pn eZ 19 26 49.0
Pg eZ 27 02.2
Sg eNE 28 10.0

Lubin Copper Basin 2004

NOV 17

$\phi = 51.525^{\circ}\text{N}$, $\lambda = 16.110^{\circ}\text{E}$
H = 23:07:19.7, M = 3.3

KSP $\Delta = 77.2\text{km}$
 Pg iNEZ 23 07 32.3
 Sg iNEZ 07 41.6

RAC $\Delta = 218.1\text{km}$
 P eZ 23 07 56.9
 S eNE 08 21.7

OJC $\Delta = 298.2\text{km}$
 Pg eZ 23 08 10.7
 Sg eN 08 45.1

NOV 18

$\phi = 51.526^{\circ}\text{N}$, $\lambda = 16.110^{\circ}\text{E}$
H = 03:40:23.7, M = 3.6

KSP $\Delta = 77.3\text{km}$
 Pg iNEZ 03 40 36.4
 Sg iNEZ 40 45.7

RAC $\Delta = 218.1\text{km}$
 Pn eZ 03 40 55.7
 eZ 41 00.0
 S eNE 41 25.7

GKP $\Delta = 209.2\text{km}$
 Pn eZ 03 40 56.2
 eZ 41 02.5

OJC $\Delta = 298.3\text{km}$
 Pn eZ 03 41 04.7
 Pg iZ 41 13.9
 Sn eN 41 31.8
 Sg iN 41 48.6

KWP $\Delta = 513.7\text{km}$
 Pn eZ 03 41 33.6
 Pg eZ 41 52.0
 Sg eNE 42 53.7

SUW $\Delta = 552.8\text{km}$
 Pn eZ 03 41 38.0
 Pg eZ 42 00.8
 Sn eN 42 35.8

NOV 18

$\phi = 51.525^{\circ}\text{N}$, $\lambda = 16.112^{\circ}\text{E}$
H = 04:14:46.8, M = 2.7

KSP $\Delta = 77.2\text{km}$
 Pg eNEZ 04 14 59.4
 Sg eNEZ 15 08.2

NOV 18

$\phi = 51.542^{\circ}\text{N}$, $\lambda = 16.130^{\circ}\text{E}$
H = 19:49:58.8, M = 2.7

KSP $\Delta = 78.8\text{km}$
 Pg eNEZ 19 50 11.7
 Sg eNEZ 50 20.4

NOV 19

$\phi = 51.450^{\circ}\text{N}$, $\lambda = 16.171^{\circ}\text{E}$
H = 20:08:39.4, M = 2.9

KSP $\Delta = 68.3\text{km}$
 Pg eNEZ 20 08 50.6
 Sg eNEZ 08 58.8

OJC $\Delta = 290.6\text{km}$
 Pg eZ 20 09 28.2
 Sg eN 10 02.7

NOV 20

$\phi = 51.557^{\circ}\text{N}$, $\lambda = 16.100^{\circ}\text{E}$
H = 00:22:36.6, M = 2.9

KSP $\Delta = 80.8\text{km}$
 Pg iNEZc 00 22 49.8
 Sg eNEZ 22 59.4

OJC $\Delta = 300.5\text{km}$
 Pg eZ 00 23 28.2
 Sg eE 24 02.9

NOV 20

$\phi = 51.50^{\circ}\text{N}$, $\lambda = 16.09^{\circ}\text{E}$
H = 04:33:27, M = 2.8

KSP $\Delta = 75\text{km}$
 Pg eNEZ 04 33 39.1
 Sg eNEZ 33 48.1

OJC $\Delta = 298\text{km}$
 (Pg) eZ 04 34 16.4
 (Sg) eN 34 53.0

NOV 20

$\phi = 51.542^{\circ}\text{N}$, $\lambda = 16.128^{\circ}\text{E}$
H = 14:14:17.3, M = 2.7

KSP $\Delta = 78.8\text{km}$
 Pg eNEZ 14 14 30.2
 Sg eNEZ 14 39.5

NOV 20

$\phi = 51.563^{\circ}\text{N}$, $\lambda = 16.006^{\circ}\text{E}$
H = 16:14:38.5, M = 2.7

KSP $\Delta = 82.8\text{km}$
 Pg eNEZ 16 14 52.1
 Sg eNEZ 15 02.0

NOV 20

$\phi = 51.537^{\circ}\text{N}$, $\lambda = 16.026^{\circ}\text{E}$
H = 16:47:33.3, M = 2.9

Lubin Copper Basin 2004

KSP $\Delta = 79.7\text{km}$
Pg eNEZ 16 47 46.4
Sg iNEZ 47 56.0

OJC $\Delta = 304.0\text{km}$
Pg eZ 16 48 23.6
Sg eN 48 59.8

NOV 21

**$\phi = 51.47^\circ\text{N}$, $\lambda = 16.03^\circ\text{E}$
 $H = 09:06:28$, $M = 2.6$**

KSP $\Delta = 72\text{km}$
Pg eNEZ 09 06 40.1
Sg eNEZ 06 48.9

NOV 21

**$\phi = 51.461^\circ\text{N}$, $\lambda = 16.083^\circ\text{E}$
 $H = 12:54:13.2$, $M = 2.9$**

KSP $\Delta = 70.5\text{km}$
Pg iNEZ 12 54 24.8
Sg iNEZ 54 33.4

OJC $\Delta = 296.6\text{km}$
Pg eZ 12 55 01.6
Sg eZ 55 38.5

NOV 23

**$\phi = 51.450^\circ\text{N}$, $\lambda = 16.170^\circ\text{E}$
 $H = 03:06:18.5$, $M = 2.7$**

KSP $\Delta = 68.3\text{km}$
Pg eNEZ 03 06 29.7
Sg eNEZ 06 38.1

NOV 23

**$\phi = 51.47^\circ\text{N}$, $\lambda = 16.11^\circ\text{E}$
 $H = 04:42:28$, $M = 2.9$**

OJC $\Delta = 295\text{km}$
(Pg) eZ 04 43 15.3
(Sg) eE 43 50.5

NOV 25

**$\phi = 51.448^\circ\text{N}$, $\lambda = 16.118^\circ\text{E}$
 $H = 02:28:24.0$, $M = 2.6$**

KSP $\Delta = 68.6\text{km}$
Pg eNEZ 02 28 35.2
Sg eNEZ 28 42.6

NOV 27

**$\phi = 51.465^\circ\text{N}$, $\lambda = 16.130^\circ\text{E}$
 $H = 08:58:32.3$, $M = 2.8$**

KSP $\Delta = 70.3\text{km}$
Pg eNEZ 08 58 43.8
Sg eNEZ 58 51.2

OJC $\Delta = 293.9\text{km}$
Pn eZ 08 59 14.3
Pg eZ 59 23.8
Sn eN 59 44.5
Sg eN 59 57.2

NOV 27

**$\phi = 51.496^\circ\text{N}$, $\lambda = 16.099^\circ\text{E}$
 $H = 14:31:28.8$, $M = 3.2$**

KSP $\Delta = 74.1\text{km}$
Pg eNEZ 14 31 41.0
Sg eNEZ 31 50.0

RAC $\Delta = 216.2\text{km}$
P eZ 14 32 07.8
S eNE 32 32.6

OJC $\Delta = 297.4\text{km}$
Pg eZ 14 32 17.8
Sg eN 32 53.8

NOV 27

**$\phi = 51.50^\circ\text{N}$, $\lambda = 16.09^\circ\text{E}$
 $H = 17:18:26$, $M = 3.6$**

KSP $\Delta = 75\text{km}$
Pg iNEZ 17 18 38.2
Sg eNEZ 18 47.3

RAC $\Delta = 217\text{km}$
P eZ 17 19 02.4
S eNE 19 27.2

GKP $\Delta = 212\text{km}$
P eZ 17 19 05.5
S eE 19 27.9

OJC $\Delta = 298\text{km}$
Pn eZ 17 19 06.0
Pg eZ 19 15.7
Sg iN 19 51.1

KWP $\Delta = 514\text{km}$
Pg eZ 17 19 50.0
S eNE 21 00.9

NOV 28

**$\phi = 51.51^\circ\text{N}$, $\lambda = 16.13^\circ\text{E}$
 $H = 04:33:03$, $M = 3.4$**

Lubin Copper Basin 2004

KSP	$\Delta = 75\text{km}$			
	Pg iNEZ	04	33	15.3
	Sg eNEZ		33	23.8
RAC	$\Delta = 216\text{km}$			
	P eZ	04	33	38.3
	S eNE		34	04.3
GKP	$\Delta = 210\text{km}$			
	P eZ	04	33	41.1
	S eE		34	04.7
OJC	$\Delta = 296\text{km}$			
	Pn eZ	04	33	43.6
	Pg eZ		33	52.1
	Sg eN		34	26.5
KWP	$\Delta = 512\text{km}$			
	Pg eZ	04	34	26.4
 <u>NOV 28</u>				
	$\phi = 51.502^\circ\text{N}, \lambda = 16.089^\circ\text{E}$			
	$H = 23:14:04.3, M = 2.6$			
KSP	$\Delta = 74.9\text{km}$			
	Pg eNEZ	23	14	16.6
	Sg eNEZ		14	35.5
OJC	$\Delta = 298.3\text{km}$			
	Pg eZ	23	15	05.3
	Sg eN		15	40.3
 <u>NOV 30</u>				
	$\phi = 51.510^\circ\text{N}, \lambda = 16.061^\circ\text{E}$			
	$H = 16:43:05.3, M = 2.9$			
KSP	$\Delta = 76.2\text{km}$			
	Pg eNEZ	16	43	17.8
	Sg eNEZ		43	27.1
OJC	$\Delta = 300.5\text{km}$			
	Pg eZ	16	43	56.2
	Sg eN		44	32.9
 <u>DEC 1</u>				
	$\phi = 51.505^\circ\text{N}, \lambda = 16.086^\circ\text{E}$			
	$H = 04:33:38.6, M = 2.8$			
KSP	$\Delta = 75.3\text{km}$			
	Pg eNEZ	04	33	50.9
	Sg eNEZ		34	00.0
OJC	$\Delta = 298.7\text{km}$			
	Pg eZ	04	34	29.0

	Sg eN		35	03.1
 <u>DEC 1</u>				
	$\phi = 51.447^\circ\text{N}, \lambda = 16.114^\circ\text{E}$			
	$H = 06:12:12.1, M = 2.6$			
KSP	$\Delta = 68.6\text{km}$			
	Pg eNEZ	06	12	23.3
	Sg eNEZ		12	30.8
 <u>DEC 1</u>				
	$\phi = 51.563^\circ\text{N}, \lambda = 16.007^\circ\text{E}$			
	$H = 16:29:47.3, M = 2.7$			
KSP	$\Delta = 82.8\text{km}$			
	Pg eNEZ	16	30	00.9
	Sg eNEZ		30	10.5
 <u>DEC 1</u>				
	$\phi = 51.583^\circ\text{N}, \lambda = 15.996^\circ\text{E}$			
	$H = 20:51:16.4, M = 3.4$			
KSP	$\Delta = 85.1\text{km}$			
	Pg iNEZ	20	51	30.4
	Sg eNEZ		51	40.6
RAC	$\Delta = 228.2\text{km}$			
	Pn eZ	20	51	50.8
	S eN		52	21.7
OJC	$\Delta = 308.2\text{km}$			
	Pn eZ	20	51	59.1
	Pg iZ		52	08.3
	Sn eN		52	30.9
	Sg eE		52	44.0
 <u>DEC 1</u>				
	$\phi = 51.403^\circ\text{N}, \lambda = 16.212^\circ\text{E}$			
	$H = 22:12:12.3, M = 2.9$			
KSP	$\Delta = 62.8\text{km}$			
	Pg iNEZ	22	12	22.6
	Sg iNEZ		12	30.2
OJC	$\Delta = 285.7\text{km}$			
	Pg eZ	22	13	00.0
	Sg eN		13	36.2
 <u>DEC 2</u>				
	$\phi = 51.447^\circ\text{N}, \lambda = 16.163^\circ\text{E}$			
	$H = 03:41:51.7, M = 2.6$			
KSP	$\Delta = 68.0\text{km}$			
	Pg eNEZ	03	42	02.8
	Sg eNEZ		42	11.0
 <u>DEC 3</u>				
	$\phi = 51.459^\circ\text{N}, \lambda = 16.106^\circ\text{E}$			

Lubin Copper Basin 2004

H = 15:15:43.2, M = 3.3

KSP $\Delta = 70.0\text{km}$
 Pg iNEZ 15 15 54.7
 Sg eNEZ 16 03.2

RAC $\Delta = 212.9\text{km}$
 P eZ 15 16 17.6
 S eNE 16 43.3

OJC $\Delta = 295.1\text{km}$
 Pn eZ 15 16 25.3
 Pg eZ 16 33.1
 Sg eN 17 08.1

DEC 3

**$\phi = 51.51^\circ\text{N}$, $\lambda = 16.06^\circ\text{E}$
H = 16:29:07, M = 2.9**

KSP $\Delta = 76\text{km}$
 Pg eNEZ 16 29 19.7
 Sg eNEZ 29 29.1

OJC $\Delta = 300\text{km}$
 Pg eZ 16 29 57.8
 Sg eN 30 34.5

DEC 4

**$\phi = 51.461^\circ\text{N}$, $\lambda = 16.133^\circ\text{E}$
H = 20:01:05.4, M = 2.7**

KSP $\Delta = 69.9\text{km}$
 Pg iNEZ 20 01 16.8
 Sg eNEZ 01 24.3

DEC 5

**$\phi = 51.502^\circ\text{N}$, $\lambda = 16.092^\circ\text{E}$
H = 04:47:31.5, M = 2.6**

KSP $\Delta = 74.9\text{km}$
 Pg eNEZ 04 47 43.8
 Sg eNEZ 47 52.3

DEC 5

**$\phi = 51.513^\circ\text{N}$, $\lambda = 16.080^\circ\text{E}$
H = 18:14:46.9, M = 2.6**

KSP $\Delta = 76.2\text{km}$
 Pg eNEZ 18 14 59.4
 Sg eNEZ 15 08.4

DEC 6

**$\phi = 51.450^\circ\text{N}$, $\lambda = 16.170^\circ\text{E}$
H = 14:23:41.9, M = 2.7**

KSP $\Delta = 68.3\text{km}$
 Pg eNEZ 14 23 53.1
 Sg eNEZ 24 01.6

DEC 9

$\phi = 51.502^\circ\text{N}$, $\lambda = 16.092^\circ\text{E}$

H = 16:46:14.6, M = 2.8

KSP $\Delta = 74.9\text{km}$
 Pg eNEZ 16 46 26.9
 Sg eNEZ 46 36.2

OJC $\Delta = 298.1\text{km}$
 Pg eZ 16 47 04.5
 Sg eN 47 39.7

DEC 10

**$\phi = 51.496^\circ\text{N}$, $\lambda = 16.099^\circ\text{E}$
H = 23:47:55.3, M = 2.9**

KSP $\Delta = 74.1\text{km}$
 Pg eNEZ 23 48 07.5
 Sg eNEZ 48 16.2

OJC $\Delta = 297.4\text{km}$
 Pg eZ 23 48 45.6
 Sg eN 49 19.6

DEC 14

**$\phi = 51.484^\circ\text{N}$, $\lambda = 16.097^\circ\text{E}$
H = 09:44:07.1, M = 3.0**

KSP $\Delta = 72.8\text{km}$
 Pg eNEZ 09 44 19.0
 Sg eNEZ 44 27.4

OJC $\Delta = 296.9\text{km}$
 Pg eZ 09 44 56.8
 Sg eN 45 31.6

DEC 16

**$\phi = 51.541^\circ\text{N}$, $\lambda = 16.130^\circ\text{E}$
H = 18:30:21.1, M = 3.5**

KSP $\Delta = 78.7\text{km}$
 Pg iNEZ 18 30 34.0
 Sg eNEZ 30 43.3

RAC $\Delta = 218.4\text{km}$
 P eZ 18 30 56.4
 S eNE 31 23.2

GKP $\Delta = 207.1\text{km}$
 P eZ 18 30 59.8
 S eE 31 22.9

OJC $\Delta = 297.8\text{km}$
 Pg eZ 18 31 09.5
 Sg eN 31 45.6

KWP $\Delta = 513.0\text{km}$
 P eZ 18 31 46.4

DEC 16

Lubin Copper Basin 2004

$\phi = 51.542^{\circ}\text{N}$, $\lambda = 16.127^{\circ}\text{E}$
H = 18:31:38.3, M = 2.9

KSP $\Delta = 78.9\text{km}$
 Pg eNEZ 18 31 51.2
 Sg eNEZ 32 00.3

DEC 17

$\phi = 51.447^{\circ}\text{N}$, $\lambda = 16.188^{\circ}\text{E}$
H = 06:53:07.3, M = 2.7

KSP $\Delta = 67.8\text{km}$
 Pg iNEZ 06 53 18.4
 Sg eNEZ 53 26.2

DEC 17

$\phi = 51.403^{\circ}\text{N}$, $\lambda = 16.209^{\circ}\text{E}$
H = 08:49:40.7, M = 2.7

KSP $\Delta = 62.8\text{km}$
 Pg iNEZ 08 49 51.0
 Sg eNEZ 49 58.3

DEC 18

$\phi = 51.51^{\circ}\text{N}$, $\lambda = 16.13^{\circ}\text{E}$
H = 04:51:18, M = 3.2

KSP $\Delta = 75\text{km}$
 Pg iNEZ 04 51 30.8
 Sg eNEZ 51 39.3

OJC $\Delta = 296\text{km}$
 Pg eZ 04 52 07.5
 Sg eN 52 42.0

DEC 18

$\phi = 51.562^{\circ}\text{N}$, $\lambda = 16.007^{\circ}\text{E}$
H = 08:25:37.4, M = 2.7

KSP $\Delta = 82.7\text{km}$
 Pg eNEZ 08 25 51.0
 Sg eNEZ 26 01.1

DEC 18

$\phi = 51.445^{\circ}\text{N}$, $\lambda = 16.115^{\circ}\text{E}$
H = 10:22:01.3, M = 3.1

KSP $\Delta = 68.3\text{km}$
 Pg iNEZ 10 22 12.5
 Sg eNEZ 22 19.7

OJC $\Delta = 293.8\text{km}$
 Pn eZ 10 22 43.4
 Pg eZ 22 51.3
 Sg eN 23 25.6

DEC 18

$\phi = 51.444^{\circ}\text{N}$, $\lambda = 16.117^{\circ}\text{E}$
H = 13:04:00.9, M = 3.0

KSP $\Delta = 68.2\text{km}$
 Pg eNEZ 13 04 12.1
 Sg eNEZ 04 19.3

OJC $\Delta = 293.7\text{km}$
 Pn eZ 13 04 42.2
 Pg eZ 04 50.7
 Sg eN 05 25.2

DEC 18

$\phi = 51.45^{\circ}\text{N}$, $\lambda = 16.13^{\circ}\text{E}$
H = 16:06:46, M = 2.7

KSP $\Delta = 69\text{km}$
 Pg eNEZ 16 06 57.1
 Sg eNEZ 07 05.2

DEC 18

$\phi = 51.494^{\circ}\text{N}$, $\lambda = 16.095^{\circ}\text{E}$
H = 23:54:09.3, M = 3.6

KSP $\Delta = 73.9\text{km}$
 Pg iNEZ 23 54 21.4
 Sg eNEZ 54 30.2

RAC $\Delta = 216.3\text{km}$
 P eZ 23 54 44.8
 S eNE 55 10.8

GKP $\Delta = 212.9\text{km}$
 P eZ 23 54 46.1
 S eE 55 11.5

OJC $\Delta = 297.5\text{km}$
 Pn eZ 23 54 50.5
 Pg eZ 54 58.9
 Sg eN 55 34.2

KWP $\Delta = 513.4\text{km}$
 P eZ 23 55 32.8

DEC 19

$\phi = 51.510^{\circ}\text{N}$, $\lambda = 16.025^{\circ}\text{E}$
H = 00:41:07.7, M = 3.3

KSP $\Delta = 76.8\text{km}$
 Pg eNEZ 00 41 20.3
 Sg eNEZ 41 29.3

RAC $\Delta = 221.0\text{km}$
 P eZ 00 41 43.8
 S eNE 42 10.8

OJC $\Delta = 302.7\text{km}$
 Pn eZ 00 41 49.6
 Pg eZ 41 58.4
 Sg eN 42 34.3

Lubin Copper Basin 2004

DEC 23

$\phi = 51.450^{\circ}\text{N}, \lambda = 16.171^{\circ}\text{E}$
H = 13:37:53.6, M = 2.8

KSP $\Delta = 68.3\text{km}$
 Pg eNEZ 13 38 04.8
 Sg eNEZ 38 12.7

DEC 23

$\phi = 51.495^{\circ}\text{N}, \lambda = 16.104^{\circ}\text{E}$
H = 19:00:44.3, M = 2.7

KSP $\Delta = 73.9\text{km}$
 Pg eNEZ 19 00 56.4
 Sg eNEZ 01 05.2

DEC 24

$\phi = 51.539^{\circ}\text{N}, \lambda = 16.056^{\circ}\text{E}$
H = 13:26:40.9, M = 2.7

KSP $\Delta = 79.4\text{km}$
 Pg eNEZ 13 26 53.9
 Sg eNEZ 27 03.3

DEC 25

$\phi = 51.47^{\circ}\text{N}, \lambda = 16.11^{\circ}\text{E}$
H = 03:49:29, M = 2.6

KSP $\Delta = 71\text{km}$
 Pg eNEZ 03 49 40.5
 Sg eNEZ 49 48.8

DEC 27

$\phi = 51.46^{\circ}\text{N}, \lambda = 16.11^{\circ}\text{E}$
H = 16:58:22, M = 3.0

KSP $\Delta = 70\text{km}$
 Pg eNEZ 16 58 34.1
 Sg eNEZ 58 42.2

OJC $\Delta = 295\text{km}$
 Pg eZ 16 59 12.5
 Sg eN 59 47.1

DEC 28

$\phi = 51.539^{\circ}\text{N}, \lambda = 16.142^{\circ}\text{E}$
H = 07:21:18.9, M = 2.9

KSP $\Delta = 78.4\text{km}$
 Pg eNEZ 07 21 31.7
 Sg eNEZ 21 40.9

OJC $\Delta = 297.0\text{km}$
 Pg eZ 07 22 09.4
 Sg eN 22 43.3

DEC 28

$\phi = 51.537^{\circ}\text{N}, \lambda = 16.025^{\circ}\text{E}$
H = 17:22:19.0, M = 3.0

KSP $\Delta = 79.7\text{km}$
 Pg eNEZ 17 22 32.1
 Sg eNEZ 22 41.7

DEC 30

$\phi = 51.449^{\circ}\text{N}, \lambda = 16.170^{\circ}\text{E}$
H = 20:50:30.0, M = 3.0

KSP $\Delta = 68.2\text{km}$
 Pg eNEZ 20 50 41.2
 Sg eNEZ 50 49.2

OJC $\Delta = 290.6\text{km}$
 Pg eZ 20 51 19.4
 Sg eN 51 53.7

DEC 31

$\phi = 51.505^{\circ}\text{N}, \lambda = 16.086^{\circ}\text{E}$
H = 04:27:02.6, M = 3.0

KSP $\Delta = 75.3\text{km}$
 Pg eNEZ 04 27 14.9
 Sg eNEZ 27 23.9

OJC $\Delta = 298.7\text{km}$
 Pg eZ 04 27 52.9
 Sg eN 28 27.3

DEC 31

$\phi = 51.473^{\circ}\text{N}, \lambda = 16.109^{\circ}\text{E}$
H = 20:01:22.7, M = 2.7

KSP $\Delta = 71.5\text{km}$
 Pg iNEZ 20 01 34.4
 Sg eNEZ 01 43.0

DEC 31

$\phi = 51.453^{\circ}\text{N}, \lambda = 16.086^{\circ}\text{E}$
H = 22:23:34.4, M = 2.9

KSP $\Delta = 69.6\text{km}$
 Pg eNEZ 22 23 45.8
 Sg iNEZ 23 54.4

RAC $\Delta = 213.5\text{km}$
 P eZ 22 24 09.6
 S eN 24 35.5

OJC $\Delta = 296.0\text{km}$
 Pg eZ 22 24 24.2
 Sg eE 25 00.7

Belchatów 2004

JAN 02

$\varphi = 51.236^\circ\text{N}$, $\lambda = 19.243^\circ\text{E}$
H = 20:28:58, M = 2.1

OJC $\Delta = 120.0\text{km}$
 Pg eZ 20 29 18.3
 Sg eE 29 34.2

JAN 05

$\varphi = 51.223^\circ\text{N}$, $\lambda = 19.332^\circ\text{E}$
H = 13:14:50, M = 2.2

OJC $\Delta = 116.7\text{km}$
 Pg eZ 13 15 10.1
 Sg eE 15 24.3

NIE $\Delta = 213.0\text{km}$
 Pg eZ 13 15 28.6
 S eE 15 50.5

FEB 20

$\varphi = 51.242^\circ\text{N}$, $\lambda = 19.290^\circ\text{E}$
H = 18:11:32, M = 2.0

OJC $\Delta = 119.6\text{km}$
 Pg eZ 18 11 52.4
 Sg eN 12 07.9

FEB 27

$\varphi = 51.258^\circ\text{N}$, $\lambda = 19.257^\circ\text{E}$
H = 18:13:18, M = 2.1

OJC $\Delta = 122.0\text{km}$
 Pg eZ 18 13 39.0
 Sg eE 13 54.2

KSP $\Delta = 213.4\text{km}$
 Pg eNEZ 18 13 56.4
 Sg eNEZ 14 19.4

MAR 06

$\varphi = 51.232^\circ\text{N}$, $\lambda = 19.289^\circ\text{E}$
H = 06:56:32, M = 2.0

OJC $\Delta = 118.5\text{km}$
 Pg eZ 06 56 51.9
 Sg eN 57 07.0

MAR 16

$\varphi = 51.244^\circ\text{N}$, $\lambda = 19.289^\circ\text{E}$
H = 02:41:06, M = 2.7

OJC $\Delta = 119.8\text{km}$
 ePg Z 02 41 26.2
 eSg E 41 41.5

RAC $\Delta = 150.9\text{km}$
 Pg eZ 02 41 31.3
 Sg eE 41 50.3

KSP $\Delta = 215.3\text{km}$
 Pn eNEZ 02 41 38.7
 Pg eNEZ 41 41.7
 Sn eNEZ 42 03.0
 Sg eNEZ 42 06.8

NIE $\Delta = 216.2\text{km}$
 Pg eZ 02 41 42.7
 S eE 42 07.6

MAY 02

$\varphi = 51.254^\circ\text{N}$, $\lambda = 19.298^\circ\text{E}$
H = 16:50:04, M = 2.0

OJC $\Delta = 120.7\text{km}$
 Pg eZ 16 50 24.6
 Sg eN 50 39.6
 eN 50 40.1

MAY 03

$\varphi = 51.244^\circ\text{N}$, $\lambda = 19.273^\circ\text{E}$
H = 10:02:32, M = 2.0

OJC $\Delta = 120.2\text{km}$
 (Pg) eZ 10 02 52.9
 Sg eE 03 07.3
 eN 03 07.8

MAY 31

$\varphi = 51.246^\circ\text{N}$, $\lambda = 19.275^\circ\text{E}$
H = 15:21:07, M = 2.1

OJC $\Delta = 120.3\text{km}$
 Pg eZ 15 21 27.8
 Sg eE 21 42.8

JUN 08

$\varphi = 51.238^\circ\text{N}$, $\lambda = 19.245^\circ\text{E}$
H = 03:05:25, M = 3.1

OJC $\Delta = 120.2\text{km}$
 Pg eZ 03 05 44.9
 Sg eE 06 00.4

RAC $\Delta = 148.8\text{km}$
 Pg eZ 03 05 50.1
 Sg eNE 06 09.0

Podhale 2004

FEB 21

$\varphi = 49.5^\circ\text{N}$, $\lambda = 20.6^\circ\text{E}$
H = 21:41:47, M = 2.2 (NIE)

NIE $\Delta = 23\text{km}$
 Pg iZ 21 41 51.3 d
 Sg iE 41 53.9

OJC $\Delta = 99\text{km}$
 Pg eZ 21 42 04.6
 Sg eN 42 16.3

NOV 30

$\varphi = 49.34^\circ\text{N} \pm 0.067$, $\lambda = 19.88^\circ\text{E} \pm 0.048$
H = 17:18:34.3 \pm 0.76, M = 4.3 (OJC)
 $\varphi_{\text{mac}} = 49.40^\circ\text{N}$, $\lambda_{\text{mac}} = 19.92^\circ\text{E}$
 $h_{\text{mac}} = 3 \pm 1\text{km}$, $M_{\text{mac}} = 4.4$, $I_o = 7$

NIE $\Delta = 33\text{km}$
 Pg eZ 17 18 41.5 c
 (Sg) eN 18 45.9

OJC $\Delta = 98\text{km}$
 Pg eZ 17 18 52.3 c
 Sg eN 19 04.1

RAC $\Delta = 147\text{km}$
 Pg iZ 17 19 01.4 c
 Sg eNEZ 19 20.1

KWP $\Delta = 208\text{km}$
 Pn eZ 17 19 09.8
 PmP Z 19 11.7 c
 Sn eNE 19 37.3
 SmS eNE 19 41.6

KSP $\Delta = 307\text{km}$
 Pn eNEZ 17 19 20.4
 PmPPmP eNEZ 19 28.0
 Sn eNE 19 54.1
 (SmS) eNEZ 20 01.3

GKP $\Delta = 476\text{km}$
 (P) eZ 17 19 53.0
 (S) eNE 21 17.8

SUW $\Delta = 569\text{km}$
 P iZ 17 19 42.3 c
 S eE 20 59.4

NOV 30

$\varphi \approx 49.4^\circ\text{N}$, $\lambda \approx 19.9^\circ\text{E}$
H \approx 19:26:35, M = 2.4 (NIE)

NIE $\Delta \approx 30\text{km}$
 Pg eZ 19 26 39.7
 iZ 26 39.9
 Sg iNE 26 44.1

OJC $\Delta \approx 90\text{km}$
 Pg eZ 19 26 50.8
 Sg eN 27 02.2

NOV 30

$\varphi = 49.32^\circ\text{N} \pm 0.070$, $\lambda = 19.89^\circ\text{E} \pm 0.089$
H = 23:32:12.2 \pm 1.43, M = 2.5 (NIE)

NIE $\Delta = 30\text{km}$
 Pg eZ 23 32 19.1
 Sg eN 32 23.4

OJC $\Delta = 100\text{km}$
 Pg eZ 23 32 30.0
 Sg eN 32 42.2

NOV 30

$\varphi = 49.31^\circ\text{N} \pm 0.069$, $\lambda = 19.90^\circ\text{E} \pm 0.089$
H = 23:56:33.6 \pm 1.43, M = 2.4 (NIE)

NIE $\Delta = 32\text{km}$
 Pg eZ 23 56 40.9 c
 Sg eN 56 45.2

OJC $\Delta = 102\text{km}$
 Pg eZ 23 56 52.2
 Sg eN 57 04.2

DEC 01

$\varphi = 49.32^\circ\text{N} \pm 0.069$, $\lambda = 19.91^\circ\text{E} \pm 0.091$
H = 01:12:23.0 \pm 1.46, M = 2.5 (NIE)

NIE $\Delta = 31\text{km}$
 Pg eZ 01 12 30.0
 Sg iN 12 34.4

OJC $\Delta = 101\text{km}$
 Pg eZ 01 12 41.0
 Sg eN 12 53.1

DEC 01

$\varphi = 49.32^\circ\text{N} \pm 0.070$, $\lambda = 19.92^\circ\text{E} \pm 0.092$
H = 06:00:40.1 \pm 1.47, M = 2.5 (NIE)

NIE $\Delta = 31\text{km}$
 Pg eZ 06 00 47.2
 Sg eN 00 51.5

OJC $\Delta = 101\text{km}$
 Pg eZ 06 00 58.5
 Sg eN 01 10.0

Podhale 2004

DEC 01

$\varphi = 49.32^{\circ}\text{N} \pm 0.052$, $\lambda = 19.85^{\circ}\text{E} \pm 0.108$
H = 23:25:13.1 ± 1.30, M = 2.8 (NIE)
 $M_{\text{mac}} = 2.9$, $I_o = 4$

NIE	Δ = 35km				
	Pg eZ	23	25	19.9	c
	Sg eE		25	24.1	

OJC	Δ = 100km				
	Pg eZ	23	25	31.1	
	Sg eN		25	43.1	

DEC 01

$\varphi = 49.32^{\circ}\text{N} \pm 0.069$, $\lambda = 19.91^{\circ}\text{E} \pm 0.091$
H = 23:50:13.0 ± 1.45, M = 2.8 (NIE)
 $M_{\text{mac}} = 2.9$, $I_o = 4$

NIE	Δ = 31km				
	Pg eZ	23	50	20.0	
	Sg eE		50	24.0	

OJC	Δ = 101km				
	Pg eZ	23	50	30.9	
	Sg eN		50	42.6	

DEC 02

$\varphi = 49.31^{\circ}\text{N} \pm 0.069$, $\lambda = 19.90^{\circ}\text{E} \pm 0.090$
H = 00:13:55.2 ± 1.45, M = 2.4 (NIE)

NIE	Δ = 32km				
	Pg eZ	00	14	02.4	
	iZ		14	02.6	
	Sg eNE		14	06.7	

OJC	Δ = 102km				
	Pg eZ	00	14	13.4	
	Sg eN		14	25.1	

DEC 02

$\varphi = 49.31^{\circ}\text{N} \pm 0.069$, $\lambda = 19.86^{\circ}\text{E} \pm 0.073$
H = 01:35:28.1 ± 1.15, M = 2.5 (NIE)

NIE	Δ = 35km				
	Pg eZ	01	35	35.4	c
	Sg eN		35	39.8	

OJC	Δ = 101km				
	Pg eZ	01	35	46.4	
	Sg eN		35	58.2	

DEC 02

$\varphi = 49.31^{\circ}\text{N} \pm 0.069$, $\lambda = 19.91^{\circ}\text{E} \pm 0.091$
H = 06:11:28.2 ± 1.46, M = 2.3 (NIE)

NIE	Δ = 32km				
	Pg eZ	06	11	35.0	
	Sg eNE		11	39.4	

OJC	Δ = 102km				
	Pg eZ	06	11	46.1	
	Sg eE		11	58.1	

DEC 02

$\varphi = 49.31^{\circ}\text{N} \pm 0.069$, $\lambda = 19.91^{\circ}\text{E} \pm 0.091$
H = 08:43:48.2 ± 1.46, M = 2.4 (NIE)

NIE	Δ = 32km				
	Pg eZ	08	43	55.3	
	Sg eNE		43	59.5	

OJC	Δ = 102km				
	Pg eZ	08	44	06.3	
	Sg eN		44	18.3	

DEC 02

$\varphi = 49.32^{\circ}\text{N} \pm 0.049$, $\lambda = 19.85^{\circ}\text{E} \pm 0.051$
H = 18:25:37.2 ± 0.74, M = 3.6 (NIE)
 $\varphi_{\text{mac}} = 49.40^{\circ}\text{N}$, $\lambda_{\text{mac}} = 19.92^{\circ}\text{E}$
 $h_{\text{mac}} = 3 \pm 1\text{km}$, $M_{\text{mac}} = 3.6$, $I_o = 5$

NIE	Δ = 35km				
	Pg eZ	18	25	43.9	c
	iZ		25	44.3	
	Sg iNE		25	48.2	

OJC	Δ = 100km				
	Pg iZ	18	25	54.5	c
	Sg iN		26	06.3	

RAC	Δ = 147km				
	Pg eZ	18	26	03.7	
	Sg eNE		26	22.1	

KWP	Δ = 210km				
	Pn eZ	18	26	12.1	
	PmP eZ		26	15.3	
	Sn eNE		26	39.5	
	SmS eNE		26	43.9	

KSP	Δ = 306km				
	Pn eNEZ	18	26	23.6	
	(PmPPmP) eNEZ		26	30.4	
	Sn eNEZ		26	56.6	
	(SmS) eNEZ		27	03.8	

Podhale 2004

SUW $\Delta = 572\text{km}$
 (P) eZ 18 26 55.9
 S eNE 28 03.3

DEC 02

$\varphi \approx 49.4^\circ\text{N}$, $\lambda \approx 19.9^\circ\text{E}$
H $\approx 20:15:00$, M = 2.1 (NIE)

NIE $\Delta \approx 30\text{km}$
 Pg eZ 20 15 06.2
 iZ 15 06.6
 Sg iNE 15 10.5

OJC $\Delta \approx 90\text{km}$
 Pg eZ 20 15 17.3
 Sg eN 15 29.3

DEC 03

$\varphi = 49.32^\circ\text{N} \pm 0.070$, $\lambda = 19.90^\circ\text{E} \pm 0.089$
H = 08:30:22.4 \pm 1.36, M = 2.5 (NIE)

NIE $\Delta = 32\text{km}$
 Pg eZ 08 30 29.3
 Sg eNE 30 33.7

OJC $\Delta = 101\text{km}$
 Pg eZ 08 30 40.0
 Sg eN 30 52.3

DEC 03

$\varphi = 49.34^\circ\text{N} \pm 0.056$, $\lambda = 19.86^\circ\text{E} \pm 0.074$
H = 10:07:02.9 \pm 1.24, M = 2.7 (NIE)

NIE $\Delta = 34\text{km}$
 Pg eZ 10 07 09.9
 Sg eNE 07 14.1

OJC $\Delta = 98\text{km}$
 Pg eZ 10 07 20.3
 Sg eN 07 32.1

DEC 05

$\varphi = 49.34^\circ\text{N} \pm 0.056$, $\lambda = 19.87^\circ\text{E} \pm 0.080$
H = 08:29:59.9 \pm 1.32, M = 2.5 (NIE)

NIE $\Delta = 33\text{km}$
 Pg eZ 08 30 06.7
 iZ 30 07.1
 Sg eN 30 10.9

OJC $\Delta = 98\text{km}$
 Pg eZ 08 30 17.8
 Sg eN 30 29.8

DEC 09

$\varphi = 49.34^\circ\text{N} \pm 0.054$, $\lambda = 19.86^\circ\text{E} \pm 0.062$
H = 01:09:03.6 \pm 1.07, M = 3.4 (NIE)
 $\varphi_{\text{mac}} = 49.40^\circ\text{N}$, $\lambda_{\text{mac}} = 19.92^\circ\text{E}$
 $h_{\text{mac}} = 3\text{-}5\text{km}$, $M_{\text{mac}} = 3.4$, $I_o = 5$

NIE $\Delta = 34\text{km}$
 Pg eZ 01 09 10.6
 Sg eNE 09 14.9

OJC $\Delta = 98\text{km}$
 Pg eZ 01 09 21.4
 Sg eN 09 33.8

RAC $\Delta = 146\text{km}$
 Pg eZ 01 09 30.6
 Sg eNE 09 48.3

KWP $\Delta = 209\text{km}$
 Pn eZ 01 09 40.3
 PmP eZ 09 44.9
 SmS eNE 10 12.3

KSP $\Delta = 306\text{km}$
 Pn eNEZ 01 09 50.5
 (PmPPmP) eNEZ 09 56.6
 Sn eNEZ 10 23.3
 (SmS) eNEZ 10 29.8

DEC 12

$\varphi = 49.31^\circ\text{N} \pm 0.068$, $\lambda = 19.91^\circ\text{E} \pm 0.090$
H = 15:01:24.4 \pm 1.45, M = 2.4 (NIE)

NIE $\Delta = 32\text{km}$
 Pg eZ 15 01 31.6
 Sg eN 01 35.8

OJC $\Delta = 102\text{km}$
 Pg eZ 15 01 43.0
 Sg eE 01 55.3

DEC 13

$\varphi = 49.32^\circ\text{N} \pm 0.070$, $\lambda = 19.89^\circ\text{E} \pm 0.090$
H = 00:05:29.2 \pm 1.44, M = 2.9 (NIE)

NIE $\Delta = 33\text{km}$
 Pg eZ 00 05 36.5
 Sg eN 05 40.9

OJC $\Delta = 100\text{km}$
 Pg eZ 00 05 47.1
 Sg eN 05 58.0

RAC $\Delta = 149\text{km}$
 Pg eZ 00 05 56.3
 Sg eNE 06 15.2

KSP $\Delta = 309\text{km}$
 PmPPmP eNEZ 00 06 22.0
 (SmS) eNEZ 06 55.7

Podhale 2004

DEC 13

$\varphi = 49.35^{\circ}\text{N} \pm 0.054$, $\lambda = 19.91^{\circ}\text{E} \pm 0.079$

$H = 03:29:05.1 \pm 1.12$, $M = 2.7$ (NIE)

NIE	$\Delta = 30\text{km}$		
	Pg eZ	03 29 11.0	c
	Sg eN	29 15.3	

OJC	$\Delta = 97\text{km}$		
	Pg eZ	03 29 21.9	
	Sg eE	29 34.0	

DEC 13

$\varphi \sim 49.4^{\circ}\text{N}$, $\lambda \sim 19.9^{\circ}\text{E}$

$H \sim 12:27:23$, $M = 2.0$ (NIE)

NIE	$\Delta \sim 30\text{km}$		
	Pg eZ	12 27 29.3	
		iZ 27 29.9	
	Sg eE	27 33.8	

OJC	$\Delta \sim 90\text{km}$		
	Pg eZ	12 27 41.0	
	Sg eN	27 53.2	

DEC 15

$\varphi = 49.31^{\circ}\text{N} \pm 0.068$, $\lambda = 19.90^{\circ}\text{E} \pm 0.088$

$H = 01:34:35.5 \pm 1.44$, $M = 2.2$ (NIE)

NIE	$\Delta = 32\text{km}$		
	Pg eZ	01 34 42.8	
	Sg eE	34 47.1	

OJC	$\Delta = 102\text{km}$		
	Pg eZ	01 34 54.0	
	Sg eN	35 05.9	

DEC 27

$\varphi = 49.31^{\circ}\text{N} \pm 0.069$, $\lambda = 19.91^{\circ}\text{E} \pm 0.091$

$H = 14:02:51.1 \pm 1.46$, $M = 2.4$ (NIE)

NIE	$\Delta = 32\text{km}$		
	Pg eZ	14 02 58.2	d
	Sg eN	03 02.4	

OJC	$\Delta = 102\text{km}$		
	Pg eZ	14 03 09.3	
	Sg eN	03 20.8	

Kaliningrad 2004

SEP 21

$\varphi = 54.924^{\circ}\text{N} \pm 0.021$, $\lambda = 20.120^{\circ}\text{E} \pm 0.050$

$H = 11:05:01.6 \pm 1.4$, $M1 = 5.0$

SUW $\Delta = 223.5\text{km}$
 Pn eZ 11 05 39.4
 PmP eZ 05 41.4
 Sn eNE 06 06.0
 (SmS) eNE 06 08.3

GKP $\Delta = 264.3\text{km}$
 (Pn) eZ 11 05 43.7
 PmP eZ 05 48.8
 Sn eE 06 13.6
 SmS eE 06 19.9

WAR $\Delta = 305.4\text{km}$
 Pn eZ 11 05 48.2
 PmP eZ 05 54.3
 (S) eE 06 25.5

OJC $\Delta = 525.4\text{km}$
 P eZ 11 06 13.8
 iZ 06 33.3
 S eE 07 04.4
 iE 07 29.7

KSP $\Delta = 523.4\text{km}$
 P eNEZ 11 06 14.1
 S eNEZ 07 02.4

RAC $\Delta = 555.7\text{km}$
 P eZ 11 06 20.2
 S eNE 07 17.9

NIE $\Delta = 614.3\text{km}$
 P eZ 11 06 25.2
 (S) eE 07 29.2

KWP $\Delta = 616.4\text{km}$
 P eZ 11 06 27.0

SEP 21

$\varphi = 54.876^{\circ}\text{N} \pm 0.021$, $\lambda = 20.120^{\circ}\text{E} \pm 0.055$

$H = 13:32:31.0 \pm 1.3$, $M1 = 5.3$

SUW $\Delta = 221.2\text{km}$
 Pn eZ 13 33 05.9 c
 PmP eZ 33 07.6
 Sn eNE 33 32.2
 SmS eNE 33 34.4

GKP $\Delta = 260.7\text{km}$
 Pn eZ 13 33 10.2 c
 PmP eZ 33 15.4
 PmPPmP eZ 33 19.3
 Sn eE 33 39.0
 SmS eE 33 49.6

WAR $\Delta = 300.1\text{km}$
 Pn eZ 13 33 15.2 d
 (PmP) eZ 33 20.8

OJC $\Delta = 520.0\text{km}$
 P eZ 13 33 40.2
 S eN 34 31.3
 iE 34 54.4

KSP $\Delta = 518.8\text{km}$
 P eNEZ 13 33 39.9
 S eNEZ 34 27.8

RAC $\Delta = 550.6\text{km}$
 P eZ 13 33 44.5
 eZ 34 06.0
 S eNE 34 40.3

NIE $\Delta = 609.0\text{km}$
 P eZ 13 33 50.9
 eZ 34 15.1
 S eE 34 55.6
 eE 35 23.7

KWP $\Delta = 611.3\text{km}$
 P eZ 13 33 53.0 d
 S eNE 34 58.6

SEP 21

$\varphi = 54.866^{\circ}\text{N}$, $\lambda = 20.100^{\circ}\text{E}$

$H = 13:36:(32)$, $M1 = 4.3$

SUW $\Delta = 221.9\text{km}$
 PmP eZ 13 37 08.4
 (SmS) eE 37 35.2

GKP $\Delta = 259.0\text{km}$
 Pn eZ 13 37 11.7
 PmP eZ 37 15.1
 (S) eE 37 45.5

WAR $\Delta = 299.2\text{km}$
 (P) eZ 13 37 27.2
 S eE 37 58.2

OJC $\Delta = 518.8\text{km}$
 (P) eZ 13 38 00.2
 (S) iE 38 56.7