Epsilon-8 Extraction

Your squad of marines has been deployed to Epsilon-8 in response to a distress signal from Dr. Veylen Deltais, a scientist stationed at Origin Labs, an underground research facitlity.

Two teams were sent in response. Marine Crew 2 landed near the surface beacon and began tracking the aliens across the barren landscape. Meanwhile, your crew descended into the underground research facility.

The deeper you go, the clearer the grim reality becomes. The base is in ruins. The bodies of scientists and security personnel litter the halls, their wounds unnatural. The air is thick with decay, and something skitters just beyond the flickering emergency lights.

Worse, the missile defense system has gone into lockdown, leaving the colony on Epsilon-8 vulnerable. Marine Crew 2 is transmitting their position using their communications transponder, but for some reason, the planet's interference is preventing them from sending precise GPS coordinates. Messages are spotty and sporadic. You don't know exactly where they are–only that they're out there, moving fast, and they're not alone.

Your objectives are clear: Override the lockdown. Fire the missile at the alien hive. Transmit extraction coordinates to evacuate Marine Crew 2.

Time is running out. The facility isn't safe. The planet isn't safe. The only question is–will you make it out alive?

Communications Transponder
8:00
Marine Crew 2: We've been rucking through the alien landscape, traveling straight north. The terrain is harsh, and the air is thick with an unsettling tension. Along the way, we discovered dead human remains–the bodies were viciously torn apart. The aliens are getting closer. We've set our course to track them back to their hive, no matter the cost. Our speed will remain constant to maintain steady progress, and we will send updates if we change position. We've transmitted our current GPS coordinates to the lab, but the interference we're experiencing seems to be caused by the planet's magnetic fields, which are preventing further GPS pings from reaching the satellite. It's a challenge, but we'll keep going.
Gravitational calibration **test** fire
Missile Direction
$\vec{s} = \begin{bmatrix} s_{East/West} \\ s_{North/South} \end{bmatrix} = \begin{bmatrix} 17 \\ 7 \end{bmatrix}$
Initial Velocity
$\vec{v}_i = \begin{bmatrix} v_{horizontal} = 300\ m/s \\ v_{vertical} = 400\ m/s \end{bmatrix}$
Vertical Position
Height in meters
$t = 0$
$t = 100$
Time in **seconds**
Missile velocity
Velocity $v_{vertical}$ in m/s
$t = 0$
Time in **seconds**
Fuel Used: 50 L
$\vec{g} =$ ... loading ...


1000
Communications Transponder
12:15
Marine Crew 2: We've picked up the scent and adjusted our velocity to match the aliens' movements. We are now traveling at the velocity vector given below:
$$\vec{v} = \begin{bmatrix} v_{East/West} = 1\tfrac{2}{3}\,\mathrm{m/s} \\ v_{North/South} = 2\tfrac{2}{3}\,\mathrm{km/hr} \end{bmatrix}$$
We're making good time with the planet's gravity, we're pushing forward – we can feel the hive is close. If we continue on this course, we'll be there soon.


Communications Transponder
18:15
Marine Crew 2: We stopped right over the hive! It's time to make a break for it. We are headed straight East! The team accelerated at a constant 1/6 m/s² for 30 seconds straight, then kept steady at that pace for exactly 119 minutes and 45 seconds, not a second longer. After that, we'll hunker down, dig in, and await extraction. We'll make sure everything is ready, but it's going to be a dangerous wait.
1130
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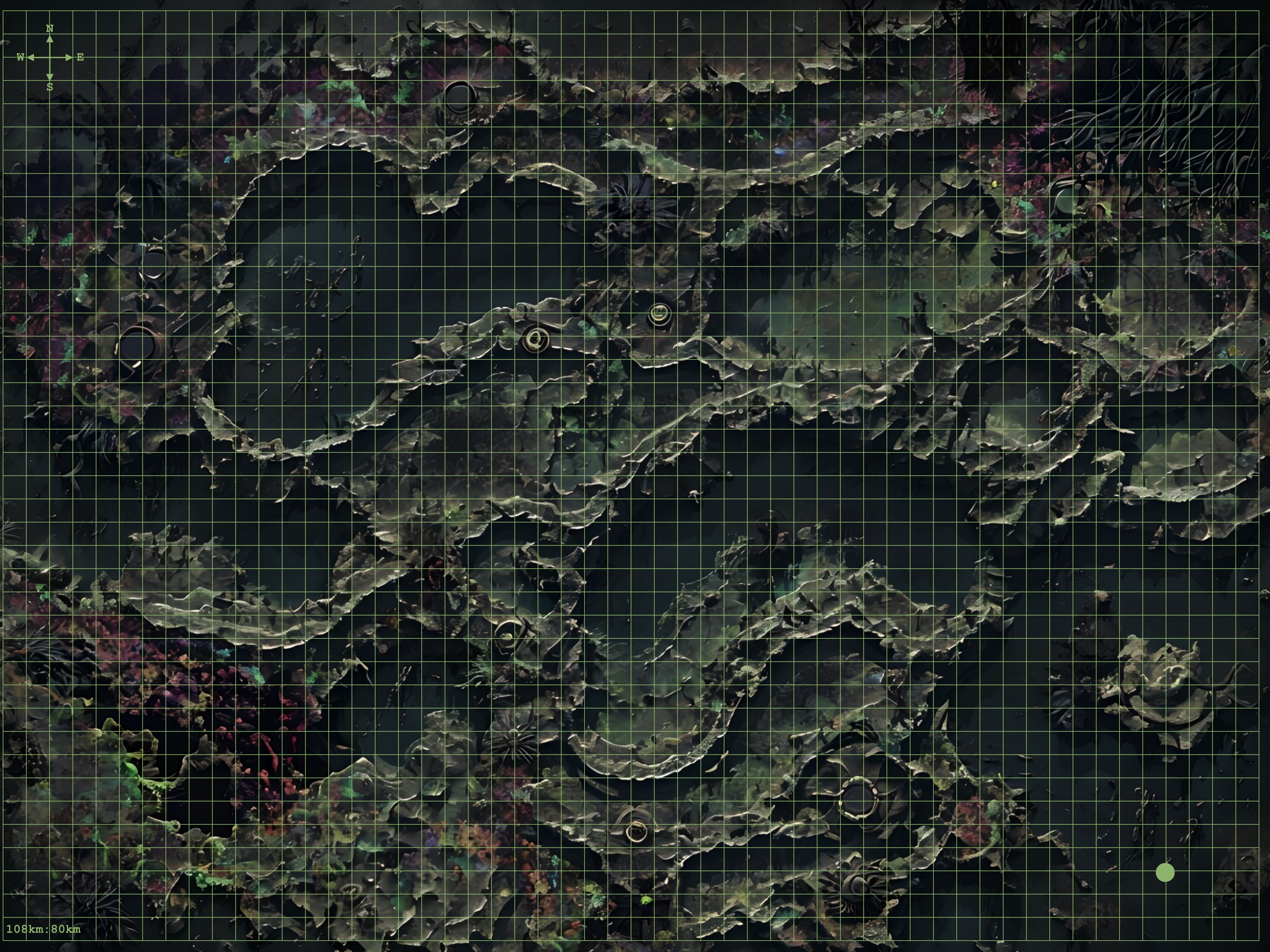
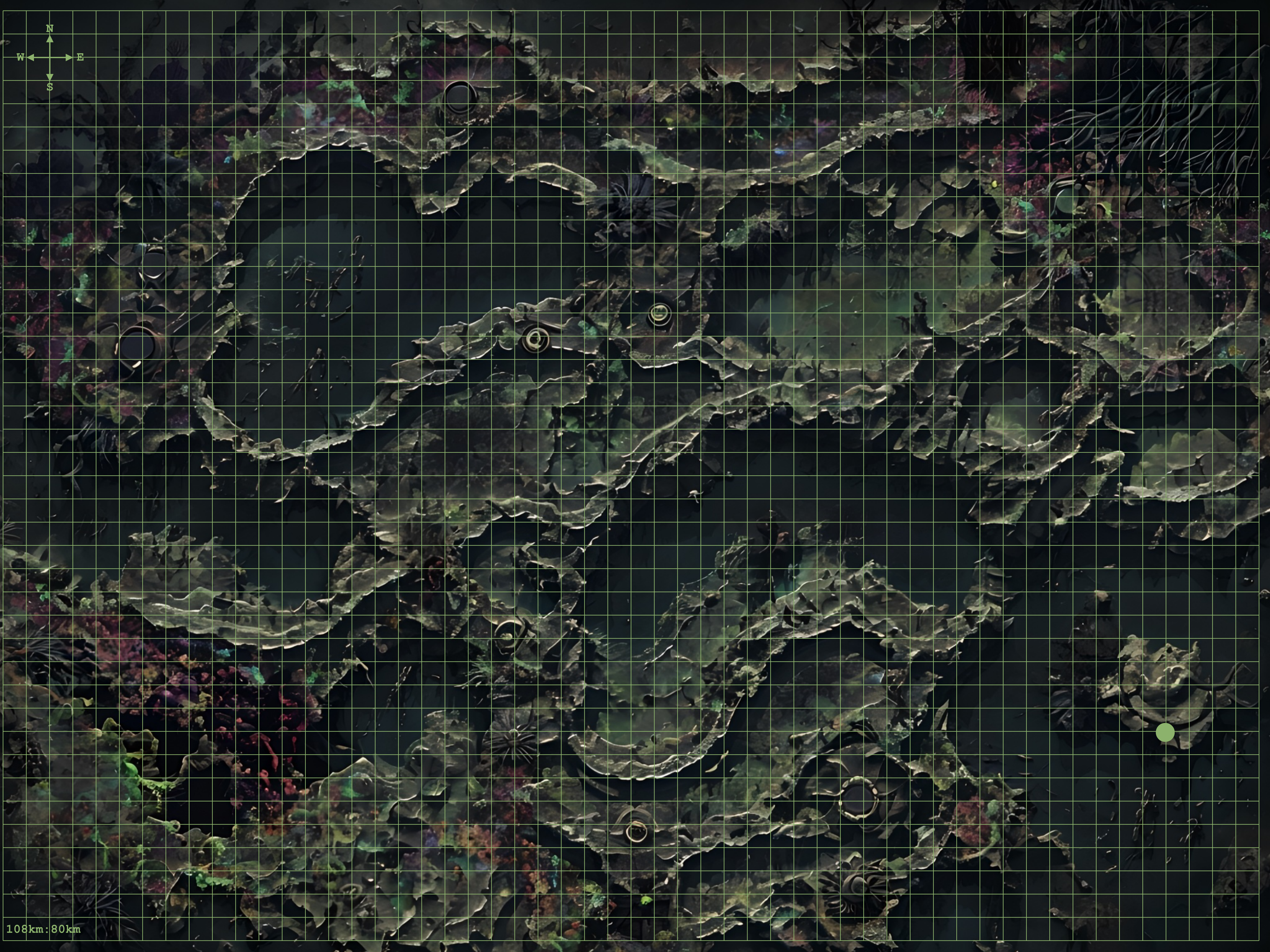
Stability Factor
Fuel Type
1
2
3
4
5
6
7
8


N
W
E
S
108km:80km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Classified Research Notes – Secure Access Only

Through extensive missile trials and statistical analysis, it has become evident that the choice of casing plays a pivotal role in launch success. Structural integrity under high-pressure conditions, resistance to atmospheric interference, and thermal resilience have all been tested rigorously. After evaluating the results, it is clear that the casing which maximizes the chance of a successful launch is determined by (in lowest terms) the conditional probability:

$$P(\text{Casing} \mid \text{Success}) = \frac{a}{b}$$

Only the casing that maximizes this probability should be selected, ensuring the missile is built for optimal performance in the harsh conditions of Epsilon-8.

Similarly, the choice of missile material has shown significant impact on structural durability and energy transfer efficiency upon detonation. The correct material must be capable of withstanding extreme acceleration forces while maintaining its integrity upon impact. Through controlled test fires, it has been determined that the material which maximizes the probability of success can be identified (in lowest terms) by:

$$P(\text{Success} \mid \text{Material}) = \frac{c}{d}$$

The test results must be carefully analyzed to isolate the optimal material, ensuring the missile delivers its payload effectively. Any deviation from the correct selection could compromise the mission.

Missile fuel stability has proven to be another decisive factor. After extensive trials, the most reliable fuel is consistently the one with the lowest variance in stability factor. Deviations in fuel consistency have led to catastrophic failures. Only the most stable fuel should be used. Missiles consume fuel at a constant rate (ml/s). We have been experimenting with several different fuels:

1. Dark Matter Infused – 2.3 g/mL
2. Exotic Metal Fuel – 2.4 g/mL
3. Hyper-Oxidized Gel – 1.8 g/mL
4. Ionized Hydrogen – 0.07 g/mL
5. Neutron-Rich Solvent – 3.5 g/mL
6. Plasma-Fission Blend –2.9 g/mL
7. Solid Oxygen – 1.14 g/mL
8. Thermoplastic – 2.6 g/mL

With the correct casing, material, and fuel selected, the missile will be ready for launch. The initial speed of a launched missile is always the same. Precision is paramount–any errors in selection could compromise the mission. Proceed with caution.

Missile Test Launch Data - Classified

	Missile.Casing	Missile.Material	Outcome
1	Plasma-Reinforced	Carbon Composite	Success
2	Titanium X	Carbon Composite	Success
3	Plasma-Reinforced	Plasma-Fused Nanometal	Success
4	Titanium X	Plasma-Fused Nanometal	Success
5	Ceramic-Stealth	Tungsten Alloy	Success
6	Titanium X	Carbon Composite	Success
7	Ceramic-Stealth	Carbon Composite	Failure
8	Titanium X	Plasma-Fused Nanometal	Success
9	Ceramic-Stealth	Plasma-Fused Nanometal	Failure
10	Plasma-Reinforced	Tungsten Alloy	Success
11	Plasma-Reinforced	Carbon Composite	Success
12	Plasma-Reinforced	Plasma-Fused Nanometal	Success
13	Plasma-Reinforced	Tungsten Alloy	Failure
14	Ceramic-Stealth	Tungsten Alloy	Success
15	Ceramic-Stealth	Carbon Composite	Failure
16	Plasma-Reinforced	Plasma-Fused Nanometal	Success
17	Plasma-Reinforced	Plasma-Fused Nanometal	Failure
18	Ceramic-Stealth	Tungsten Alloy	Success
19	Ceramic-Stealth	Tungsten Alloy	Failure
20	Titanium X	Plasma-Fused Nanometal	Success
21	Ceramic-Stealth	Tungsten Alloy	Failure
22	Ceramic-Stealth	Plasma-Fused Nanometal	Failure
23	Ceramic-Stealth	Plasma-Fused Nanometal	Failure
24	Ceramic-Stealth	Carbon Composite	Failure
25	Ceramic-Stealth	Plasma-Fused Nanometal	Failure
26	Ceramic-Stealth	Carbon Composite	Failure
27	Titanium X	Carbon Composite	Success
28	Titanium X	Carbon Composite	Success
29	Titanium X	Carbon Composite	Success
30	Plasma-Reinforced	Plasma-Fused Nanometal	Success
31	Plasma-Reinforced	Plasma-Fused Nanometal	Success
32	Titanium X	Tungsten Alloy	Success
33	Titanium X	Plasma-Fused Nanometal	Success
34	Ceramic-Stealth	Carbon Composite	Success
35	Plasma-Reinforced	Tungsten Alloy	Success
36	Plasma-Reinforced	Tungsten Alloy	Failure
37	Titanium X	Plasma-Fused Nanometal	Success
38	Ceramic-Stealth	Plasma-Fused Nanometal	Failure
39	Ceramic-Stealth	Plasma-Fused Nanometal	Failure
40	Plasma-Reinforced	Plasma-Fused Nanometal	Success
41	Plasma-Reinforced	Tungsten Alloy	Success
42	Titanium X	Plasma-Fused Nanometal	Success
43	Plasma-Reinforced	Carbon Composite	Success
44	Ceramic-Stealth	Carbon Composite	Failure
45	Titanium X	Plasma-Fused Nanometal	Success
46	Titanium X	Plasma-Fused Nanometal	Success
47	Ceramic-Stealth	Tungsten Alloy	Failure
48	Ceramic-Stealth	Carbon Composite	Success
49	Ceramic-Stealth	Tungsten Alloy	Failure
50	Ceramic-Stealth	Plasma-Fused Nanometal	Failure