

U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

**Data Base of Impact Craters on Venus Based On Analysis
of Magellan Radar Images and Altimetry Data**

by

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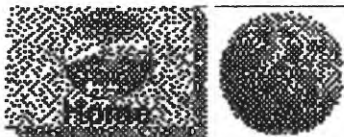
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Table of Contents Data Tables



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Data Base of Impact Craters on Venus

Table of Contents

Title Page

Introduction

The Crater Database

Categories Included in the Database

Names

Modification State

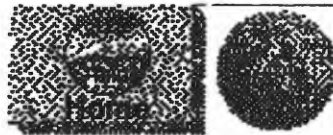
Crater Type

Elevation

Download the Database

General Information

References Cited



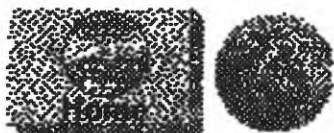


Venus Crater Database

Introduction

The NASA Magellan spacecraft provided synthetic aperture radar (SAR) image coverage of 98% of the surface of the planet Venus, in addition to topography and several types of physical property data on the venusian surface (e.g., radar reflectivity, radar backscatter, emissivity, and rms slopes). (See Special Magellan Issue of *J. Geophys. Res.*, v. 97, nos. E8 and E10, August 25 and Sept. 25, 1992.) This Open-File Report contains a listing (table 1) of impact craters based on interpretation of the Magellan data, and was compiled with the official sanction of the Magellan Science Team (Steve Saunders, Magellan Project Scientist, personal communication, 1990). This crater data base has been revised, updated, and expanded from those used by the authors in earlier publications ([Schaber and others, 1992](#); [Strom and others, 1994](#)). The database tables include the name (where applied), coordinates, diameter, modification state, crater morphologic type, and mean elevation of 950 craters interpreted to be of impact origin within the area of the planet imaged by the Magellan spacecraft between 1990 and 1994. For more details on interpretations of the Venus impact cratering record, the reader is referred to [Campbell and others, 1992](#), [Phillips and others \(1991, 1992\)](#), [Schaber and others \(1992\)](#), [Chadwick and Schaber \(1993\)](#), [Alexopoulos and McKinnon \(1994\)](#), [Herrick \(1994\)](#), [Herrick and Phillips \(1994\)](#), [Nakimi and Solomon \(1994\)](#), [Price and Suppe \(1994\)](#), [Strom and others \(1994\)](#), [Price and others \(1996\)](#), [Herrick and others \(1995\)](#), and [Strom and others \(1995\)](#). An alternate Venus impact crater data base that includes additional information on crater morphology has been described by [Herrick and Phillips \(1994\)](#). An excellent source for the current thinking about impact craters on Venus and their implications can be found in the University of Arizona Press book, *Venus II* ([Bougher and others - Editors, 1997](#)). Relevant Chapters on impact cratering in the *Venus II* book were contributed by [Basilevsky and others \(1997\)](#), [Herrick and others \(1997\)](#), and [McKinnon and others \(1997\)](#).

Title Page	Table of Contents	Introduction	The Crater Database	Download the Database	General Information	References
Categories Included in the Database						
Names		Modification State	Crater Type	Elevation		





Venus Crater Database

Categories Included in the Database

Names

Numerous impact craters >15 km in diameter on Venus have been named for famous women (last names). Some smaller impact craters <15 km in diameter have been given common female first names from various ethnic groups. During Summer 1997 the IAU Committee on Planetary Nomenclature approved the suggestion that first names of females from various ethnic groups be assigned to impact craters with diameters down to 5 km. As a result, the IAU Committee during 1997 approved a total of 323 new Venus crater names. These newly approved names can now be referenced in the literature and have been included in the revised U.S. Geological Survey/University of Arizona Venus impact crater data base shown in the tables. The reader is referred to the *Gazetteer of Venusian Nomenclature* (Russell, 1994) and to the *Gazetteer of Planetary Nomenclature* for name origins and the use of the proper diacritics (not indicated in table 1).

<u>Title Page</u>	<u>Table of Contents</u>	<u>Introduction</u>	<u>The Crater Database</u>	<u>Download the Database</u>	<u>General Information</u>	<u>References</u>
Categories Included in the Database						
	<u>Names</u>	<u>Modification State</u>	<u>Crater Type</u>	<u>Elevation</u>		



Venus Crater Database

Catagories Included in the Database

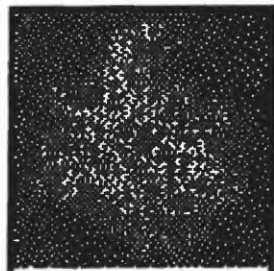
Modification State

Larger versions of most sample images are available by selecting either the modification state image or crater name. The size of the larger image is given in kilobytes (kb). Large images are all at a scale of 225 m/pixel. The images retain the full radiometric calibration [Pettengill and others, 1991].

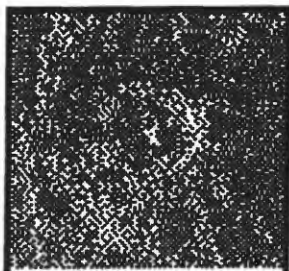
[**Important Note:** The modification state of the impact craters on the data base is subject to individual interpretation and bias of the authors. Note also that many craters on the data base have been assigned modification state designations that are a combination of two or more of the individual symbols shown below. For example, the crater **Heloise** designated **vhp1** in the data base (**Heloise shown below**) represents a slightly fractured crater (**f1**) which has been heavily embayed by volcanic lava plains (**vh**) during the last global resurfacing event (**vp**).]

[**Important Note:** The symbol **p** used ALONE in the Modification State column of the table ALWAYS represents a pristine (essentially unaltered) crater. However, when **p** is used in combination (as shown above for the crater **Heloise**) with other symbols in the Modification State column, it NEVER MEANS PRISTINE. Here, it symbolizes (in abbreviated form) a lava-embayed crater that is interpreted to have been embayed by lava plains deposits during the last global resurfacing episode - not subsequent to it.]

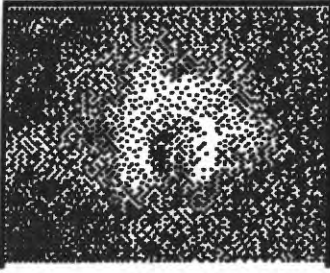
Examples of the basic states of impact crater modification used are:



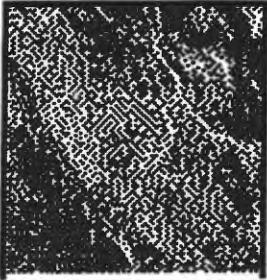
p, pristine—essentially unaltered crater ejecta and fluidized outflow deposits, where present (Chadwick and Schaber, 1993) (see notes above).
Stuart (69 km diameter; 30.79°S, 20.22°E). (790 kb)



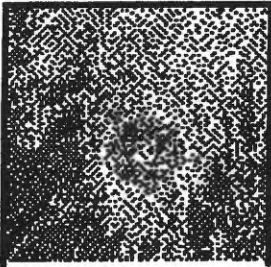
vs, slightly embayed—crater with ejecta slightly embayed by volcanic lava.
Ketzia (14.6 km diameter; 3.98°N, 300.50°E). (29 kb)



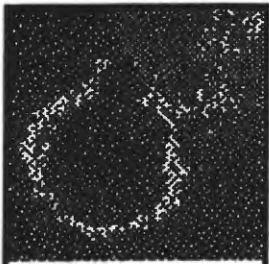
ym, moderately embayed—crater with ejecta moderately embayed by volcanic lava.
Bernadette (12.8 km diameter; 46.64°S, 285.6°E). (40 kb)



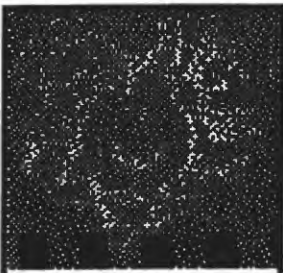
yh, heavily embayed—crater with rim, ejecta (and often floor) heavily embayed by volcanic lava.
Raisa (13.5 km diameter; 27.5°N, 280.3°E). (29 kb)



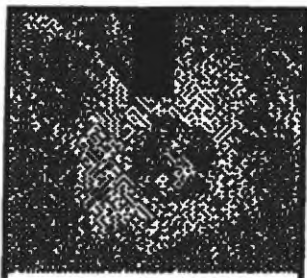
yh3, heavily embayed and fractured—crater heavily embayed with volcanic lava and is heavily fractured.
Baranamtarra (25.5 km diameter; 17.94°N, 267.80°E). (112 kb)



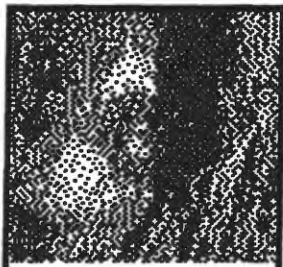
yhp1 —crater that has a slightly fractured rim and has had its ejecta and rim heavily embayed (flooded) by lava plains that are interpreted to have been deposited during the last global resurfacing episode.
Heloise, a doublet crater (16 km and 38 km diameters; 40.0°N, 51.9°E). (88 kb)



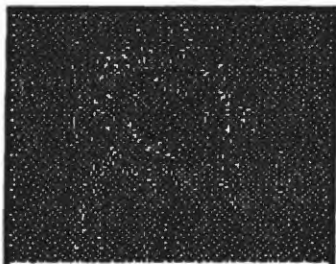
fl, slightly fractured—crater estimated visually to have less than 50% of the crater floor, wall, and rim deposits affected by fractures (evidence of low to moderate local or regional extension). Missing Magellan orbits (black) appear at bottom.
Wheatley (74.8 km diameter; 16.62°N, 268.03°E). (549 kb)



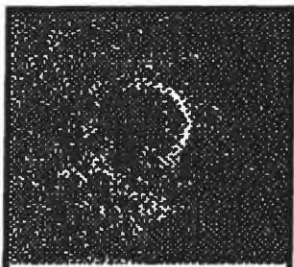
f2. heavily fractured— crater estimated visually to have more than 50% of its floor, wall, and rim deposits affected by fractures (evidence of moderate to moderately high, local or regional extension).
Tubman (42.9 km diameter; 23.63°N, 204.57°E). (189 kb)



f3. greatly disrupted—crater that is greatly disrupted; ejecta, rim and floor have been very degraded by fracturing with considerable extension.
Balch (40-km diameter; 29.90°N, 282.91°E). (135 kb)



fc1. compressed fracture—crater that has been slightly fractured (f1) by one or more compressive faults (fc).
Barrymore (57-km diameter; 52.34°S, 195.68°E). (279 kb)



e. ejecta mantled—crater mantled by ejecta from younger impact crater nearby.
Alimat (13.5-km diameter; 29.5°S, 205.9°E). (29 kb)

Title Page	Table of Contents	Introduction	The Crater Database	Download the Database	General Information	References
Categories Included in the Database						
Names		Modification State	Crater Type	Elevation		



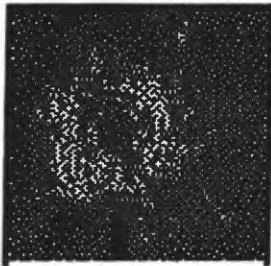
Venus Crater Database

Categories Included in the Database

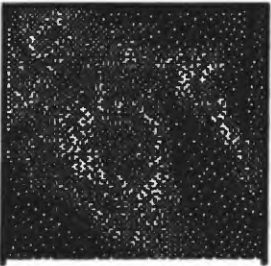
Crater Type

Larger versions of most sample images are available by selecting either the modification class, the thumbnail image or crater name. The size of the larger image is given in kilobytes (kb). Large images are all at a scale of 225 m/pixel. They have not been stretched to enhance contrast, but retain the full radiometric calibration [Pettengill and others, 1991].

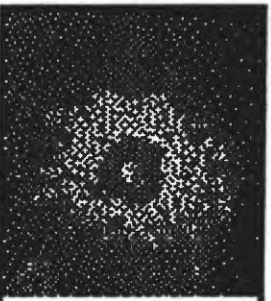
The types of crater morphologies listed on the data base are as follows:



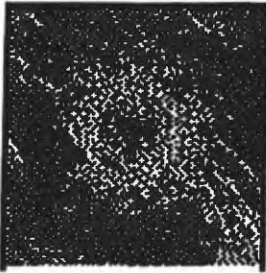
B. multi-ring basin—large crater containing more than one concentric ring of low ridges or hills protruding above the floor inside the crater's dominant rim.
Mona Lisa (79 km in diameter, 25.61°N, 25.15°E). (1 mb)



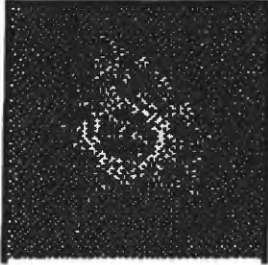
D. double-ring basin—large crater containing only a single concentric ring inside the crater rim.
Cochran (100 km in diameter, 51.86°N, 143.36°E). (2.15 mb)



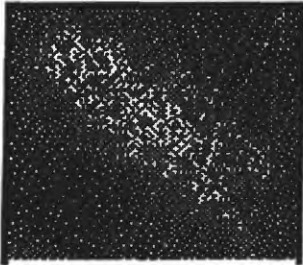
P. central peak—crater containing a single peak or closely grouped cluster of peaks or hills that is more or less centered on and rises above the crater floor deposits.
Saskia (37 km in diameter, 28.58°S, 337.12°E). (220 kb)



S, structureless floor—crater containing no recognizable structures on the crater floor; crater floor sometimes flooded with impact-generated lava from below, or (rarely) a local volcanic source.
Sabira (15.7 km in diameter; 5.75°S, 239.86°E). (40 kb)



I.P, irregular(I) with central peak(P)—crater characterized by an generally non-circular (irregular) rim and hummocky wall and floor deposits; thought to result from a cluster of parent asteroid or cometary material disrupted and slowed down by the venusian atmosphere prior to impact.
Lotta (12 km in diameter; 51.06°N, 335.91°E). (40 kb)



M, multiple—impact crater, thought to result from the impact of a parent asteroid or cometary nucleus that was totally disrupted and whose fragments were dispersed low in the atmosphere into separate individual trajectories just prior to impact. [Note: diameters given for multiple craters is associated with the largest crater within the crater group, and not for the diameter of the entire group of craters.]
Terhi; multiple crater; largest crater in field, 10.7 km in diameter; total size of field 30X52 km (45.71°N, 253.09°E). (156 kb)

Title Page	Table of Contents	Introduction	The Crater Database	Download the Database	General Information	References
Categories Included in the Database						
Names	Modification State	Crater Type	Elevation			



Venus Crater Database

Categories Included in the Database

Elevation

The mean elevation values given are derived from the Magellan radar altimetry (Pettengill and others, 1991; Ford and Pettengill, 1992) and represent the pre-impact surface, assuming no tectonic deformation. The mean elevation included in the data base was determined from root 3 and 2 crater radii—outside the range of the average hummocky and radial crater rim deposits (but not the bright crater outflow deposits) (see Kirk and others, 1995). Mean elevation values based on Magellan altimetry data have a vertical accuracy from 80 m to 200 m (Ford and Pettengill, 1992)

<u>Title Page</u>	<u>Table of Contents</u>	<u>Introduction</u>	<u>The Crater Database</u>	<u>Download the Database</u>	<u>General Information</u>	<u>References</u>
Categories Included in the Database						
	<u>Names</u>	<u>Modification State</u>	<u>Crater Type</u>	<u>Elevation</u>		

Venus Crater Database



General Information

The data base presented here has been continuously revised since systematic radar mapping commenced following the start of the Magellan radar-mapping mission in September 1990. For those readers with access to the World Wide Web (via Internet), the authors may make periodic revisions and additions to this data base that can be accessed through these pages. Other versions of the data base are also available through The Lunar and Planetary Institute (Houston, Texas) and the "Face of Venus" www document at McGill University (Montreal). Changes to the data base should be submitted to persons at the USGS in Flagstaff and not to the Face of Venus contacts at McGill University.

For information on the USGS Flagstaff Field Center Homepage contact Dennis McMacken at the USGS (Flagstaff); for information on the Face of Venus document send e-mail to: gnewton@alert.ccm.cmr.ca. For general information on this impact crater data base, contact Jerry Schaber or (alternate) Ken Tanaka. For information regarding the elevation data given in the crater data base, contact Randy Kirk (USGS-Flagstaff). The appropriate mailing address and fax number for the above persons are as follows:

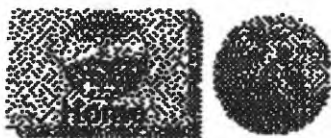
U.S. Geological Survey
2255 N. Gemini Drive
Flagstaff Arizona 86001

Fax Numbers:

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D McMacken: 520-556-7100

<u>Title Page</u>	<u>Table of Contents</u>	<u>Introduction</u>	<u>The Crater Database</u>	<u>Download the Database</u>	<u>General Information</u>	<u>References</u>
Categories Included in the Database						
<u>Names</u>		<u>Modification State</u>	<u>Crater Type</u>	<u>Elevation</u>		





Venus Crater Database

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TABLE 1- MAGELLAN-BASED IMPACT CRATER DATABASE FOR VENUS						
(CRATERS LISTED BY DECREASING LATITUDE)- 961 CRATERS LISTED						
(REVISED 2/18/98) APPROX. 98% OF SURFACE COUNTED						
NAME	LAT.	LONG.	DIAM	MODIFICATION	CRATER	ELEVATION
	(DEG.)	(DEG.)	(KM)	STATE	TYPE	(Radius in KM)
Janice	87.3	261.98	10	fl	P	6050.525
Hua Mulan	86.8	337.7	24	f2	S	6050.434
Tatyana	85.4	212.4	19	fl	P	6050.572
Landowska	84.57	74.3	33	p	P	6050.308
Ruslanova	83.94	16.6	44.3	p	P	6050.548
Sveta	82.459	273.21	21	fl	P	6051.272
	81.62	84.97	2	p?	S	6050.6
Odilia	81.236	200.172	20.8	p	I	6050.798
Lagerlof	81.188	285.158	56	vmp	P	6051.575
Efirnova	80.959	223.352	26.5	p	P	6050.726
Tursunoy	80.944	229.312	4.7	p	M	6051.067
Eugenia	80.576	105.432	6	p	M	6050.636
	80.018	229.447	4.4	p	M	6051.006
	78.637	270.311	2.5	p	I	6051.108
Nuon	78.605	336.602	6.5	p	M	6051.818
Rudneva	78.428	174.723	29.8	p	P	6051.563
Dashkova	78.237	306.484	45.1	p	P	6053.075
Gina	78.09	76.536	14.6	p	P?	6050.524
Klenova	78.086	104.488	141	p	B	6051.034
Tunde	76.792	193.034	16.3	p	M	6051.585
Fernandez	76.238	17.155	23.7	p	S	6054.299
Deledda	76	127.5	32	p	P	6051.337
Ulrique	75.902	55.593	19.6	p	P	6051.34
	75.642	242.436	1.7	p	I	6052.34
Radka	75.608	96.34	10.5	p	P	6051.467
Valborg	75.512	272.051	20	p	P	6051.638
Volkova	75.161	242.173	47.5	p	P	6052.223
Dickinson	74.613	177.196	67.5	p	P	6051.774
Sayligul	73.556	172.94	4.3	p	M	6051.731
Batya	72.748	235.447	9.3	p	I	6051.515
Grazina	72.448	337.474	16.5	f2	P	6056.286
Monika	72.289	122.373	25.5	p	P	6051.815
Miovasu	72.12	99.951	4.5	p	M	6052.011
Erika	71.984	175.384	10.5	p	I	6051.554
Wanda	71.244	323.145	21.7	p	P	6054.809
Faina	71.121	100.727	10	f3	I	6052.938
Osipenko	71	321	30		P	6055.628
Rita	70.97	334.8	8.3	p	I	6055.178
Cotton	70.758	300.197	48.1	p	D	6052.815
Obukhova	70.724	289.691	46	p	D	6051.934
La Fayette	70.194	107.614	39.6	p	P	6051.446
Evangeline	69.619	221.921	16	p	S	6051.311
Zoya	69.125	236.209	20	p	P	6051.234
Radmila	69.088	167.041	5.2	p	I	6050.419
Tolgonay	68.796	271.114	4.6	p	M	6051.66
Gloria	68.498	94.194	20.7	vs?	P	6052.331
Selma	68.485	155.869	11.4	p	I	6050.555
Jadwiga	68.387	91.049	12.7	p	P	6051.878
Ivka	68.206	303.831	14.9	p	P	6052.594
Frida	68.172	55.602	21.6	p	P	6053.685
Duncan	68.082	291.697	40.3	p	P	6051.476
	67.635	157.185	1.5	p	I	6050.319
Natalia	67.077	272.933	10.8	p	IP	6051.794
Magda	67.041	329.675	10.1	p	S	6055.229
	66.964	297.17	3.3	p	I	6051.504
Zhilova	66.349	125.744	53	p	I/2T	6052.448

Ven 2/18/98 MASTER-OF KEEP LAT

15

Hapei	66.118	177.973	4.2	p	M	6050.741		
Cleopatra	65.815	7.077	105	p	D	6058.02		
Jex-Blake	65.369	169.276	31.6	p	P	6050.111		
Zdravka	65.064	299.047	12.5	p	I	6051.476		
Zlata	64.63	333.918	7	fl	M	6055.091		
Tsvetayeva	64.597	147.403	42.9	p	P,I	6050.872		
Esmeralda	64.435	104.516	9.8	p	M	6052.046		
Koidula	64.242	139.575	67	p	S	6051.906		
Indira	64.136	289.815	16.6	p	P	6050.96		
Rani	64.095	160.363	10.7	p	P,M	6049.868		
Sigrid	63.555	314.394	16.2	p	S	6053.97		
NAME	62.914	2.567	15.8	fl	P			
Rafiga	62.891	175.589	5.7	p	S	6050.651		
Baker	62.516	40.318	109	fl	D (B?)	6054.17		
Roptyna	62.171	28.994	11.5	fl?	I	6054.263		
Lyudmila	62.128	329.672	14.1	p	S	6054.537		
Berta	62	322	20	p	P	6054.146		
Outi	61.64	267.684	10.5	p	S	6051.269		
Tamara	61.63	317.315	11.9	fl	S	6054.463		
Akhmatova	61.349	307.885	41.4	fl	D?	6051.688		
Barsova	61.346	222.972	76	p	D	6051.417		
Kumudu	61.261	154.09	4.4	p	M	6050.181		
Masha	60.709	88.553	6.4	p	M	6051.486		
Volyana	60.636	359.938	5.3	p	I,P	6053.015		
	60.412	137.152	1.7	p	M	6051.613		
Ermolova	60.298	154.419	60.9	p	D	6050.479		
Golubkina	60.287	286.472	28.4	p	P	6051.078		
Margit	60.07	273.128	14	p	P,I	6051.294		
Sandugach	59.9	143.5	10	fl	S	6051.126		
Goppert-Mayer	59.669	26.832	33.5	fl	P,I	6052.313		
Fedorets	59.667	65.594	57.6	p	P	6051.338		
Montessori	59.418	279.991	42.1	p	P	6051.092		
Hull	59.401	263.553	47.3	p	D	6051.441		
Elizabeth	59.145	215.408	10.5	p	M	6051.628		
Kavtora	59.047	23.329	9.8	p	I	6053.745		
Magnani	58.616	337.208	26.4	p	P	6054.31		
Yetta	58.562	185.38	9	p	S	6050.979		
Katya	57.802	285.734	10.5	p	S	6051.103		
Kartini	57.793	333.039	23.4	p	I	6052.666		
	57.788	22.461	1.8	p	M	6053.609		
Bineta	57.271	144.111	10.7	p	P,I	6051.387		
Ezraela	57.04	186.764	7.8	p	I	6050.792		
Rossetti	56.962	6.416	23.4	fl	S	6054.791		
Orlova	56.467	234.973	19.6	fl	P	6051.623		
Lorelei	55.685	243.956	15	p	M	6050.944		
Wharton	55.656	61.898	50.45	fl	D	6051.403		
Lonsdale	55.602	222.353	43	vm	P	6051.44		
	55.1	350.6	4.3	p	M	6051.771		
	55.008	124.47	3.2	p	M	6051.488		
Wynne	55	53.6	10	fl	I	6052.246		
Khadako	54.228	139.359	7.4	fl	I	6052.108		
Hayasi	53.766	243.878	43.1	p	D?	6051.003		
Ahava	53.564	187.299	10.4	p	M	6050.985		
Unay	53.487	172.671	11.4	p	I	6050.848		
Marysya	53.3	75.1	6.3	p	M	6051.249		
Sevigne	52.625	326.474	29.6	p	P	6050.999		
Kelila	52.577	191.753	5	p	M	6051.178		
	52.5	298.8	4	p	M	6050.865		
	52.072	123.21	3.2	p	M	6051.536		
Cochran	51.856	143.364	100	p	D	6051.433		
Johnson	51.831	254.617	24.5	p	P	6051.541		
Firuzza	51.8	108	6	p	I	6051.016		

Undset	51.65	60.8	20	p	P	6051.236		
	51.4	7.9	4.4	p	M	6052.008		
Irinuca	51.4	121.9	8	p	I	6051.812		
Dolores	51.4	201.6	12.6	p	I,P	6051.397		
Olya	51.4	291.8	13.4	p	S	6050.509		
Stefania	51.29	333.313	11.7	p	I	6051.516		
Lotta	51.06	335.909	11.8	p	I	6051.434		
Julie	50.9	242.6	13.5	p	S	6051.105		
Rampyari	50.6	179.3	7.7	p	I	6050.683		
Bahriyat	50.3	357.5	5	p	M	6051.562		
Lind	50.22	355.027	25.8	p	P	6051.5		
Aftenia	49.991	323.912	7	p	M	6050.538		
Ytunde	49.884	81.126	6.1	p	M	6051.559		
Nana	49.8	75.4	8.75	p	P	6051.342		
Irene	49.8	134	13.6	p	P	6052.024		
Kauffman	49.437	27.112	25.5	p	P	6053.116		
Laura	48.911	141.184	17.2	p	P,I	6051.617		
Zivile	48.845	113.13	13.5	p	S	6051.824		
Brooke	48.44	296.604	22.9	p	P	6050.502		
Raymonde	48.369	191.524	5.3	p	I	6051.408		
Nicole	48.359	259.285	6.4	p	M	6050.951		
Conway	48.327	39.014	49.3	vhpl	P	6052.893		
Yablochkina	48.265	195.31	64.3	p	D	6051.465		
Kemble	47.728	14.927	23.6	fl	P	6051.733		
Galina	47.6	307.1	16.8	p	M	6050.647		
Deken	47.132	288.482	48	fc	D	6050.508		
	47.1	6.9	4.5	p	D	6052.02		
Cather	47.091	107.029	24.6	vmp1	S	6051.536		
	46.957	263.506	2.8	p	I			
Almeida	46.6	123.3	15.5	e	P	6051.898		
Jaantje	46.546	123.085	7.85	p	S	6052.06		
Valentina	46.384	144.083	24.6	p	P	6051.662		
Jamila	45.841	134.773	7.9	p	M	6051.673		
Terhi	45.713	253.094	10.7	p	M	6051.072		
Samantha	45.557	281.676	16.9	p	P,I	6050.511		
Zvereva	45.357	283.12	22.9	fl	P	6050.516		
Barto	45.336	146.252	48	p	I,P	6051.373		
Chubado	45.3	5.6	7	p	I	6051.751		
Gentileschi	45.218	260.645	20.5	p	P	6050.901		
Lebedeva	45.21	49.776	37.4	vs?	P	6051.405		
Prichard	44.9	11.542	23.3	p	P	6051.318		
Pirkko	44.78	254.58	12.3	p	I	6051.079		
Tahia	44.3	73.7	6.1	p	M	6050.377		
Anaxandra	44.215	162.264	20.4	p	P	6050.697		
Nadira	44.13	201.526	31.4	fc1	P	6051.25		
Erkeley	43.968	103.343	8	p	M	6051.599		
Ariadne	43.942	359.972	23.6	p	P	6051.42		
	43.8	290.5	1.4	p	S	6051.102		
Namiko	43.4	56.2	13	p	P,I	6050.837		
	43.333	67.707	3.4	p	I	6050.665		
Ruth	43.275	19.854	18.5	p	P	6051.365		
	43	150.9	2	p	M	6051.087		
Yerguk	42.749	226.785	6.3	p	I	6052.175		
	42.7	141.7	3.3	p	M	6051.57		
Pasha	42.7	156.3	7.2	p	S	6050.701		
Veta	42.6	349.5	6.4	p	I	6050.546		
Polina	42.421	148.162	21.6	p	S	6051.22		
Zina	41.946	320.067	9	p	I	6050.843		
Talvikki	41.9	22	12.6	p	P	6051.61		
Taglioni	41.714	122.578	31	fl	P	6051.343		
	41.618	308.284	4.3	p	I	6050.44		
Daphne	41.3	280.4	15.5	p	P,I	6051.143		

Mu Guiying	41.181	81.035	32.3	p	P,I	6051.636		
Kylli	41.1	67	13.2	p	P	6051.315		
Unitkak	40.8	199.5	8	p	I	6051.357		
Odarka	40.781	138.198	7	p	M	6051.598		
	40.6	65.3	4	p	S	6050.719		
Avene	40.4	149.4	10	p	I	6051.084		
Khatun	40.317	87.196	44.1	p	P	6053.335		
	40.276	105.882	4.4	p	I	6051.723		
Jeanne	40.082	331.527	19.4	p	P	6051.257		
Cholpon	40.035	290.004	6.3	fl	S	6051.547		
Heloise	40	51.9	38	vhpl	M	6051.141		
	39.564	340	2.3	p	M			
	39.8	289.8	1.3	p	S	6051.587		
Lena	39.5	23	15.2	p	P	6051.278		
Anya	39.5	297.8	18.1	p	P	6051.154		
Aisha	39.296	53.338	10.6	vhp	I	6051.54		
	39.152	53.173	3.8	p	S			
Lenore	38.691	292.201	15.5	p	P	6051.368		
	38.659	114.672	4.7	p	S	6050.826		
Sasha	38.343	277.792	4.6	fl	I	Questionable, vol?		
Datsolalee	38.3	171.8	17.5	p	I	6051.536		
Poss. volcanic	38.294	326.635	14.8	vh2	?			
Aigul	38.2	280.4	6	l2	S	6052.991		
Inga	38.1	226.6	10	p	I	6052.61		
Piret	37.794	41.723	27	fl	P	6051.283		
	37.7	350.1	2	p	M	6050.397		
Bly	37.687	305.543	18.7	p	M,P	6051.084		
Stina	37.54	22.841	10.4	p	S	6051.698		
de Stael	37.387	324.254	25	p	P,I	6051.047		
Olivia	37.221	207.898	10.2	p	P	6051.668		
	36.7	3.6	3.6	p	M	6050.613		
Wilma	36.7	1.7	12.5	p	I	6050.852		
Lida	36.6	273.9	20.3	p	P	6052.515		
Miriam	36.5	48.2	16.5	p	S	6052.473		
Birute	36.079	31.964	22.3	p	P	6051.182		
	35.934	317.219	5.3	p	S			
Phaedra	35.868	252.729	15.7	p	I,P	6051.107		
	35.849	164.465	3.5	p	M	6051.087		
	35.84	208.601	3.9	p	I	6051.344		
Voynich	35.365	56.138	48.7	p	P	6051.452		
Hiromi	35.207	287.302	6	p	S	6053.178		
Patti	35.017	301.591	47	p	P	6051.935		
Ugne	34.964	205.826	10.3	p	I	6051.137		
Irina	34.952	91.162	15.2	p	P	6051.417		
Zuhrah	34.7	357	5.8	p	M	6050.709		
Moses	34.619	119.9	28	p	P	6051.091		
Ayisatu	34.6	5.5	7	p	S	6050.667		
Letitia	34.536	288.655	17.5	p	P	6053.328		
Merian	34.484	76.279	22.2	p	P	6053.176		
Melanka	34.4	19.2	9	p	M	6051.287		
Vassi	34.366	346.495	8.5	p	I	6050.771		
Sanger	33.772	288.563	83.6	fl	D	6053.534		
Uleken	33.7	185.1	10.9	p	M	6050.973		
Wazata	33.6	298.3	13.9	p	S	6051.747		
Noreen	33.573	22.697	18.6	p	P	6051.891		
Sanija	33.064	250.994	18	p	P	6050.997		
Al-Taymuriyya	32.855	336.149	19	p	P	6051.385		
Yambika	32.6	208.7	6.5	p	S	6051.662		
Fazu	32.408	106.052	6.1	p	I	6050.73		
Edgeworth	32.205	22.757	29	p	P	6051.636		
Defa	32.2	11.3	8.5	p	I	6051.059		
Zumrad	32.08	94.791	12.9	P	P	6051.855		

	31.643	324.326	2.5	p	S	6050.997		
Potanina	31.625	53.087	94.2	P	B	6051.895		
Bernhardt	31.562	84.419	25.3	p	P	6052.443		
Tsetsa	31.326	317.722	9.9	p	I	6050.925		
Udyaka	30.9	172.9	7.7	p	M	6051.433		
Akiko	30.6	187.3	17.4	p	LP	6052.133		
Mumtaz-Mahal	30.288	228.435	38.2	fl	P	6051.909		
Liliya	30.2	31.1	15	p	I	6051.782		
Nalkuta	30.1	307.8	6.5	p	I	6051.151		
Regina	30	147.265	24.9	p	P	6051.419		
MacDonald	29.992	120.716	17.6	p	I	6051.656		
Balch	29.903	282.906	40	fb	P	6054.423		
Oshalche	29.7	155.5	8.3	p	M	6050.788		
	29.606	135.42	2	p	I	6051.113		
Mukhina	29.527	0.54	24.5	p	P	6051.873		
Frosya	29.491	113.367	9.8	p	I	6050.862		
	29	181.9	4.5	p	M	6051.915		
Truth	28.676	287.75	47.3	p	P	6053.873		
Tseraskaya	28.635	79.248	30.3	p	P	6051.675		
Dafina	28.624	244.146	5.5	p	I	6051.589		
Halima	28.483	14.603	8.9	p	S	6051.254		
Vlasta	28.413	250.079	10.7	p	S	6052.008		
Christie	28.309	72.672	23.3	p	P	6050.565		
Browning	28.279	4.94	23.4	p	P	6051.222		
Loan	28.26	60.02	7.4	p	M	6051.508		
Saida	28.2	302	9.5	p	I	6052.14		
Nalkowska	28.142	289.953	22.2	p	P	6053.007		
Antonina*	28.115	106.843	13.8	p	P	6050.657		
Iraida	27.8	108.1	6.5	p	I	6050.605		
Raisa	27.5	280.3	13.5	vh	S	6054.604		
Questionable	27.47	86.04	8.5	p	M	6051.545		
Nutsa	27.469	341.793	8	fl	I	6051.837		
Barton	27.44	337.494	52.2	p	D	6051.234		
Yeska	27.4	230.1	9.1	p	I	6051.803		
	27.3	277	3	p	I	6053.871		
Degu	27.3	289.8	5.5	p	M	6053.296		
Lachappelle	26.719	336.702	36.8	p	P	6051.51		
Kafutchi	26.7	16.4	7.1	p	M	6051.496		
Bachira	26.5	10	7.3	p	I	6050.925		
Roxanna	26.5	334.6	9.5	p	I	6051.048		
Ferber	26.374	12.945	23.1	p	P	6051.07		
Gautier	26.341	42.819	59.3	vh	S	6051.205		
Vallija	26.334	120	15.2	p	I	6050.925		
Kumba	26.3	332.7	11.4	p	I	6051.167		
Olga	26.1	283.8	15.5	f2	P	6055.185		
West	26.072	302.959	28.8	vml	P	6052.217		
Bakikat	26	356.8	7.4	p	M	6052.46		
Nijinskaya	25.791	122.517	36.2	p	P	6051.13		
Mona Lisa	25.614	25.148	79.4	p	B	6051.544		
Manzolini	25.613	91.347	41.8	p	I	6051.868		
Lilian	25.6	336	13.5	p	I	6051.278		
Cori	25.438	72.853	56.1	p	D	6050.763		
Kollwitz	25.175	133.615	29.1	p	P	6051.086		
Tako	25.107	285.274	10.7	p	S	6054.77		
O'Keeffe	24.512	228.776	76.9	vs?	S	6052.333		
Millay	24.43	111.223	48	fl	LP	6051.466		
Boleyn	24.415	220.05	70.4	fl	D	6052.227		
UFyana	24.3	253	12.5	p	S	6051.52		
Mbul'di	23.8	74.7	6	p	I	6050.635		
Audrey	23.8	348.1	15.2	p	S	6052.169		
Li Qingzhao	23.737	94.636	22.8	p	P	6051.642		
Caldwell	23.628	112.421	51	p	D	6051.602		

Ven 2/18/98 MASTER-OF KEEP LAT

Tubman	23.626	204.568	42.9	l2	P	6051.811		
Heidi	23.6	350.1	15.2	vh	M	6052.058		
Qulzhan	23.5	165.4	7.9	p	M	6051.366		
Horner	23.415	97.747	25.2	p	P	6051.271		
Maria Celeste	23.393	140.38	97.5	p	D	6051.557		
Romanskaya	23.221	178.441	30.4	vs2?	P	6051.659		
Lullin	23.04	81.274	25.1	p	P	6051.846		
Greenaway	22.898	145.059	93	p	D	6051.279		
Corinna	22.8	40.6	19.2	p	P	6051.545		
Madina	22.729	58.053	6.3	p	I	6051.216		
Ayashe	22.7	31.4	6.7	p	I	6051.318		
	22.6	94.1	3	p	I	6051.398		
Reiko	22.6	192.1	9.75	p	S	6052.233		
Wendla	22.52	207.628	5.7	p	I	6051.814		
Annia Faustina	22.075	4.705	23.4	p	P	6051.811		
Karo	21.9	37.2	7	p	S	6051.962		
Tussaud	21.726	220.957	16	p	I	6051.608		
du Chatelet	21.5	165	18.5	p	P	6051.655		
Callirhoe	21.229	140.685	33.8	p	P	6051.477		
Tekarohi	21.223	76.483	9.3	p	P	6051.697		
Yazruk	21.193	160.223	10.45	p	M	6051.04		
Bourke-White	21.167	147.931	33.6	p	P	6050.771		
Kiris	20.9	98.8	13.3	p	S	6051.59		
Puhioia	20.6	69.4	5.5	p	I	6051.06		
Gulchatay	20.55	295.5	9	vm?	I,P	6052.034		
Parra	20.49	78.481	42.4	p	P	6052.251		
de Lalande	20.455	354.993	21.3	p	S	6052.958		
Veriko	20.4	350.1	5.2	p	M	6052.255		
Aurelia	20.262	331.812	31.1	p	P	6050.54		
Sheila	19.957	50.206	5.6	p	S	6051.778		
Marere	19.561	65.778	6.3	p	I	6051.111		
Johanna	19.5	247.3	15.1	p	S	6051.433		
Esther	19.369	21.812	17.6	p	I	6051.773		
Weil	19.359	283.127	24.2	p	P	6054.8		
Centlivre	19.069	290.397	28.8	p	P	6052.313		
Himiko	18.992	124.256	36.6	p	P	6051.46		
Faufau	18.756	8.335	7.85	p	S	6051.289		
Shih Mai-Yu	18.432	318.919	22.3	p	P	6051.135		
Domnika	18.4	294.3	6.7	p	I	6052.032		
Zulfiya	18.4	101.9	12.9	p	S	6051.698		
Olesnicka	18.306	210.9	33	vh2	P	6052.862		
Escoda	18.178	149.469	19.6	p	S	6051.158		
Seymour	18.16	326.482	63	p	D	6051.006		
Baranamtarra	17.944	267.801	25.5	vh3	P	6053.137		
Hannah	17.9	102.6	19.8	p	P	6051.5		
Montez	17.9	266.5	21.1	p	P	6053.342		
Gaze	17.888	240.216	33.3	l2	P	6051.477		
Vard	17.516	314.542	6.1	vm	P	6051.246		
Caccini	17.427	170.435	38.1	p	P	6051.476		
Wilder	17.39	122.559	35.1	p	P	6052.26		
Vigier Lebrun	17.311	141.382	57.8	p	D	6051.291		
Mosaido	17.3	75.2	7.4	p	S	6051.488		
Grimke	17.237	215.34	34.8	l2	P	6051.942		
Ban Zhao	17.143	146.962	39	p	P	6050.789		
Nyal'ga	17.039	64.521	5.5	p	I	6051.459		
Zarema	16.8	235.25	5	p	M	6053.332		
Neda	16.708	313.515	7.7	p	S	6051.372		
Sitwell	16.635	190.402	32.8	p	P	6053.459		
Wheatley	16.617	268.033	74.8	fl	D	6052.351		
Barrera	16.564	109.419	27	p	P	6051.592		
Bradstreet	16.512	47.693	36	p	P	6052.613		
Vasilutsa	16.5	334.4	5.7	p	I	6050.524		

Enid	16.4	352.1	9.2	p	I	6051.977		
Aimee	16.1	127.2	17	p	P	6051.13		
Ninzi	15.9	331.7	7.1	p	I	6050.484		
Ferrier	15.742	111.317	29.1	fl	P	6051.852		
NAME	15.6	61.57	15.1	vh2	P			
Afua	15.5	124	10	p	M	6051.246		
Devorguilla	15.336	3.987	22.9	p	P	6052.155		
Hiriata	15.272	23.473	5	p	S	6051.564		
	15.11	116.769	4.5	p	I	6051.621		
Amenardes	15.014	54.316	27.9	p	P	6051.531		
Huarei	15	32.3	8.5	p	I	6051.414		
Anush	14.9	86.5	12.7	fl	P	6051.887		
Bashkirtseff	14.678	194.043	36.2	vml	P	6053.483		
Konopnicka	14.5	166.6	20.1	p	P	6051.71		
Cunitz	14.479	350.924	48.6	p	D	6051.207		
Riley	14.054	72.475	20.2	p	P	6051.813		
Xi Wang	14	208	7.7	p	I	6052.209		
	13.97	191.64	1.5	p	M	6053.399		
Kaisa	13.496	293.286	12	p	P	6051.683		
Sidney	13.385	199.617	20.2	p	P	6053.637		
	13.314	123.454	1.9	p	S	6050.97		
	13.3	112.8	4.2	p	I	6051.281		
Ualinka	13.248	168.578	8.1	p	S	6052.024		
Wang Zhenyi	13.24	217.778	23.4	fl	P	6052.353		
Agoe	13.118	4.25	6.3	p	I	6051.621		
Beecher	13.04	253.439	40.4	p	P	6050.871		
Adzoba	12.8	117	10	p	M	6051.396		
Margarita	12.7	9.2	13	p	P,I	6050.968		
Mead	12.485	57.215	270	vs1	B	6051.582		
Helvi	12.458	82.663	12.2	p	I	6052.022		
Neeltje	12.403	124.455	10	p		6051.236		
de Ayala	12.35	31.92	19	p	I,P	6051.667		
Phyllis	12.275	132.381	11.4	p	S	6051.816		
	11.962	132.326	3.9	p	I	6051.573		
Yemysh	11.9	214.7	6	p	M,P	6051.813		
Oksana	11.9	352	7.7	p	I	6051.258		
Festa	11.478	27.245	35.3	fl	P	6051.621		
Rhoda	11.4	347.7	12.2	p	P	6050.84		
Merit Ptah	11.4	115.6	16.5	p	I	6051.086		
Amaya	11.318	89.383	34.5	p	P	6052.632		
Blackburne	11.009	183.895	30.5	p	P	6053.587		
Pamela	11	238.5	14.2	fl	S	6051.989		
Olena	10.9	149	7	p	I	6051.437		
Udagan	10.7	206.9	11.5	p	S	6052.098		
Lydia	10.7	340.7	15.2	p	S	6050.403		
Barauka	10.6	346.3	12.9	p	I	6050.64		
Gudrun	10.587	326.415	13.3	p	P	6051.21		
Iondra	10.5	286.5	7.9	p	I,P	6051.696		
Rowena	10.4	171.4	19.5	p	P	6051.525		
	10.372	136.541	4.1	p	I	6051.522		
Rosa Bonheur	9.733	288.784	104	f2	D	6051.813		
Gwynn	9.712	37.205	32	p	I,P	6051.933		
Tinyl	9.691	132.101	12.8	fl	S	6051.346		
Suliko	9.64	214.62	14.9	f3	P	6051.435		
Zamudio	9.601	189.31	19	vh1	S	6053.442		
Akuba	9.6	23	5.5	p	S	6051.706		
Manton	9.313	26.873	20.5	p	P	6051.697		
Poss. volcanic	9.31	54.25	17.45	vh	P			
Marianne	9.3	358	9	p	M	6051.04		
Adivar	8.905	76.201	30.3	p	P	6051.824		
Aita	8.9	270.7	14	p	P	6051.125		
Kelea	8.888	25.585	24.5	p	P,I	6051.6		

	8.57	280.367	3.3	p	S	6051.153		
Rhys	8.57	298.792	44	p	P	6051.757		
	8.54	132.37	4	p	I	6051.754		
	8.3	267.7	3.5	p	S	6051.178		
Higgins	8.076	241.319	40	fb	M	6051.363		
	8.05	148	3.5	p	M	6051.726		
Akeley	8.022	244.547	23.4	p	P	6051.129		
	7.961	74.182	4.3	p	I	6051.893		
Kuro	7.846	57.608	8.8	p	M	6051.654		
Yolanda	7.8	152.7	11.4	p	P	6051.721		
Nadine	7.8	359.1	18.6	p	P	6051.119		
Ortensia	7.6	155.7	7	p	I	6051.818		
Yvette	7.453	249.589	10.6	p	P	6051.006		
Zula	7.272	282.049	5	p	M	6051.248		
Potter	7.173	309.121	46.9	vml	P	6051.812		
Gregory	7.134	95.842	18	fl?	I	6052.684		
Caroline	6.9	306.3	18	p	P	6051.56		
Nsele	6.7	64.2	5.1	p	M	6053.679		
	6.678	298.279	1.5	p	I	6052.424		
Icheko	6.6	97.9	5.9	fl	I,P	6053.738		
Aminata	6.6	25.2	9.7	p	S	6051.551		
Chapelle	6.427	103.793	22	p	P	6051.968		
	6.41	272.2	4.5	p	I	6051.516		
	6.35	83.35	4.6	p	I	6052.039		
Clio	6.3	333.5	11.4	p	S	6051.022		
Hwangcini	6.297	141.753	30.2	p	P	6052.095		
Abra	6.233	97.388	7.2	fl	S			
Quslu	6.231	166.789	8.7	p	P	6051.295		
	6.224	282.634	4.5	p	M	6051.388		
Susanna	6.022	93.31	13.3	p	S	6053.505		
Naomi	6.018	70.261	17.5	fl	S	6053.377		
Ngone	6	331.9	12.2	p	P	6051.183		
Khafiza	5.973	299.173	7	p	M	6052.614		
Nemcova	5.898	125.146	22.9	p	P	6052.486		
	5.76	84.3	4.9	p	M	6052.193		
Olesya	5.632	273.26	12	p	P	6051.658		
Joshce	5.48	288.716	37	vh3	P	6052.487		
Suriya	5.3	178.2	15.3	p	P	6051.372		
Carter	5.3	67.3	17.5	p	I	6054.13		
Hepworth	5.133	94.654	62.6	p	D	6054.752		
Dyasya	5.082	297.658	7.8	p	S	6052.324		
	4.969	166.64	3.5	p	M	6051.453		
Faiga	4.9	170.9	9.6	p	I	6051.604		
Maranda	4.882	169.744	16.8	p	P	6051.426		
Questionable crt	4.867	321.962	2	p	I			
Farida	4.8	38.9	18	p	P	6051.942		
Hellman	4.747	356.265	34.7	p	P	6051.087		
Melba	4.707	193.457	21.8	vs	P	6052.792		
	4.603	241.401	4.4	p	I	6051.278		
	4.345	274.592	4.5	p	S	6051.447		
Afiruwa	4.3	3.8	5.2	p	M	6052.04		
Boivin	4.281	299.506	20.4	p	P,I	6052.205		
Ketzia	3.979	300.498	14.6	vs	P	6052.067		
Asmik	3.94	166.434	19.5	p	P	6051.664		
Orczy	3.696	52.31	26.9	p	P	6051.654		
Castro	3.359	233.93	22.9	p	P	6051.155		
Winema	3.05	168.59	21.7	p	S	6051.805		
Shakira	3.048	213.636	17.6	p	P	6051.809		
	2.92	5.04	4.9	p	M			
Pat	2.913	262.634	10.1	p	M	6051.651		
Tsiala	2.9	100	16.5	p	P	6055.226		
Varya	2.762	211.808	14.3	p	I	6050.43		

	2.647	50.425	4.6	p	M	6051.583		
Richards	2.509	196.07	25	vh	P	6054.792		
Callas	2.44	27.026	33.8	p	P	6050.915		
Ogulbek	2.395	145.099	6.5	p	M	6052.109		
Uvaysi	2.344	198.254	38.9	vs1?	P	6055.791		
	2.336	262.76	2.8	p	I	6051.576		
Doris	2.3	90	14.5	∅	S	6055.265		
Yakyt	2.1	170.2	13.8	fl	P	6052.061		
Fossey	2.016	188.722	30.4	p	P	6052.622		
	2	256.2	4.3	vm	M	6051.115		
de Beauvoir	1.953	96.137	52.5	p	D	6055.426		
Lyuba	1.646	283.881	12.4	p	S	6052.018		
Piscopia	1.502	190.909	26.2	vs1?	P	6053.048		
Kala	1.486	314.435	17.4	vs1?	P,I	6051.775		
Altana	1.443	69.866	6	p	S	6053.56		
Commena	1.2	343.7	19.5	p	P	6051.1		
Mirabeau	1.141	284.311	23.8	p	P	6052.092		
Estelle	1.1	93.7	18.8	p	P	6055.763		
Leyster	0.96	260.043	45.8	p	D	6051.024		
Kodu	0.9	338.7	10.5	p	I	6050.676		
Piaf	0.785	5.302	39.1	fl	P	6051.121		
Toklas	0.719	273.091	17.5	p	S	6051.597		
Budevskia	0.544	143.167	18	p	P	6052.264		
Corpman	0.325	151.84	46	fl	D	6052.329		
Jutta	0.007	142.662	7	p	M	6052.445		
Parishan	-0.2	146.5	6.8	p	S	6052.226		
Fava	-0.772	87.379	9.7	p	S	6055.202		
Paige	-1.2	24.6	6.8	p	S	6051.158		
Patimat	-1.261	156.545	5.1	p	M	6051.87		
Sullivan	-1.39	110.873	32	p	P	6052.738		
Khelifa	-1.524	129.853	10.8	fl	S	6054.539		
Joliot-Curie	-1.582	62.402	91.1	p	D	6051.76		
Taira	-1.6	296.8	19.6	p	P	6052.697		
Mahina	-2	182.2	15.4	p	P	6051.689		
Janina	-2.031	135.669	9.3	p	I	6053.297		
	-2.08	10.258	1.8	P	M			
Zeinab	-2.24	159.685	12.5	p	P	6051.352		
Alma	-2.389	228.789	16.8	p	P	6052.252		
Chechek	-2.6	272.3	7.2	fl	I	6053.354		
	-2.92	344.61	3.7	p				
Andreianova	-2.974	68.764	66.1	p	D	6052.877		
	-3.1	169	3.7	p	I	6051.564		
Zija	-3.476	265.019	16.8	p	M	6051.623		
Makola	-3.787	106.664	16.6	fl	S	6054.364		
Carreno	-3.853	16.077	57	p	P	6050.784		
Nin	-3.932	266.432	27.1	p	P	6052.542		
Alison	-3.957	165.638	14.4	p	P	6051.43		
Markham	-4.133	155.596	71.8	p	D	6051.955		
	-4.162	286.289	7.5	∅	P			
Lara	-4.256	2.917	3.4	p	I	6050.869		
Jennifer	-4.6	99.8	9.6	p	S	6055.467		
Madeleine	-4.744	293.217	16	p	I,P	6051.899		
Kelly	-4.8	359.2	11.2	p	M	6051.234		
Wen Shu	-4.982	303.676	31.5	p	P	6051.869		
de Beausoleil	-4.985	102.85	28.2	p	P	6054.96		
Salika	-4.992	97.701	12.5	p	S	6055.966		
Lineta	-5	354.1	15.6	p	S	6051.513		
von Schuurman	-5.021	191.003	29.1	p	P	6053.59		
Virve	-5.063	346.89	18	p	P	6051.139		
Evika	-5.1	31.4	20.3	p	P	6052.245		
Noriko	-5.3	358.3	7.5	fl	S	6051.366		
Quimby	-5.675	76.707	23.2	vmp?	P	6054.441		

Yoko	-5.7	232	5	p	I	6051.991		
Buck	-5.742	349.602	21.8	p	P	6051.063		
Sabira	-5.752	239.861	15.7	p	S	6051.104		
	-5.956	46.605	3	p	I	6052.781		
Vanessa	-5.971	1.892	10	p	I	6051.565		
Graham	-6	6	75	vs?	I	6051.017		
Whiting	-6.06	127.986	35.7	p	P	6054.262		
Kyen	-6.186	64.74	5.2	fl	M	6052.69		
Bonnin	-6.264	117.58	28.5	p	I	6054.912		
Valerie	-6.378	30.949	13.6	p	P	6051.397		
	-6.4	274.1	2.9	p	M	6052.269		
De Witt	-6.527	275.624	20.7	p	P	6052.509		
Gilmore	-6.673	132.75	21.3	fz	S	6055.401		
Heather	-6.8	334.1	11.5	p	M	6051.616		
Vashti	-6.8	43.7	17	p	S	6052.225		
Chloe	-7.363	98.582	18.6	p	P	6056.115		
Zulma	-7.68	102	11	fl	S	6055.182		
Tiffany	-8.687	22.885	7	p	S	6051.132		
Nedko	-8.77	317.62	8.5	p	P	6051.017		
Rae	-8.897	58.376	5.5	p	I	6052.578		
Isako	-8.981	277.959	13.5	fz	P	6052.921		
Urazbike	-9.007	202.48	7	p	I	6052.778		
Taussig	-9.228	229.02	25.8	p	P	6052.026		
	-9.3	157	12.3	p	I	6053.135		
Boye	-9.641	292.259	28	p	P	6051.857		
Storni	-9.752	245.578	21.7	P	M	6051.443		
Temou	-10.034	83.365	9.3	fl	I	6055.479		
Elma	-10.1	91.1	10.2	fl	P,I	6054.61		
	-10.2	327.6	3	p	M	6051.586		
Bascom	-10.398	302.151	34.6	vsI	P	6052.443		
	-10.4	248.36	3.5	p	I	6052.086		
Helga	-10.413	116.705	8.8	fl	I	6054.349		
von Suttner	-10.636	234.938	24	p	P	6051.762		
Safarmo	-10.8	161.4	7.4	p	M	6052.124		
Xantippe	-10.862	11.751	40.4	p	P	6051.499		
Questionable crt	-10.88	173.68	2.5	p	S	6054.538		
Leslie	-11.2	13.5	7.2	p	I or S	6051.699		
Magdalena	-11.244	48.708	11.5	p	I	6051.73		
Cortese	-11.359	218.394	27.7	fl	P	6052.403		
Amalasthuna	-11.5	342.4	15.4	p	P	6051.299		
Martinez	-11.678	174.747	23.5	fz	P	6052.728		
Warren	-11.723	176.528	50.9	fl	P	6052.991		
Giselle	-11.804	298.027	10.4	p	M	6052.642		
	-11.81	302.78	2.3	p	S			
Rebecca	-12.1	5.4	9.5	p	P	6051.618		
Teura	-12.315	90.16	9.3	p	S	6054.462		
Izakay	-12.337	210.853	10.2	p	S	6052.056		
Caiwenji	-12.362	287.61	22.6	p	P	6052.024		
Linda	-12.4	2.8	7.1	p	M	6051.55		
Karen	-12.4	17.7	10.5	p	S	6051.211		
Ilga	-12.403	307.345	10.8	p	S	6052.382		
Ingrid	-12.437	308.862	11.5	fz	M	6052.17		
Recarnier	-12.569	58.114	25.3	p	P	6053.156		
Zurka	-12.8	275.2	5.5	fl	I	6053.012		
Workman	-12.888	299.906	17.4	p	P	6052.288		
Bender	-12.962	327.35	39.8	p	P	6051.451		
Thomas	-13.016	272.539	25.2	p	P	6052.396		
Frank	-13.138	12.914	22.7	p	I	6051.307		
Yale	-13.4	271.2	18.5	p	P	6051.881		
Emma	-13.738	302.278	11.8	fl	S	6052.302		
Grace	-13.8	268.9	19	p	I	6051.722		
Yonge	-13.99	115.072	42.8	fl	LP	6054.276		

Dado	-13.998	87.651	11.2	p	I	6053.081		
Tsyrrna	-14.128	318.479	7.8	p	S	6051.113		
Meredith	-14.518	278.887	11.4	p	I	6052.778		
Mowatt	-14.576	292.298	38.4	fl	P	6052.045		
Maa-Ling	-14.7	359.5	6	p	I,P	6051.087		
	-14.742	184.032	4.7	p	I	6053.714		
Adamson	-14.806	29.635	27.2	p	P	6051.546		
Jurnaisat	-15.055	135.62	7.5	p	S	6055.23		
Bathsheba	-15.057	49.451	32.3	p	P	6051.727		
Fouquet	-15.089	203.52	47.8	p	P	6052.041		
Gillian	-15.176	50.086	14.7	p	P	6051.616		
Florence	-15.219	85.045	10.5	p	M	6052.717		
Munter	-15.287	39.338	32.1	p	P	6051.273		
Winnemucca	-15.359	121.061	30.3	fl	I	6054.272		
Laurencin	-15.36	46.542	29.8	fl	P	6051.611		
Ailar	-15.816	68.391	8.2	p	S	6051.353		
Ndella	-15.931	60.699	5.9	p	P	6051.326		
Yenlik	-16	225.4	8.6	fl	S	6052.163		
Cynthia	-16.736	347.453	15.9	p	P	6051.466		
Jhirad	-16.848	105.583	50.2	p	D	6053.149		
Langtry	-16.971	154.998	50.3	ß	D	6052.657		
Andami	-17.482	26.533	28.9	p	P	6051.223		
	-17.688	313.873	2.1	p	S			
Fatima	-17.8	31.9	14.5	p	P	6051.226		
Gabriela	-17.8	240.4	17.5	p	P	6052.336		
Lois	-17.9	214.7	13.5	fl	I	6052.309		
Avviyar	-18.042	353.666	20.6	p	I	6051.091		
Aethelflaed	-18.204	196.574	20	p	S	6052.183		
	-18.298	300.905	4.2	p	M	6051.429		
Elena	-18.338	73.384	17.6	p	I,P	6051.498		
Zosia	-18.9	109.2	10.5	p	S	6053.003		
Bassi	-18.96	64.737	31	p	P	6051.092		
Tanya	-19.3	282.7	14	vm	S	6052.832		
Darline	-19.329	232.649	13	fl	P,M	6051.512		
Medhavi	-19.35	40.564	30.4	p	P	6051.828		
Michelle	-19.559	40.509	15	e	P	6051.804		
Loretta	-19.749	202.597	13.5	p	P	6051.902		
Halle	-19.791	145.532	21.5	p	S	6053.166		
Felicia	-19.819	226.481	11.5	p	I	6051.917		
Udaltsova	-20.285	275.348	26.7	p	P	6052.046		
Georgina	-20.4	58.8	5.9	p	I	6051.272		
Peggy	-20.4	357.2	11.9	fl	S	6051.072		
Drena	-20.7	338.7	2.4	p	M	6051.478		
Klafsky	-20.722	188.099	25.5	ß	P	6053.441		
	-20.988	216.642	3.4	p	M	6051.648		
Liv	-21.084	303.869	11.2	p	I	6051.526		
Astrid	-21.4	335.2	10.5	p	I	6051.604		
	-21.6	176.3	4.7	p	M	6052.679		
Marie	-21.7	232.4	14.2	p	P	6052.038		
Cline	-21.847	317.085	38	p	P	6051.603		
Jerusha	-22	342.7	17.2	p	P	6051.513		
	-22.31	342.522	2.4	vm?	S	6051.476		
	-22.467	269.964	4	fl	I	6052.261		
Devorah	-22.5	343.4	4.8	p	M	6051.604		
Badarzewska	-22.572	137.202	29.6	vmp2	P	6053.609		
Kingsley	-22.623	306.372	26.6	p	P	6051.791		
Hansberry	-22.705	324.089	26.6	vs2	M,P	6052.349		
Nyele	-22.721	318.401	11.9	p	I	6051.714		
Ellen	-22.776	281.27	14.6	vhp	I,S	6052.045		
Eileen	-22.8	232.7	16.1	p	P	6052.353		
	-22.985	150.896	2.5	p	I	6052.517		
Bugoslavskaya	-23.006	300.416	29.9	p	P	6051.367		

Fukiko	-23.115	105.756	13.9	p	I	6052.664		
Scarpellini	-23.249	34.599	27.1	fl	P	6051.686		
Stanton	-23.262	199.264	107	p	D	6052.068		
Galindo	-23.264	258.838	23.8	f2	S	6052.261		
Leida	-23.268	266.595	18.8	p	I	6052.419		
Mariko	-23.273	132.888	12.9	fl	S			
Maltby	-23.283	119.692	36.6	f3	P	6053.677		
(Maybe splotch!)	-23.296	132.9	11.5	p	I			
Umaima	-23.3	195.4	6.9	p	I	6052.13		
Orguk	-23.5	198.2	11.7	p	S	6052.052		
Pena	-23.62	190.647	29.6	fl	P	6052.456		
Gulnara	-23.7	174	5	fl	M	6051.682		
Carr	-24.05	295.664	31.85	vmp1	P	6051.875		
Carson	-24.182	344.14	38.8	p	P	6051.591		
Bette	-24.6	347.9	7.2	p	M	6051.554		
Willard	-24.646	296.064	48.4	fl	P	6051.874		
	-25.006	311.152	3.4	p	I	6051.605		
Austen	-25.006	168.423	45.1	p	P	6053.387		
Kimitonga	-25.05	48.25	5	p	I	6051.828		
	-25.262	239.88	3.4	p	M	6051.488		
Pavlinka	-25.5	158.7	7.5	p	M	6053.146		
Wu Hou	-25.511	317.418	27.5	p	P	6051.483		
Ruit	-25.554	72.964	6.4	fl	I	6051.139		
Onissya	-25.6	150.2	8.2	p	M	6052.1		
O'Connor	-25.963	143.89	30.4	p	P	6052.588		
	-26.1	130.4	3	f3	M	6053.422		
Yasuko	-26.1	169	10.6	p	P	6053.212		
Anicia	-26.324	31.288	38.2	p	P	6051.765		
Danilova	-26.381	337.242	48.8	p	P	6052.044		
Aglaonice	-26.387	339.932	63.7	p	P	6051.877		
Zhu Shuzhen	-26.492	356.522	29.4	p	P	6051.58		
Emilia	-26.5	88.2	12.5	p	I	6051.532		
	-26.6	167.9	2.8	p	M	6052.786		
Boulangier	-26.631	99.25	71.5	p	D	6052.808		
Nelike	-26.78	329.16	6.3	p	I	6052.012		
Simonenko	-26.864	97.622	31.9	p	P	6052.236		
Virga	-26.981	7.752	10.3	fl	I	6052.638		
Ivne	-27	132.83	9	f2	M	6052.183		
Hanka	-27.273	114.317	5	p	I	6053.484		
Yomile	-27.3	138.7	13.6	p	I	6053.139		
	-27.38	330	2	p	M			
	-27.7	184.2	4.2	p	I	6051.963		
Nadia	-27.908	0.632	11.3	p	I	6052.798		
Janyl	-27.97	138.822	5.6	p	I	6053.105		
Francesca	-28	57.7	17	p	P	6051.236		
Inkeri	-28.33	223.997	10.1	p	I	6051.884		
Kastusha	-28.56	59.959	13	p	P	6051.198		
Saskia	-28.585	337.122	37.1	p	P	6051.848		
Sophia	-28.639	18.768	17.6	p	P	6051.773		
Kitna	-28.91	277.276	15.3	p	P	6052.112		
Peck	-28.912	294.252	30.4	vmp	P	6052.297		
Judith	-29.082	104.459	16.6	p	I	6052.635		
Amanda	-29.184	94.469	12.5	vm	P	6052.254		
Ayana	-29.2	175.5	13.8	p	P,I	6051.912		
Oakley	-29.299	310.534	18.4	p	I,P	6052.117		
Zenobia	-29.348	28.555	39.1	p	P	6051.734		
Alimat	-29.5	205.9	13.5	e	S	6051.756		
Katrya	-29.521	108.7	9.2	p	I	6052.507		
Zerine	-29.579	258.603	6.5	fl	I	6052.473		
Isabella	-29.813	204.194	175	p	B	6051.941		
Stein	-30.141	345.49	13.3	p	P,M	6051.348		
Whitney	-30.154	151.343	42.5	fl	P	6052.037		

Masako	-30.181	53.169	23.8	p	P	6051.519		
Radhika	-30.322	166.459	7.9	p	M	6052.311		
Xenia	-30.35	249.422	13.5	p	I	6051.096		
Moore	-30.354	248.403	21.1	p	P	6051.07		
Tehina	-30.356	76.426	5.4	p	I	6051.099		
Kalombo	-30.5	34	9.6	p	I,P	6052.198		
Stuart	-30.79	20.224	68.6	p	D	6051.787		
Koinyt	-30.916	293.263	11.7	p	P	6052.145		
Purev	-31.1	46.4	11.6	p	S	6052.031		
Sirani	-31.453	230.395	28.3	p	P	6051.729		
Deloria	-32.02	97.126	31.9	p	P,I	6052.459		
von Paradis	-32.193	314.866	37.5	p	P	6052.174		
Yoshioka	-32.367	58.95	16.6	p	S	6052.005		
Behn	-32.449	142.04	25.4	fl	P	6053.074		
Kanik	-32.544	249.875	16.5	p	P	6051.217		
	-32.58	314.677	2	e	S	6051.926		
Royle	-32.715	193.72	6.1	p	M	6051.509		
Kaikilani	-32.8	163.2	19.9	p	P	6051.674		
Lockwood	-32.887	51.593	22	p	P	6051.922		
Qarlygha	-33	162.9	9.3	p	P	6051.631		
Jocelyn	-33.23	276.402	14	p	P	6052.437		
Agrippina	-33.249	65.652	38.6	p	P	6051.093		
Cohn	-33.3	208.1	18.3	p	P	6051.43		
Maret	-33.305	280.238	11.7	p	S	6052.423		
	-33.4	216.2	3.3	p	I	6051.485		
Mansa	-33.9	63.4	8.1	p	I	6051.054		
Yonsuk	-33.933	234.807	8.5	p	I	6051.489		
Leah	-34.2	187.8	12	p	M	6051.725		
d' Este	-34.268	238.937	21.6	p	P	6051.719		
Elza	-34.421	275.889	18	p	S	6051.935		
	-34.95	105.56	1.5	p	M	6052.206		
Rose	-35.169	248.226	15.5	p	I	6051.191		
Nevelson	-35.272	307.801	69.8	p	D	6052.142		
Dorothy	-35.4	11.3	8.4	vhp	S	6051.852		
Ma Shouzhzen	-35.665	92.539	18.9	p	P	6051.795		
Jodi	-35.7	68.7	10.2	p	M	6051.155		
Ulpu	-35.753	179.093	7	p	M	6051.47		
Viola	-36.117	240.511	10	p	I	6051.52		
Bonnevie	-36.13	127.039	92.2	p	D	6052.411		
Seseg	-36.336	312.64	9.8	p	M	6052.028		
Dix	-37.011	329.024	63.3	p	D	6052.137		
Deborah	-37.3	10.6	9.7	p	M,P	6051.715		
	-37.538	235.351	3.2	p	I	6051.709		
Woolf	-37.683	27.202	24.5	fl	M,P	6052.03		
Germain	-37.949	63.676	35.5	p	P	6051.092		
Veronica	-38.1	124.6	17.9	p	I	6052.642		
Nilanti	-38.252	331.442	9.2	vhp	I	6051.815		
Teurnere	-38.3	88.1	5.4	p	I	6051.141		
Sabin	-38.505	274.727	33.1	p	P	6052.318		
	-38.7	359.1	3	p	I	6051.474		
Samintang	-39.012	80.707	25.9	p	P	6051.458		
	-39.029	260.316	4.5	p	I	6051.253		
Hadisha	-39.04	97.179	8.9	p	M	6051.113		
Wollstonecraft	-39.141	260.81	44.1	p	M,P	6051.363		
Boyd	-39.364	221.391	22	p	I	6051.757		
	-39.4	110	3.3	p	M	6051.655		
Agnesi	-39.431	37.715	42.4	p	P	6051.824		
Maurea	-39.517	69.09	9.9	p	I	6051.468		
Mae	-40.5	345.2	7.5	p	I	6051.072		
Bernice	-40.7	14.8	12.6	vhp1	S	6052.02		
Philomena	-40.742	151.881	14.8	p	P	6051.537		
Ustinya	-41.16	251.646	11.8	fl	S	6051.967		

Vaka	-41.4	8.9	11.8	p	S	6052.229		
Steinbach	-41.422	256.945	20.3	p	P	6051.698		
	-41.6	142.9	4.8	p	I	6052.406		
Eini	-41.6	96.4	5.9	p	I,P	6050.898		
Odikha	-41.648	238.121	10.6	fl	P	6051.585		
Muriel	-41.7	12.4	20.2	p	I	6052.286		
Aksentyeva	-41.999	271.926	42.5	p	P	6051.992		
	-42.05	149.6	2.6	p	M	6051.646		
Jalgurik	-42.327	125.126	7.5	p	I	6052.576		
Sarah	-42.434	1.757	18.5	p	S	6051.474		
Teresa	-42.5	10	14.8	fl	I	6052.018		
Lu Zhi	-42.577	303.368	8.3	vhp	S	6052.267		
Inira	-43.101	239.366	16.5	p	I	6051.376		
Stowe	-43.198	233.17	80	p	S	6050.971		
Xiao Hong	-43.539	101.679	38.7	p	P	6050.87		
	-42.715	329.108	7.6	fl	S			
Shushan	-43.806	70.223	8.5	p	I	6051.74		
Kosi	-43.94	54.987	7.7	p	I	6051.23		
Shasenem	-44.055	258.922	9	p	M,P	6051.501		
Lehmann	-44.104	39.063	21.7	vs?	P,I	6051.384		
Leila	-44.2	86.8	18.8	p	P	6050.969		
Kenny	-44.353	271.053	52.7	vml	D	6051.873		
NAME	-44.805	225.537	12.4	p	I	6050.981		
Bridgit	-45.3	348.8	10	fl	I	6051.171		
Sandel	-45.7	211.7	17.9	p	P,I	6052.349		
Howe	-45.706	174.836	38.6	p	P	6051.527		
Alima	-46	229.2	10.3	p	I	6050.757		
Phryne	-46.152	314.724	39.4	p	P	6051.345		
Zemfira	-46.2	157.7	11.4	p	P	6051.195		
	-46.3	126	4.8	p	M	6051.865		
Nyogari	-46.4	306.4	13	p	S	6052.392		
Bernadette	-46.639	285.598	12.8	vm	I	6052.307		
Holiday	-46.737	12.833	27.7	fl	P	6051.638		
Erin	-47.042	184.803	13.6	p	I	6051.201		
Afiba	-47.117	102.68	9.5	p	M			
Adaiah	-47.283	253.35	18	p	P	6051.338		
Yelya	-47.5	211.7	8.65	p	M	6052.479		
Ottavia	-47.5	187.1	12.9	p	P	6051.003		
Abington	-47.786	277.709	21.7	p	P	6051.882		
Chiyojo	-47.801	95.699	40.2	fl	P	6051.331		
Imagmi	-48.41	100.745	7.6	p	I	6050.786		
	-48.55	216.01	3.5	p	I	6052.397		
	-48.7	354.9	4.2	vmp1?	I	6051.231		
Rachel	-48.7	13.5	12.5	p	I	6052.178		
Nastya	-49.009	275.892	12.5	p	P	6051.534		
Valadon	-49.043	167.66	25.2	p	P	6051.705		
Nomeda	-49.194	55.508	10.4	p	P	6051.876		
Raki	-49.4	70	7.5	p	M	6052.221		
Yokhtik	-50.1	158.1	11.4	p	S	6051.703		
Fredegonde	-50.502	93.276	25.2	p	P	6051.66		
Erleben	-50.854	39.404	31.6	p	P	6052.232		
Irma	-50.9	122	9.5	p	M	6051.156		
Ulla	-51.508	184.552	10.4	p	I	6050.864		
Mildred	-51.7	348.3	12	p	I	6051.1		
Istadoy	-51.8	132.6	5.4	p	I	6051.163		
Henie	-51.941	145.972	70.4	p	P	6050.833		
Von Siebold	-51.989	36.646	32.4	p	P	6051.709		
Abigail	-52.2	111.2	18.4	p	P	6050.839		
Barrymore	-52.343	195.684	56.6	fel	D	6051.003		
Grey	-52.418	329.363	50	p	P	6051.197		
Abaka	-52.526	104.375	14.5	p	I,P	6050.981		
Hsueh Tao	-52.584	13.793	21	fb	P	6051.217		

Lazarus	-52.858	127.206	24.2	p	P	6051.23		
Virginia	-52.9	185.9	18.5	p	P	6050.872		
Retno	-52.956	192.356	7.2	p	I	6051.014		
Umkana	-53.3	198.6	6.2	p	I	6051.084		
Ngaio	-53.3	61.8	9.5	p	I	6052.591		
Izudyr	-53.9	135.2	6.6	p	S	6050.937		
Huang Daopo	-54.201	165.254	29.1	fl	P	6051.971		
Flagstad	-54.305	18.884	39.2	p	I	6051.811		
Trollope	-54.761	246.366	27.2	p	P	6051.054		
Nadeyka	-54.8	305.3	9.3	p		6051.607		
	-55.4	129	4.5	p	M	6051.001		
Nina	-55.532	238.712	24.6	p	M,P	6051.149		
Meitner	-55.623	321.601	149	p	B	6051.635		
Yvonne	-55.988	298.393	14.5	p	P	6051.146		
Godiva	-56.137	251.603	30.7	p	P	6051.083		
Dunghe	-56.19	295.322	5.5	p	M	6051		
Addams	-56.202	98.94	87	p	D	6051.713		
???????	-56.9	160.6	3.7	p	S	6051.311		
Opika	-57.1	151.9	9.8	p	I	6050.768		
Guzel	-57.643	298.683	7.3	p	M	6051.2		
Delilah	-57.92	250.232	18.5	p	P,I	6051.041		
Guilbert	-57.996	13.637	25.5	p	P	6051.843		
Glaspell	-58.434	269.559	26.3	p	P	6051.117		
Runak	-58.5	196.3	7.6	p	I	6051.252		
Akosua	-58.6	18.1	6.2	p	I	6052.293		
Nofret	-58.762	252.182	22.5	p	I	6051.062		
Marzhan	-58.924	248.342	13.8	p	P,I	6051.26		
Eudocia	-59.066	201.958	27.5	p	P	6051.445		
Alcott	-59.52	354.388	66	vh1	S	6052.266		
Gretchen	-59.7	212.3	20.8	p	P	6051.196		
Kahlo	-59.855	178.874	35.6	p	P	6051.01		
Blixen	-60.13	145.689	20.8	p	P	6050.684		
Vesna	-60.3	220.5	14.9	p	LP	6051.306		
Jane	-60.458	304.781	10.2	p	I	6051.625		
Colleen	-60.8	162.2	13.5	p	P,M	6051.109		
Kollado	-61	53.4	5.5	p	M	6052.308		
Nakai	-61.027	286.187	4.5	p	M	6051.393		
Guan Daosheng	-61.088	181.805	43.6	p	P	6051.119		
Morisot	-61.173	211.337	48	p	P	6051.072		
Evelyn	-61.2	212.3	18	p,e	P	6051.008		
Ichikawa	-61.583	156.322	31.4	p	P	6050.997		
Megan	-61.8	130.6	15.8	p	P	6051.328		
Jitka	-61.9	70.9	13	p	P	6051.595		
Lucia	-62.1	67.8	16	p	P	6051.699		
Parvina	-62.2	153	7	p	M	6050.938		
Uluk	-62.2	178.6	10.3	fl	S	6051.326		
Durant	-62.307	227.653	21.1	p	I	6051.529		
Pychik	-62.4	33.8	10.1	fl	I	6052.01		
Bryce	-62.512	196.99	23.9	p	P	6051.357		
Melanie	-62.75	144.3	12.3	p	I	6050.74		
Juanita	-62.8	90	19.3	p	P	6052.361		
Tuyara	-62.9	15.5	13.2	fl	I	6052.475		
Dinah	-62.9	37.1	15.6	fb	I	6051.78		
Vacarescu	-62.957	199.794	31.5	p	P	6051.113		
Goncharova	-63.002	97.737	30.3	p	I	6052.255		
Ponselle	-63.014	289.118	57.7	p	D	6051.964		
Sartika	-63.391	67.025	18.7	p	M,P	6051.659		
Berggolts	-63.451	52.991	29.5	p	P	6051.765		
Danute	-63.5	56.5	12.3	p	P	6051.815		
Marsh	-63.598	46.596	47.7	p	P	6052.152		
Rand	-63.775	59.536	24.3	p	P	6051.94		
Feruk	-64	107.6	8.3	p	I	6051.806		

Oku	-64.2	232.2	13.3	p	P	6051.246		
Yonok	-65.1	234.1	9.5	p	P	6051.195		
Mamajan	-65.104	257.267	2	p	S	6050.871		
Kristina	-65.2	315.9	9.7	p	I	6051.475		
Caitlin	-65.3	12	14.7	p	M	6053.889		
Lyon	-66.506	270.553	12.4	p	P	6051.061		
Zakiya	-66.54	234.136	7.5	p	S	6051.313		
Ines	-67.092	241.92	11.2	p	P,I	6050.836		
Sayers	-67.502	229.802	98	p	D	6051.07		
Sandi	-68.1	315.1	12.6	p	I	6050.992		
Orlette	-68.11	193.311	12.5	p	P,I	6051.387		
Laulani	-68.174	121.176	12.4	fl	S	6051.208		
Ximena	-68.219	243.624	12.8	p	S	6050.595		
Flutra	-68.394	112.083	6	p	I	6051.826		
Edinger	-68.816	208.524	33.3	p	P	6051.591		
Hilkka	-69	72	10.3	p	P	6051.856		
Melina	-69.9	319.5	12.7	p	I	6050.766		
Jacqueline	-70.058	123.609	16.5	p	S	6051.701		
Matahina	-72.333	65.911	8.5	p	S	6051.829		
Giliani	-72.913	142.115	19.9	p	P	6051.248		
Wiwi-yokpa	-73.848	228.371	4.5	p	I	6051.06		
Leonard	-73.848	185.178	31.7	p	P	6051.338		
Oivit	-73.918	195.51	4.8	p	I	6051.469		
Wieck	-74.229	244.819	20.2	p	P	6050.958		
Simbya	-74.432	129.979	4	p	I	6051.282		
Isolde	-74.527	211.963	11.9	p	P,I	6051.12		
Rufina	-74.617	195.166	5	p	M	6051.99		
Eila	-74.998	94.626	9.5	p	S	6051.643		
Teroro	-75.784	88.065	9.2	p	I	6051.731		
Lhagva	-75.816	300.121	7.9	p	I	6051.182		
Nilsson	-75.939	277.566	27.3	p	P	6051.197		
Uyengimi	-76.862	204.957	8.9	p	I	6051.485		
Hurston	-77.644	94.736	52.4	p	D	6051.485		
Erinna	-78.002	309.121	33.8	p	P	6051.162		
Gahano	-80.165	77.427	4.5	p	I	6051.523		
Bickerdyke	-82.025	171.324	36.3	p	P	6051.457		
Duse	-82.5	358	30.4	p	P	6051.796		