

Report 2: The Cave of Forgotten Comm Stations

Written 29 April 2018

Introduction

I find myself curious about what Werner Herzog would have to say about this project, visiting the abandoned site of a human-created base on a synthetic world, recording the locations and text of dozens of messages left behind by tourists just before a massive climate change event forced the population of this once-lush region of the galaxy to relocate to the stars.

Biorinerth ML518 is the oldest settlement in the Legacy Hub, settled before the Hub was called the "Hub", one surrounded by communication stations from 64 unique guests as well as the settler and Hub-founder himself, Syn1334. It felt a bit like conducting the archaeological equivalent of what might equate to Abraham Lincoln's boyhood home.

This report is split into two parts, the first concerning Syn1334's base, and the second regarding the "Cave of Forgotten Comm Stations." First, one needs an introduction to Biorinerth ML518, known to the Galactic Hub community as "Pepper Dusk."

The Current Landscape and Climatology of Pepper Dusk

Pepper Dusk is one of four planets in the system "HUB-G-214 Einhandler (6mDiplos, My Home) System//K4f" found in the Kogii Shallows region of the Euclid galaxy, a region that is part of what is now called the Legacy Hub (formerly Galactic Hub).

Planet Coordinates: 0468:0081:0D6E:0214

Portal Coordinates (from my signal booster): EUCO:0468:0081:0D6E:0214

Portal Coordinates (glyph address): face face bird moon pie face balloon ship triangle tent ship nebula

Circumference: ca. 8 minutes (480 seconds) at 4756u/s = 2,282,880u or ca. 2,282ku (exactly the same as Drogradur/Lennon)

Diameter: ca. 726ku

Walking distance from Syn1134's base to the portal: ca. 45ku/27mi (9 hours @ 5ku/hr pace)

Pepper Dusk is now an isotopic planet where one can find the rare materials Gamma Root, Rubeum, Nickel, and Heridium, all valuable natural resources that can be used to create or repair technology, or can be sold through the Galactic Trade network (players cannot sell to each other, although they can trade inventory items). As with every planet in *No Man's Sky*, the landscape is heterogeneous across the globe: modest-to-moderate, largely subtle (not craggy) mountains and mesas/valleys pierced with shallow caves. The ground is a mix of pink and green rock. Valleys and mesas contain occasional tall, entwined stalk plants with bulbous, green tops. Other green, yellow, and red plants are frequent and low to the ground. Mushrooms are common. Shelter is limited to caves because mountains leave one exposed. PCG-placed structures are rare and require a spaceship or exocraft to reach safely without exposure to the dust storms that bring extreme radiation.

Sentinels are "relaxed" but curious. Flora is classed in the Discovery Log as "generous" with "copious" fauna. Animals are everywhere with two of the 13 species hostile to people. Common resources include iron, titanium, carbon, thanium9, plutonium, platinum, and cave marrow.

The climate is arguably pleasant until the storms come. Interiors are a comfortable +66.2° F while exterior temperatures vary between +42.8° F and +101.2° F, 6.6–7 Rad, 12.3–16 Tox. While it gets slightly cooler at night, Tox and Rads increase. Storms last around 4 minutes and appear about every 15 minutes, which limits any archaeological time outside (although caves provide protection). Storms bring the temperature to +77.7° F with 0.7 Tox and a devastating 9.9 Rad.¹

Days (sunrise-to-sunrise): 1 real-time minute = 45 Biorinerth minutes
32 real-time minutes = 1 24-hour Biorinerth day
Dawn: 0400 local time
Dusk: 1800 local time

Fauna: 11/13 species have been recorded (9 are vegetarian): labumimae Thlamp (rare), Ubriaea Thlamp (rare) (Diplo aka dinosaur), Vaputeuseum Enrec (uncommon), Rigyroneum Ganella (common), Atarelisum Ganella (common), Sagiagimae Ganella (uncommon), Unumosae Lebez (uncommon), Kroppagoea Lebez (uncommon), Fadiumus Faid (common): Discovered by SilfenPaths, Sacrumus Faid (common).

As of this writing, 16 Waypoints have been discovered by several people. These waypoints were logged between April 11, 2017, and Aug. 6, 2017. This last date is important because the Atlas Rises update was released on August 11, 2017, and signifies an abandonment of the planet after August 11th.

Syn1334's "Peaceful Pepperbase"

Syn1334's player base is publicly visible to people playing *No Man's Sky* on PlayStation4, but it is not in its original location, a glitch that I describe below. When I arrived in the Einhandler system, on April 22, 2018, I was notified by my HUD that Syn1334's base had been located. Flying down to Pepper Dusk's surface, I noticed several dozen comm stations clustered under a mesa. No base was visible, but the base flag icon pointed to a spot in the center of the mesa. I placed a signal booster in order to get the coordinates of the base, and also placed a comm station ("NMS Archaeology 22 April 2018" which has since disappeared) and beacon.

As I walked across the mesa, I pointed my multitool at the flag icon until I was atop it. The legend still indicated one second to go, which I interpreted to mean "down." I headed into the caves to read a few of the comm stations, a few of which were dated by their inscriptions to mid-2017, before version 1.3 launched. Other comm stations are apparently underground, and at least one is in the air out of jetpack reach, only readable/reachable by ship.

From the vantage point of my signal booster, I scanned for natural resources, and in doing so inadvertently conducted a remote sensing event. Immediately a circle of purple icons appeared

¹ In *NMS* anything above 3.0 Rads seriously damages a player's avatar. The higher the rads, the faster and more serious the damage is done.

indicating valuable resources buried under the mesa surrounding the base flag icon. This is not a naturally occurring shape in the game, and helped establish a footprint of the base that had been buried in v1.3 (Fig. 12). This is not unlike identifying crop marks during aerial reconnaissance of a site/landscape, and showed me where to dig.

As it happens on other excavations, I ran out of time (I needed sleep in the natural world) before I could continue my initial reconnaissance to form a strategy for formal investigation, resolving to revisit the following day. I established a save-point before leaving the planet by activating the beacon, which is what I believe caused the glitch of the base moving to another location (see below).

Returning to the mesa on 23 April in order to photograph and map it prior to excavating the base, I saw with unease that the mesa was no longer empty. Instead, a generic, round base unit sat atop it. A resource-scan showed no sign of any buried structure. The comm stations all remained in place, however. Entering the base unit, I recorded its name (Locri), and noted that it was a “habitable base” meaning no player had claimed it yet. Following the codes of ethics followed by the *No Man’s Sky* Archaeological Survey and by the Galactic Hub, I did not claim the base, which would have wiped out any archaeology on the planet, if not the entire system because of how the game’s mechanics worked at the time of this case study.

On the horizon, Syn1334’s base flag had moved to the opposite pole from where I stood. I flew halfway around the world to the base’s location to see it sitting directly on the flat landscape in perfect condition (Fig. 13). There was no longer a need to excavate it. I took a quick tour of the base on foot and found a domed structure containing a ring of rare plants growing in hydroponic planters. The number of plants and the shape of the ring matched what I scanned in the landscape at the original location on the previous day. The base contained one anomaly, however. In v1.2, players could add a racetrack to their worlds for time trials of wheeled vehicles (exocraft). In this example “Sgt. Pepper’s Circuit,” the pylons indicating the racecourse hung in midair fading into the horizon, making the course impossible to navigate. The suspended pylons only went so far, which led me to believe that the rest of the racetrack was back at the base’s original position. This turned out not to be the case.

It would appear that by performing an explicit save on an occupied planet at the site of another player’s base and then logging out, that the game moved the player’s base to another, unoccupied location. This had an unintended effect on the archaeology of the planet. As I would discover, several of the abandoned comm stations had messages along the lines of “nice base,” indicating that Syn1334’s base was indeed moved from its original location by the game based on my action of performing an explicit save on the ground nearby.

On 24 April, I returned to Peaceful Pepperbase to conduct an inventory and shoot a video walkthrough. I also photographed the interiors and exterior of the complex. I revisited the trail of race track pylons leading into the ground, and dug a test pit using my multi-tool’s Terrain Manipulator function to see if I could find a buried pylon, but the pit was sterile.

I was visited briefly by Zaz Ariins who is the Hub’s representative for identifying locations of heritage sites within the Legacy Hub. He wanted to build a monument to commemorate our meeting, but I declined because it would disturb the archaeology (even though the base had moved to this new location). He understood, and there were no hard feelings.

Prior to documenting the base, I attempted to reset the base location to its original findspot² by warping to a new system, saving on a new world via beacon, and then warping back. My first attempt to fly to the planet afterwards crashed the game, but the second attempt allowed me to land; however, the base was still in its new location.

Inventory of Peaceful Pepperbase

Landing pad next to race track start: Entrance heading west from pad into the main building.

Main building, south wall: 4 hydroponic trays growing solar vines. Door in between trays 2 and 3.

Main building, north wall: three bay windows and a table topped with a lantern flanked by two chairs.

Main building, east wall (l to r): science terminal, 3 bay windows behind three empty hydroponic trays. Galactic Trade Terminal (Outpost 7-I-5/3), functional.

Main building, west wall (l to r): Exit to landing pad. "Mudroom" with botany station at far right. Random grid computer display. Weapon rack with four weapons (two blasters and two rifles).

Circular entry to botany station.

Main building, center of room: 4 hydroponic trays arranged in a square with NipNip Buds

Main building, decals on the southern wall (exterior) l to r and then bottom to top: red star, green "fatty," green ensign, white ensign, blue ensign, "Pokemon," and top center is 7101334, which is Syn1334's personal identifier.

Dome immediately south of western landing pad:

Door with "Pokemon" decal flanked on outside by decorative health (left) and shield (right) stations.

Inside: to left of door, exocraft station. Then clockwise: Habitable Base station, "Dersematc-Huel Base", teleporter (non-functional), previous base item cache terminal, Architect Nuanni (Korvax blueprint trader station).

Up the central ladder: 16 NipNip Buds planted in a hydroponic stream around the inside of the dome.

Immediately southwest of the dome is a Nomad exocraft bay (functional)

Southern structure:

Patio in front of door. To right, table with six chairs. To left, table with three chairs.

To right of door on wall is a green emblem.

To right of door (looking outside), two hydroponic trays with Echinocactus. Then clockwise: entry to curved corridor, terminal with message module (when near it, "Message Module" appears on-screen in large text, table with four chairs and a plant on top, entry to curved corridor, another table with plant atop it and three chairs.

Corridor to left: goes to small domed room with a table and two chairs and a plant. Door is flanked by two NipNip Buds in a circular hydroponic reservoir.

Corridor to right: leads to a domed room encircled by rare plants (clockwise from the doorway):

² The purpose being to reverse the effect of my initial presence that relocated the base from its original location, which had disturbed its context.

Albumen Pearl Orb, NipNip Buds, Mordite Root, NipNip Buds, Gamma Weed, NipNip Buds, Frostwort, NipNip Buds, Venom Urchin, NipNip Buds, Coprite Flower, NipNip Buds, Gravitino Host.

East: Race Track Terminal

Racetrack beacons head north from the complex up into the sky and around to the east.

Peaceful Pepperbase is on a plateau on a mountainside dotted with short iron pillars, tall green, bulbous plants on twisted, thin stalks, spider plants, carbon-based dodecahedral plants, and four varieties of four-legged and flying fauna. More race track pylons are set into the hillside, leading up the old topography, sometimes hanging in space. A column of blue heridium is roughly south of the complex.

In an email that night from Zaz Ariins, he wrote:

Interestingly that's not the final base build. Syn1334 waited something like four months for it to update but it never did. The build you see now is the same one I saw when I first visited some 10 or so months back so, as much as Syn1334 may recognise his base as something else, that man-shaped build of his is the iconic one for the system (and possibly the Legacy Hub's real 'capital' build).

After completing my survey of Peaceful Pepperbase, I checked what I had found against a picture of the original base, which was recorded on the *No Man's Sky* wiki,³ its page created in May 2017. This image reflects the version of the base I saw. A scan of the side of the hill on which the base now rests revealed the same pattern of purple (rare) icons that I saw when first visiting the planet, pre-save.

The Cave of Forgotten Comm Stations

On 26 April 2018, I catalogued all 62 of the communication stations at the old location of Syn1334's base, as well as three "outliers," pods placed elsewhere on the planet. Cataloguing involved video recording the excavation of the comm stations as well as taking screen captures of them *in situ* (pre-excavation) and when they were activated to reveal their authors and messages. I recorded the location of each pod in relation to the fixed point of the base unit on the nearby mesa, as well as by walking-time, which displays when an icon is viewed at a distance. In *NMS*, walking speed is a constant for all players.

While more than half of the comm stations were sited within a large cave nearby (Fig. 14) (I later learned from Syn1334 that Hub residents referred to the place as the "Cave of Forgotten Dreams"). Many units were buried underground courtesy of the realignment of the planet's topography by version 1.3. To excavate the pods, I used the "Terrain Manipulator" feature on the multi-tool. After locating a buried pod, I would return to the surface and use the same tool's "creation" feature to create a thin pylon of rock to serve as a flag, not unlike how one flags

³ https://nomanssky.gamepedia.com/Peaceful_Pepperbase (accessed 19 July 2018).

artifacts as part of a survey. Unfortunately the game glitched and crashed, wiping out many of these "flags;" I was, however, able to map the drop pod locations.

Elevation was difficult to judge, but most terminals are in a relatively level area approximately 10 m below the base unit, which makes sense when one considers that these would have been placed near the base itself on the flat plateau as seen in the original image from May 2017. One can read the original topography based on comm station placement (Fig. 15). In fact, one comm station remains suspended in the air, accessible only by ship, which means that it was on a mountain slope no longer present in April 2018.

35% of the comm stations contained their dates of placement, and some even indicated features of the base or of the landscape that are no longer visible post-patch. These help establish a date of when the base was abandoned, when players stopped visiting, and what the world was like pre-Atlas Rises.

Dates

23 of 65 comm pods (35%) contain dates. Atlas Rises (v1.3) was released on August 11, 2017. The dates range from five stations placed in April 2017, seven in May, four in June, four in July, and two in August. The first comm station, which established a *Terminus Post Quem*, is dated April 14, 2017 (corresponding to the "Pathfinder" update released in March 2017 with its final update v1.24 released on March 27, 2017). "Pathfinder" enabled base-sharing, where players could allow their bases to be seen and visited by other players. The *Terminus Ante Quem* dates to August 9, 2017, two days before Atlas Rises reset the universe. No dated comm stations appear until April 2018 with the NMS-Archaeology one placed by me, and one placed by GalacticHeritage declaring the Cave of Forgotten Dreams and original base site to be an official heritage location (Fig. 16).

Places

Five comm stations reference specific places, three in the game, and two on Earth (Germany and Uruguay). The three game locations indicate the presence of player bases in three nearby Legacy Hub systems, which I later investigated after filing this report.

Hints of Past Base/Environment

19 comm stations refer to Syn1334's base and surroundings ranging from "nice base" to noting the presence of the race track. The base's indoor farm is noted, as is the presence of cultivated NipNip Buds, which bring excellent prices at the online marketplace accessed through trade terminals accessed via space stations. One player notes "Truffula trees" referring to those in Dr. Seuss's *The Lorax*, but these trees are now extinct on Pepper Dusk thanks to v1.3's climate change. Not only did Atlas Rises change the climate and topography, it also was an extinction event.

Other Groups

A few comm stations were placed by visitors of various Galactic Hub groups, the most represented of which is The Spacing Guild (8 comm stations). One comm station conveys greetings from the Arcadian Ambassador. Another is a pre-War relic, a comm station placed by BlackRaptor2396: "This base is under Hovan protection."

Conclusions

The purpose of conducting an archaeological investigation of Pepper Dusk was to demonstrate a proof-of-concept that traditional archaeology could be done on a synthetic world, and that investigation could include survey work as well as actual excavation with varying levels of precision. In exploring Pepper Dusk, I was able to identify and record an abandoned player base, and was able to document inscriptions placed around the original location of the base, using the inscriptions to extrapolate additional information pertinent to the settlement and ultimate abandonment of this planet specifically, and of the old Galactic Hub generally. I was able to observe formation processes for the site, as well as evidence of abandonment, documenting everything with text, photos, and video on the very real chance that the universe will be wiped clean with the arrival of the next major update, "NEXT."

Comm Station Data

Below is a table containing the comm station number (corresponds to the state plan (Fig. 4), photos, and videos), gamertag, and message text. Pods with an asterisk (*) indicate those found elsewhere on Pepper Dusk far away from the base.

No.	Placed By	Text
1	NMS-Archaeology	NMS Archaeology 23 April 2018
2	GalacticHeritage	This is an official Galactic Heritage site
3	acesMelancholy	Urban dictionary Challs. Its so challs.
4	kingvithe1st	TSG says hello. Great job.
5	damon8r351	Visited by the Spacing Guild 23JUL2017
6	Syn1334	I'm moving to [HUB3-G-D4]!
7	AlbertGraham2778	Great Base. Nice Farm.
8	outlawcus956	Hello neighbor! I'm on [HUB-D-007]
9	Nieoceniony	Nice one! 09.08.17 charlie360x reddit
10	DOMSPECIES	Nice area to chill.
11	WAAM86	Gr8 Base [HUB-G-G2] Zillah (Pihmidgerra)
12	Marcovhv	Great crib you have here! -TheMarco
13	BlackRaptor2396	This base is under Hovan protection.
14	FatherMac	TSG-FM was here! 6/2/17
15	Subtraktshun	Arrived June 21st 2017
16	Merimacdwarf-orc	The Spacing Guild is your ally.
17	BoomstickJoe	Awesome base and race 5/28/2017
18	Fullman_Katz	Fullman Katz was here too - 5\28\17

19	mr7er123456	Nice base
20	CalamityMaim	I travelled worlds to find you (Sguild)
21	JacksonVurt	[HUB-K] Orson (Thlockeri Fringe) 1,598 ly
22	neutrons1234	Pilgrimage Done. Neutrons Saga continues.
23	Shanlear	Shan was here 7/17/17
24	CaptPausert	You're out of beer & Wheat Thins again.
25	Numunu44	Thank You Syn 7-30-17
26	mako235	Thank you, Syn!
27	termy66	Impressive base. Greetings from Termy66
28	ZeroRayn	Oh those trees, those Truffula trees.
29	Bbgianking	14/05/17 Peace&Happiness Interloper CIAO
30	Cyberspacemonkey	Your winter embassy needs a base :)
31	Axiom1380	Greetings from the Arcadian Ambassador
32	mclizard420	Greetings from TSG 6.27.17 thanks for tour
33	imperialforce8	Loved the race :) – TSG
34	OldMcReaper88	Beautiful place you have here. 5.29.17 :)
35	Semiosus	Hi
36	Gnat_Churly	Gnat was here Aug 6/17
37	xPatrick305x	Nice base!
38	Blimblem	We meet again! Nice setup
39	Parasite159	Looks like I'm late for the party 21/4/17
40	Normi1701	29.5.17 greetings from Germansky
41	Squeegi01	Gorgeous Base 7/22/2017 -Squeegi
42	SilfenPaths	Stunning base!Yummy food. 14/04/17 SP.
43	Ryder_E-E	490u for cacrussala?? I'll take 10! 4/22
44	WumpWilliam	27/4/17 Love It! -Wump
45	Coffeewrite	Needs more cowbell.
46	BobbaVett	I doubt anyone will ever read this!
47	Bo0nd0ck_Sa1nt_7	Awesome Race/Base Syn: Bo0n
48	jen1892	Love your base (BL_NDIE)
49	singularity_now	A café and buds for a weary traveller 8.17
50	Fr3nky_one	Greetings to all travellers
51	AltumateAssassin	Everybodys in it for the nip nip lol
52	Stinkeebutt73	From the Spacing Guild. Cheers!
53	Maroc-22-	Maroc says hi to you all! 23rd April '17
54	Djuanez	Beautiful base & thanks for the NipNip!
55	CreamStar_123	Creamstar pitstopped here
56	Boardsofandros	Thanks for the buds 5/25/17
57	Soutoyobes	Greetings from Uruguay III

58	xbigchrisx88	Lovely travlere's lounge! -MickMomster
59	wesolly1	//Chunky Beard Was Here 6/8/2017 \(>_<)/
60	Sherrlon	Lost Tribble. If found return to Sherrlon!
61	Matthew71NSW	Greetings from the AGT.
62	[pod in the air]	Nice little slice of paradise.
63*	[bedrock pod]	Amazing planet, fearless leader of the hub
64*	UrickHunt101	Drop Pod 5/21/17
65*	[remote pod in the air]	Greetings from Ambassador Gek code: 4vZB