
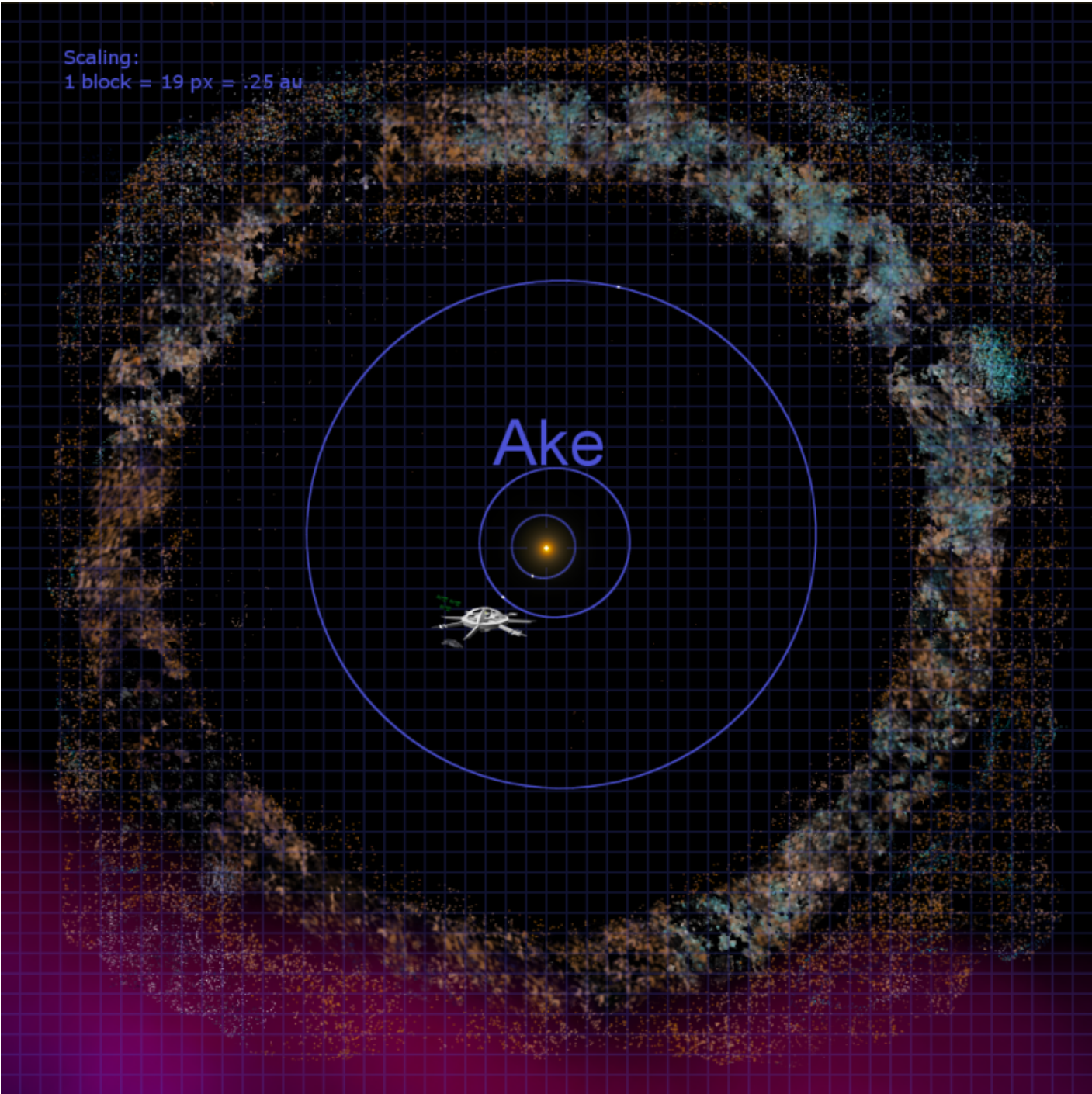


# Ake

The inhospitable Orange Dwarf system, called Ake. Having the single largest asteroid belt ever discovered and a  [metallicity](#) 10 times the average, Ake is home to a plethora of rare minerals, including titanium, niobium, osmium, and aluminum just to name a few.

Ake	
<b>Type of System:</b>	Mono-Star System
<b>Star Type:</b>	Orange Dwarf
<b>First Planet:</b>	Ormageddan
<b>Second Planet:</b>	Ake
<b>Third Planet:</b>	Mimei
<b>Asteroid Belt:</b>	Enkou Halo Belt
<b>Dwarf Planet:</b>	Meiōsei Beta

Ake is located 50 ly north and 5 ly west of [Yamatai Star System](#) and is close to [Cellondora](#) and [Ether](#). This system was discovered by [Aerin Tatst](#) and her employees in [YE 31](#). The [Origin Industries](#) Company at [ORIN Orbital Shipyards \(OOSY\) Dawn Station](#) currently resides in this system.



## Orange Dwarf Star

Heading	Details
Type:	K0
Size:	V
Stellar radii:	.860 R <sub>sun</sub>
Stellar mass:	.860 sol
Temp:	5,385° K

## Planet 1: Ormageddan

The entire surface of this planet is covered in hot liquid-metal lava with a metallic, stone core. As such, its name is a parody on the mispronunciation of the word Armageddon. A constant rainstorm clutches the atmosphere worldwide. This planet's atmosphere is composed mostly of hydrogen, sodium, carbon dioxide, aluminum, and magnesium. It has dense clouds with high concentrations of aluminum, magnesium, and titanium oxide forming liquid-metal rain. Along with aforementioned metals, vanadium oxide and manganese particles can be found in the ash due to erupting volcanoes. Besides conductive liquid-metals, the planet is notable abundance of metallic hydrogen and metallic carbon in its lava seas. There are also notable deposits of iridium, niobium, tin, ytterbium, and many other transition metals scatter across the surface.

Heading	Details
Type:	Chthonian
Semimajor Axis:	0.3925 AU
Mass:	10.50 Earth Mass
Planetary radius:	13,945 km
Circumference:	70,843 km
Surface gravity:	2.19 g
Escape Velocity:	18.22 km/sec
Rotation (day):	17 hours
Length of year:	.27 years (96.85 days)
Number of satellites:	0
Average Temp:	1378.01° C
Population:	Uninhabitable

## Planet 2: Ake

The planet's trace atmosphere is primarily composed of nitrogen, oxygen, carbon dioxide, and ammonia. Due to the high amounts of ammonia and methane, the atmosphere is not breathable and smells. Buried deep in soil, deposits of titanium and osmium can be found. Although, for the most part, Ake is a quiet windswept landscape of alkali earth rock and cobalt oxide desert, summer time storms on Ake strike quickly and deep like a polar bear's claws. At least 3 months of a year bitter dust storms howl leaving blue streak incisions and valleys of frozen ammonia from flash floods. Travelers to this planet should also be wary of erupting cryovolcanoes. However Ake does have some benefits; it is a great test bed for human survival and weaponry.

Heading	Details
Type:	Rocky World
Semimajor Axis:	.93 AU
Mass:	1.04 x 10 <sup>25</sup> kg <sup>1)</sup>
Planetary radius:	7547.39 km <sup>2)</sup>
Circumference:	47421.65 km <sup>3)</sup>

Heading	Details
Surface gravity:	12.16 m/s2 <sup>4)</sup>
Escape Velocity:	13.55 km/s
Rotation (day):	23.2 hours
Length of year:	0.97 years (353.24 days)
Number of satellites:	1
Average Temp:	5º C
Population:	NA

## Terraforming Ake

Over the last few years, Origin has been throwing comets onto the equatorial surface of Ake in order to provide water to the planet's surface. The result is a series of crater-lakes dotting the equator of the planet's surface like a perforated line which might instruct 'Cut here'. However, as these dots are made up of water, the instruction is printed more honestly as 'Land terraforming crews here' and so they have. The first crew disappeared without a trace, suddenly gone after a nasty storm which caused heavy sensor interference. The [second crew](#) was able to successfully kickstart the terraforming of the system, and over the next decade Origin industries was able to make the system habitable. In the early YE 40's, Origin began building a city on the planet's surface.

## Origin Orbital Facilities

- [Dawn Station](#): Orbiting high above the rock world Ake's is the [OOSY](#) called Dawn Station, which is the headquarters for [Origin Industries](#). It is also the base of operations for [Origin Security Corporation](#), [OIF Atuan](#), and [OIF Halberdine](#).

## Planet 3: Mimei

This medium size gas giant is composed of hydrogen, helium, nitrogen, carbon dioxide, ammonia methane, and neon. Due to the high methane and 250 mph average winds, the planet is deep ocean blue with various white and yellow stripes around its equator. Its name is Yamataian for “the grey of morning.”

Heading	Details
Type:	Gas Giant
Semimajor Axis:	3.15 AU
Mass:	18.40 Earth Mass
Planetary radius:	16,830 km
Circumference:	105,744 km
Surface gravity:	2.65 g
Escape Velocity:	21.10 km/sec
Rotation (day):	10 hours

Heading	Details
Length of year:	6.03 years (2202 days)
Number of satellites:	0
Average Temp:	-146.23° C
Population:	NA

## Enkou Halo Belt

Roughly 40 times larger than any other asteroid belt found, the Enkou Halo Belt received its name because it appeared to Dawn Station construction workers as a giant wave of 'Enkou', which is Yamataian for “fire” and “halo”. In fact, this fiery halo is so bright it blocks out most of the stars in the galaxy when seen from Planet Ake at night. In this ring, there are believed to be or have been between 1-10 dwarf planets inside the belt at some point in history. However, as of YE 32, only a large dwarf planet has been spotted.

Besides luminous interstellar dust, ice water, various metal fragments, Ake's Halo is created from the belt's primary composition of 🌠comets and Sideritic asteroids (🌠M-types). However, outside the visible, the original astronomical observations found a sharp 'bump' in the debris disk's spectrum around 11 microns. This result suggested strongly that 🌠T-type, 🌠P-type, and 🌠D-type asteroids both are secondary in abundance and make up the majority of the comets. While an unusual rarity of less than 4%, actual explorations of belt have observed that there are a few larger Kuiperian 🌠C-type asteroids.

Heading	Details
Type:	Asteroid Belt
Semimajor Axis:	5 AU
Mass:	0.0241 Earth Mass
Width:	1 - 1.9 AU
Surface gravity:	negligible
Length of year:	12.06 years (4403 days)
Average Temp:	-172.41° C

## Dwarf Planet 1: Meiōsei Beta

Meiōsei Beta derives its name from having a similar chemical composition to Meiōsei, which is Yamataian for the mythical land where, in ancient occult legends, a powerful lesser deity of death. When first spotted by telescope, Meiōsei Beta was originally believed to be incredibly large comet or D-type asteroid due to properties of the belt and the objects faint tail; however, closer inspection from patrols revealed it to be an unusual orange and blue C-type dwarf planet with a comet tail.

This icy rock dwarf planet has no atmosphere except for the trace amounts of ethane and ice that form its tail. The total mass of the rock is  $1.44 \times 10^{23}$  kg. On the surface of the planet is a layer of water-ice, frozen carbon monoxide, frozen ethane, and frozen methane. Directly under this icy crust is a massive deep orange-yellow stratum of frozen nitrogen. Its color and the presence of ethane suggested that at one point in its life, the planet had cryovolcanic activity to create the necessary differentiation, but now it is just an inactive rock drifting in the void. In particular, it is crust's high differentiation in abundance

between methane (blue) and carbon monoxide (clear) that gives the planet is contrasting blue-orange appearance.

Below nitrogen layer, there is hypothesized to be a mixed cooled mantle of [aenigmatite](#), [cronstedtite](#), various [aluminum phyllosilicates](#), [mica](#), [siderite](#), [titanite](#), and niobium until one reaches the core. Due to the small presence of a magnetic field planet is believed to have a cooled nickel-iron core of most likely [Taenite](#). As of YE 32, this iron core hypothesis has not been confirmed.

Type:	Ice Rock Dwarf World
% Mass of Belt:	1.6% (1/60)
Average Radius:	500 km
Surface gravity:	negligible
Length of Day:	9.3 hr
Average Temp:	-172.41° C

## OOO Notes

On 24/01/2023 [Kai](#) edited the parameters of planet #2 to make it more hospitable as a roleplay location, and to reflect the more than decade of terraforming [Origin Industries](#) did.

Places of the SARPiverse	
Opened/Settled (YE)	<a href="#">YE 31</a>
Place Categories	star system

1)

1.74 x earth

2) 3)

1.18 x earth

4)

1.24 x earth

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