

# **Aloha means goodbye Ambush Mission**

**Daniel Klautsch  
Junior Mission Design Test Assignment**

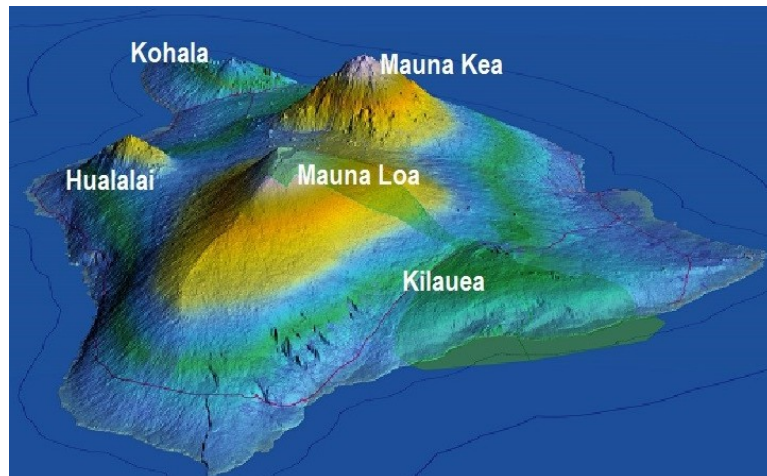
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## Mission Background and References

This mission takes place in Hawaii on a small island that houses twin volcanoes, which serve as the set-piece of the mission. Throughout player's will venture on top of and around these volcanoes in an attempt to stop a variety of trains that travel through the area, all while avoiding the pass in between the volcanoes where particularly strong enemy forces have stationed themselves. Some player's may even figure out how to make the volcanoes erupt...

This is based on the twin volcanoes Mauna Lao and Mauna Kea.



In this fictional setting the reason for the anomaly of having these twin volcanoes is directly linked to Tiberium, and as such this is a location of interest. Unfortunately the enemy has claimed this area, and has heavily fortified it with trains venturing through a vast underground network, which in turn supply military bases on other nearby islands.

Disrupting this network of trains is an integral first step to reclaim this territory.

Unfortunately a frontal assault is not possible, as the enemy simply has far more resources and units, so the player will have to rely on ambush tactics to take out the trains passing through the area, and avoid the bulk of the enemy forces through navigation and intelligent positioning.



**Aloha, Commander. Hopefully you are all you have been said to be. Fighting head on wont be an option here. You will need to utilise guile and cunning. Shouldn't be a problem given your reputation...**



Tactical Advisor's Opinion

# General Mechanics and Constraints

This mission uses the general mechanics of Command and Conquer, with some constraints on this mission. Namely, we will assume that only the following units can be built:  
(For the sake of simplicity, enemy and player will have access to these same units, taken from a mix of Nod and GDI factions.)

Minigunner (Referred to in this document as basic infantry men or infantry men)  
Rocket Soldier  
Chemical Warrior  
Commando  
Engineer  
Light Scout (Humvee)  
Medium Tank  
SSM Launcher  
Mammoth Tank

These were the units heavily considered and built around when having designed this map.

Player starts out with 1k resources.  
Enemy starts out with 2k resources.

Stats and Mechanics were referenced from Command & Conquer: Tiberium Dawn on the following website: [https://cnc.fandom.com/wiki/Portal:Tiberian\\_Dawn](https://cnc.fandom.com/wiki/Portal:Tiberian_Dawn)

## Key Elements

### High Ground

Units on high ground receive 50% less damage from units that are not on high ground. Additionally, units not on high ground can only target units on high ground that stand close enough to the edge to be visible to them. High ground blocks vision for units on low ground, however units on low ground can always see the edge of the high ground blocking their vision. High ground can only be accessed via sloped ground leading up to it.

### Water

Water can not be traversed through by land units, but does not block vision or attacks.

**Unfortunately, you will have a limited toolset for this mission.  
But limitation is the mother of invention, so they say...  
Ambush their supply trains, and claim what you can from  
the enemy. Then victory shall be ours!**

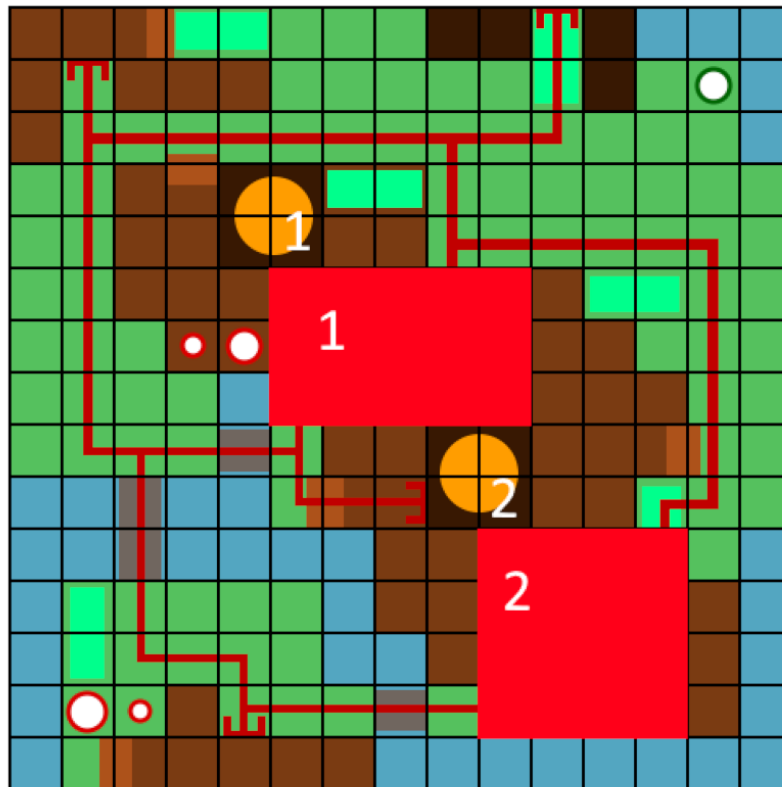


Tactical Advisor's Opinion

## The Volcanos

Player's can cause the volcanoes to erupt via ordering an Engineer to interact with it, or via the Commando units special ability to deploy C4. The Commando/ Engineer must be adjacent to the volcano and standing on high ground.

Interacting with the volcano in this way will cause it to erupt instantly destroying every unit in a specified AOE. This, with good timing, can be used incredibly effectively. This is however not a necessary mechanic for this mission and is just a fun way for player's to interact with a set piece. See below the AOE of each volcano. Each Volcano can only be caused to erupt once during the mission.



## Bridges

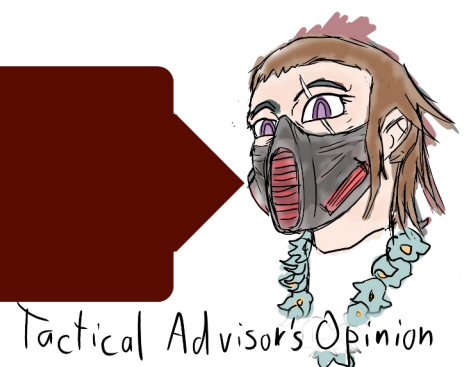
Bridges can only be destroyed via the Engineer or Commando units C4 ability.

And engineer destroying a bridge is consumed, a Commando is not.

Destroyed bridges can be repaired via the Engineer.

Referred to as B1 to B3.

**Have you seen the Twin Volcanoes? Beautiful, aren't they...  
..... Right! Use the high ground that they offer, and  
deny it to the enemy. Don't hesitate to destroy the bridges  
if it hinders your enemies advance!**



## Trains & Train Tracks

Train tracks cover the map- The trains which the player must intercept can only travel via these tracks. The route which the train intends to travel is always visible to the player even through undiscovered areas of the map. Should a bridge be destroyed during transit which the train intended to travel over, the train will instead travel the next quickest path to it's destination.

In the instance that the train is stuck due to no path to its destination existing, it will instead travel towards B1(approaching whichever side is close to it's current location) and remain there until a path to it's destination opens up.

For all intents and purposes the train has all the same stats as a medium tank. The train can not attack and will slowly move, if it collides with any unit on its track that unit automatically is destroyed. The train is twice as large in size as a tank and especially in tight areas will fully take up the area it is travelling through.

The train does not discriminate and will destroy enemy and player units he travels over all the same.

The train acts as objectives for the player to be destroyed.

To be noted is that the game does not immediately end the moment that the train reaches it's destination.

Rather, the train will come to a full stop for 1.5 seconds, before the game ends in a failure.

In the rare -- but feasible and funny-- case that two trains collide, both are instantly destroyed.

If a train is destroyed the player gains 200 resources.

## Train Yards

Train Yards serve as the spawn point of trains, they can not be destroyed or interacted with.

Train Yards are often also referred to as the spawn points of enemy units.

Train Yards are referred to as T1 to T5.

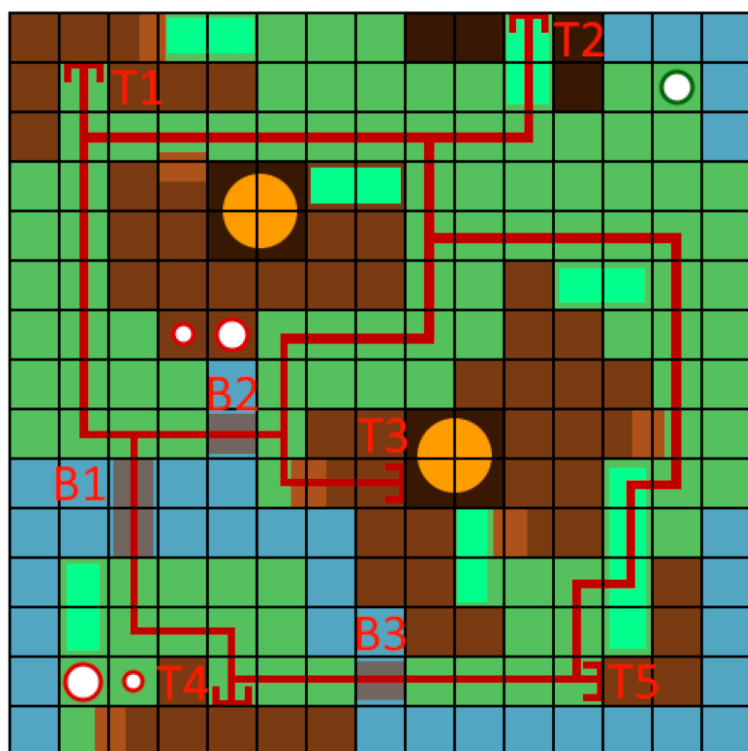
**Focus, Commander! It's all about the trains! Always has been! We must destroy them at all cost. It's the single piece holding the enemies shitty house of cards together. Take it away and it all collapses! Command and we shall conquer!**



Tactical Advisor's Opinion

# Overview of the mission and general gameplay beats

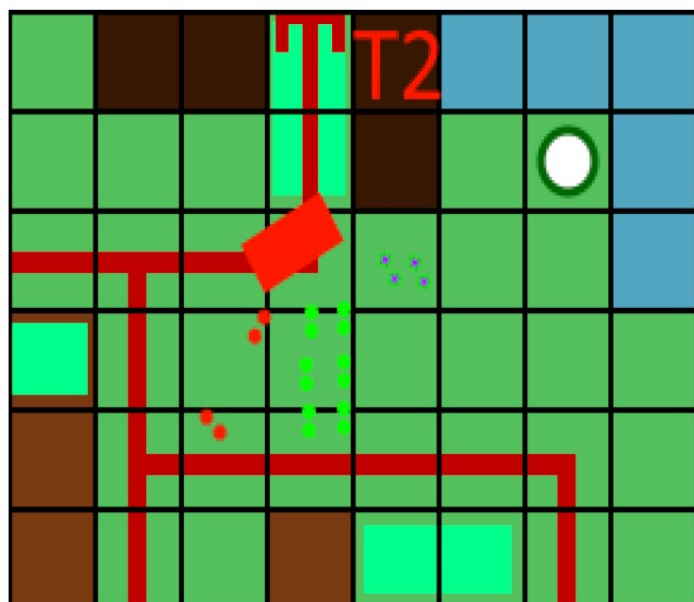
## Detailed Overview



- Grass, anyone can travel through this
- Water, impassable without a bridge
- Wall, impassable, blocks Line of Sight
- High Ground, only accessible via Slope
- Slope, approach to access high ground
- Resource, important to build an army
- Train Tracks, Train can only move on these
- Bridge, allows travel over water, destructible
- Train Yard, Spawn and destination of trains
- Player Base, must be protected at all cost
- Enemy Proxy, Destroy for resource reward
- Enemy Gatherer, contests resources, capturable
- Volcano, same as wall, interactable

At the beginning of the game the enemy Ai will not spawn units and only use the **static** units already present on the map.

The player begins the mission near his base in the top right, close to a heavily utilised intersection.



- Train, must be destroyed to win mission
- Enemy Infantry
- Player Infantry
- Player Rocket Launcher Infantry, Anti-Vehicle

As the game starts a transport is en-route leaving T2 and travelling to T5.

The player will already have 12 basic Infantry and 4 Rocket Soldier troops deployed who will shoot at the transport and the few infantry men accompanying it.

Given the route the train is taking there will be a very large window of attack for the player.

The player should be able to take out the infantry and the train with the units given. Especially the rocket soldier troops should prove effective with dealing with the train. This serves as practical introduction to this levels objective. Shortly after, the next train route will be shown on the map. T4 to T5. The exact route the train will travel is shown through fog of war. If the route changes due to a bridge being destroyed, this too will immediately be visible through the fog of war.

The player will be given a generous window of time to prepare for the train. However the Enemy Ai will send 6 infantry men. in retaliation of the earlier attack towards the player's base emerging from the volcano pass.

There are multiple ways that the player can handle this, either he can position some men to try and intercept the train, however given the cover the train has from the high ground there will be a very small and brief window to damage it before it arrives at its destination.

If the player has not used his time to train additional rocket soldiers this will likely not be enough to destroy it in time.

The alternative is to keep pushing towards T4.

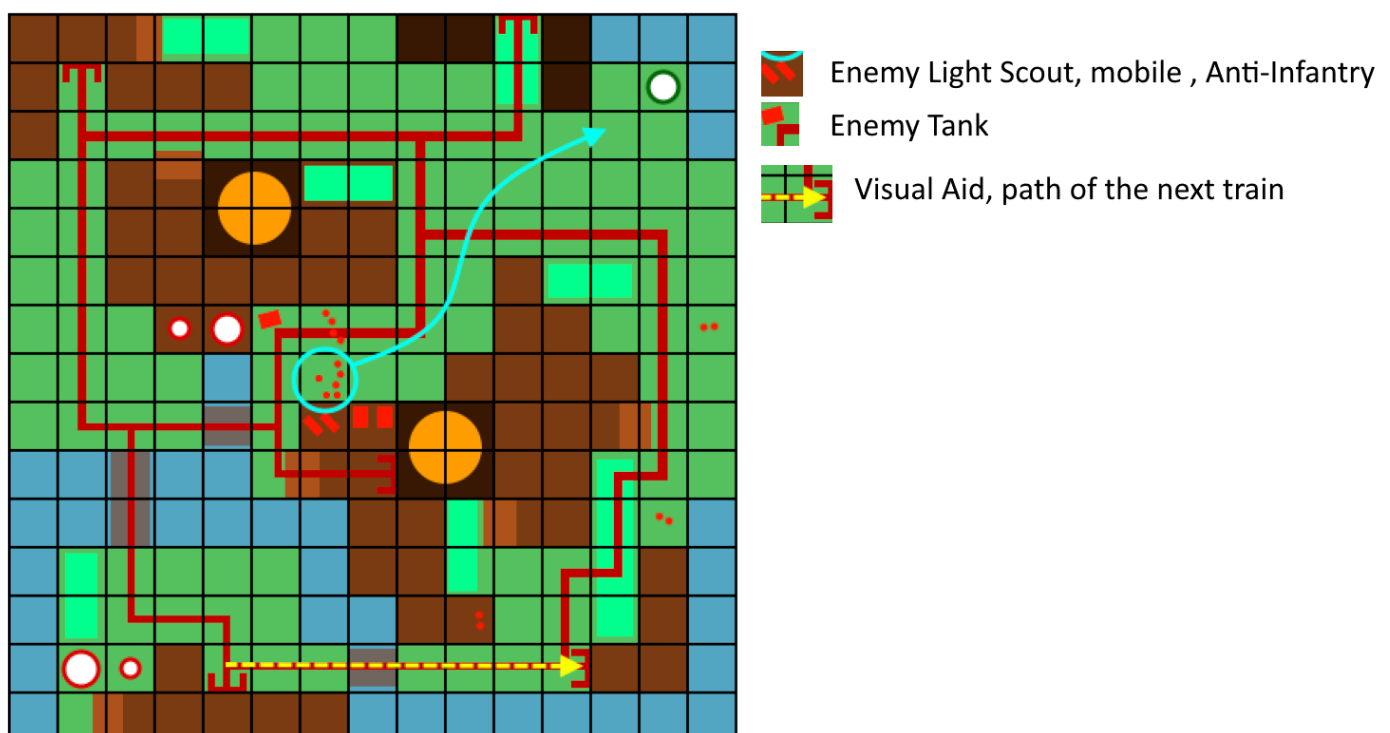
If at any point now or in the future B3 is approached (stepped within 2 squares) by the player from the East with a vehicle or a Rocket Soldier Unit, the bridge will destroy itself. This happens only once over the course of the game. The idea is that the enemy is trying to buy time as their South west train station is quite badly defended.

This also introduces to the player the idea that the train routes are not set in stone and that once a bridge is destroyed that the train will travel along an alternate path to its destination.

Having caused the destruction of the bridge will give a far more effective way of destroying the train as it passes by the player's base.

Of course he has to get his units back in position there first...

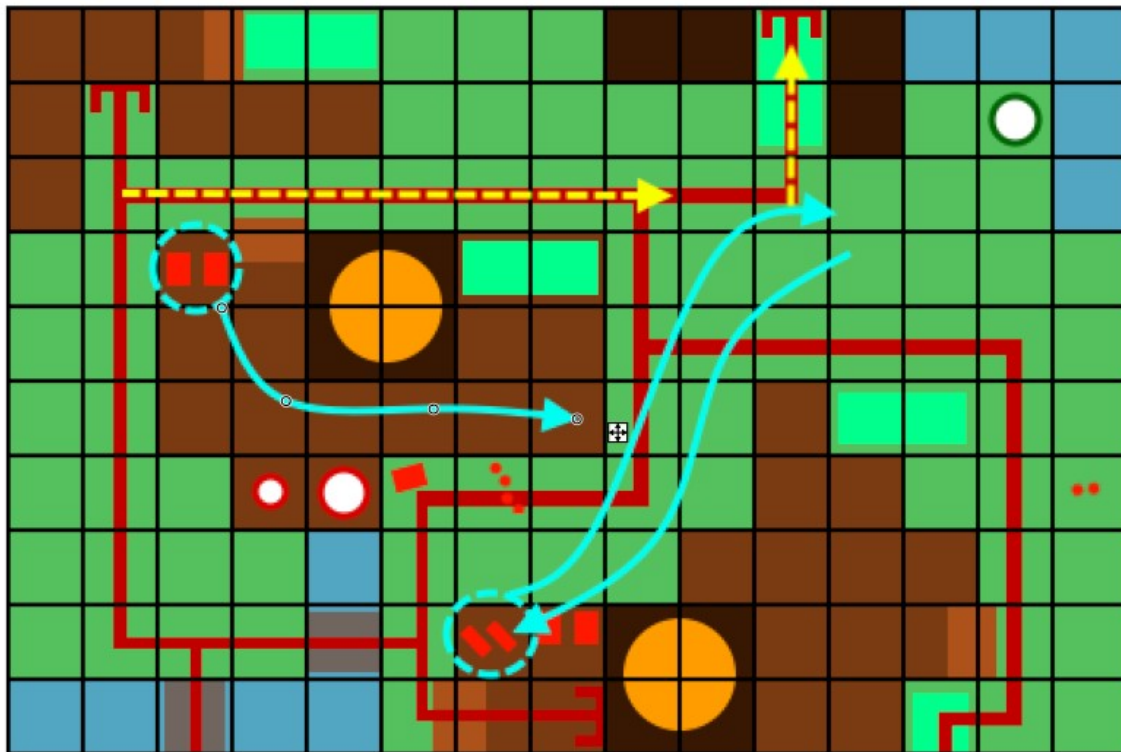
The train comes as expected with no additional troops accompanying it.



The next train is scheduled to travel from T1 to T2. That seems almost too easy.  
Shorter window of time to prepare for this one.

Shortly after the new train being announced two Light Scouts will drive from the volcano pass towards the player's base and shoot a bit until their health is lowered, then use their advanced mobility to flee back into the pass.

At the same time they will order tanks on the volcano facing the north side to reposition on the East edge of the pass, to intercept any forces pursuing the light scouts.  
(The enemy is trying to lure the player into the volcano pass, where they have the high ground and 5(!!!) tanks positioned.)



After this maneuver the enemy AI will become active and start spawning units to defend/ attack the player.

The Ai is not very tactically intelligent and will often split their forces apart, and send them in unoptimised ways, there are additional blind spots the AI has which the player can abuse to their advantage and an exaggerated tendency to use high ground even with units that really shouldn't be there.

(Such as positioning Tanks on the edge of high ground which can be easily taken advantage of with the range of rocket soldier infantry.)

I will get into greater detail about the Ai's behaviour, tendencies and information accessible to them during the AI section of this document.

**I recently read Sun Tzu. It's mostly just ancient propaganda...  
But he mentions that Wars aren't as much won as they are lost.  
Don't get greedy, bide your time and when your opponent  
makes the wrong move: pounce. Such, is the art of War.**



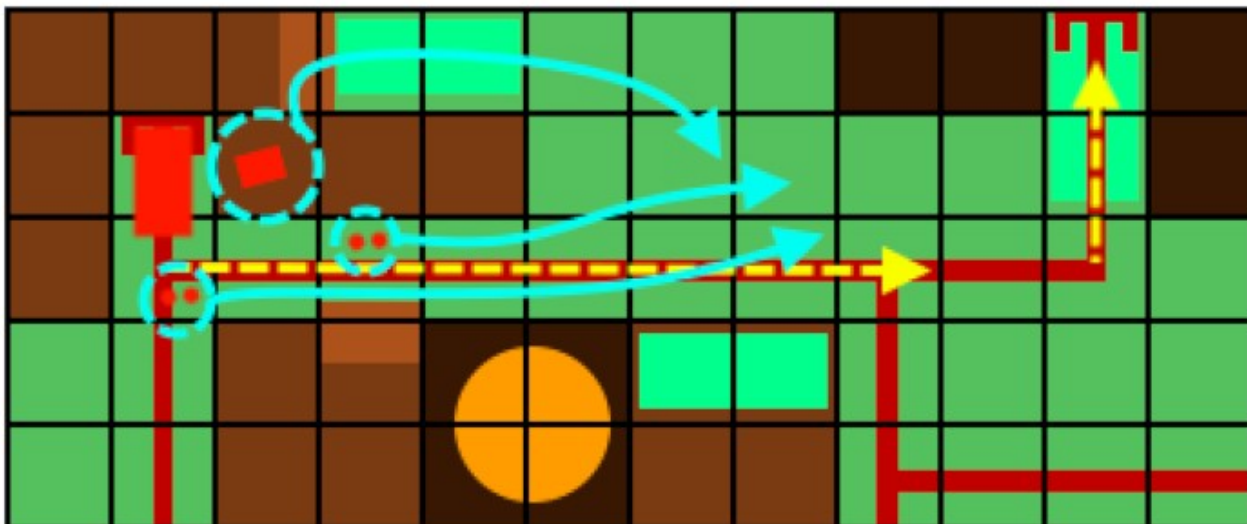
Tactical Advisors Opinion

After preparations the train spawning at T1 will move towards T2.

However the Ai will order every static unit positioned around the area of T1, to move ahead of it in an attempt to defend it.

Unless the player already destroyed them.

The units advancing ahead of the train will likely be 1 medium Tank and 4 infantry men.



After this skirmish the next train route is announced.

T4 to T1.

Especially given that the enemy has moved all their defenders off the high ground and out into the open, pushing should now be easier there.

To make up for this, the enemy AI will move 2 tanks on the volcano to side towards T1, assuming those units are still alive.

Otherwise the Ai, will likely send a few units up there to defend, but it will be a lacking defence.

The player will likely push up to T1 and intercept the train there.

**All of these are merely suggestions, in my role as advisor.  
War is a complex thing, and there are many paths that can lead  
to victory, figuring out which one is best is for you to decide,  
Commander.**



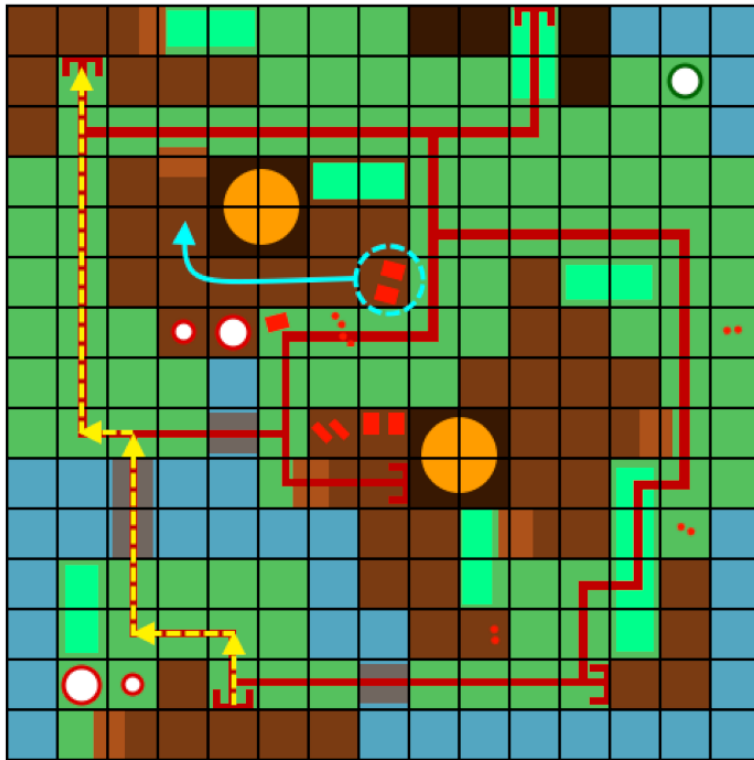
Tactical Advisor's Opinion

At this point the player may push up the volcano in an attempt to destroy the enemy proxy and gathering outpost of the enemy. (Or take them for themselves with an engineer.)

Doing so will cause the two tanks stationed on it to engage and pursue. The tanks will however refuse to follow enemies off of the volcano.

If the player units stand close enough to the edge, enemy units inside the pass may also become involved in any potential skirmish.

If at any point an engineer is sent up that volcano, the player will be informed that the engineer can interact with the volcano to cause it to erupt into the pass, taking out a sizeable chunk of the enemy forces.



**Commander! We are receiving a message from the field!  
It's from our Engineer, he says he can direct the volcano to erupt  
into the pass. This could cause a significant amount of damage  
to the enemy! Though it could be risky... What are your Orders?**



*Tactical Advisor's Opinion*

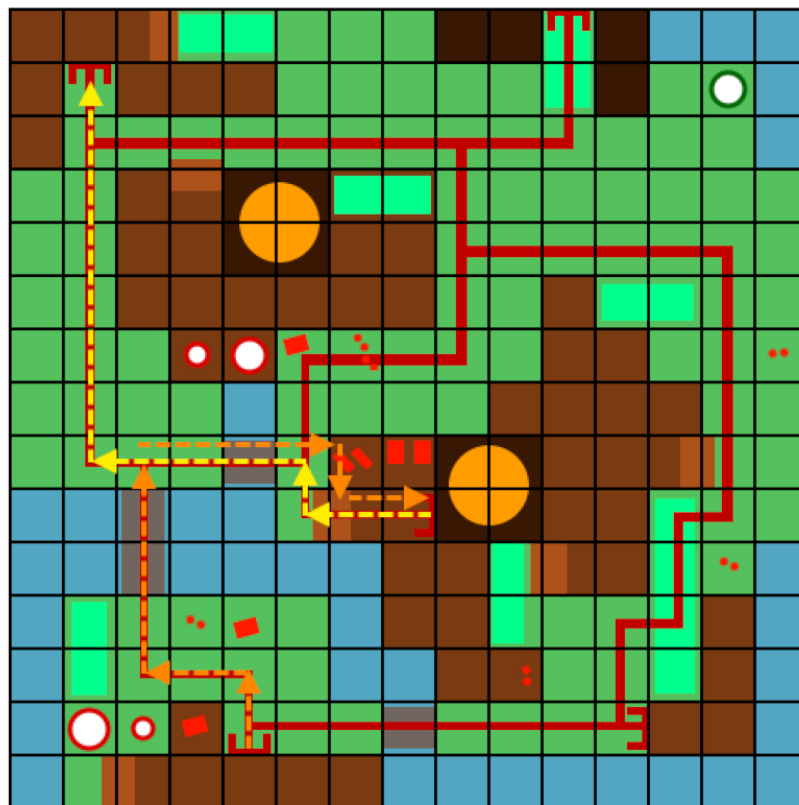
Next there are two trains simultaneously! The player will have to intercept both at the same time! One travels from T3 to T1. The other from T4 to T3.

The player will likely push down towards the cross section to catch both trains as they come. Once again the player can blow up bridges to cause the trains to take more inconvenient paths.

The player may decide to push further down to take out the train and another resource silo and gathering hub on the island, where they will face off against 1 tank and 4 basic infantry and any spawned defenders.

Throughout this while the trains are travelling, if B3 is currently destroyed, an engineer will spawn at T4 and approach B3 to repair it.

After having dealt with this.  
The last trains are coming. 2 again



T3 to T4 and T5 to T4.

No matter if they have pushed in earlier now they likely will have to do so, in order to catch both trains.

(Clever re-routing by destroying bridges can offer alternatives.

In fact, both scenarios in which two trains spawn can be set up in such way as to force the trains to collide with one another.

If B2 is destroyed at just the right time it will cause both trains to reroute in such way as they collide on the track between T1 and T2.

Which is not by any means an easier solution than simply destroying them, but it is particularly funny. Could be turned into an achievement or optional objective.)

However, shortly before the trains spawn, given this is the last push the enemy AI will order all units in the upper half of the map to move into the open area in front of the large bridge. They will remain positioned there and defend this area, meaning that if the player has already positioned themselves at T4, they will not interfere and unknowingly let the train pass into the player's hands.

Essentially this mission can completely be finished without ever engaging the enemy's main forces in the volcano pass.

If at any point one of the trains arrives at their destination and the grace period (1.5s) runs out, the mission is considered a failure.

## Estimated Timestamps

00:00	Train on transit between T2 and T5
00:30	Announcement of Train between T4 and T5
1:15	6 infantry attack the player's base from the pass
4:00	T4 to T5, Train begins transit
4:30	Announcement of Train between T1 to T2
5:00	Enemy AI becomes active
5:10	The Light scouts drive out to bait the player into the pass, the 2 tanks on the volcano reposition.
7:05	Units near T1 push towards player
7:10	T1 to T2, Train begins Transit
7:40	Announcement of T4 to T1
9:40	T4 to T1, train begins transit
10:10	Announcement of T3 to T1 and T4 to T3
14:00	The trains begins transit
14:40	Announcement of T3 to T4 and T5 to T4
17:50	Remaining units are ordered to the north of B1
18:00	The trains begin transit

## AI Behaviour and Tools needed

### Requirements

Special tools may be needed to integrate mechanics such as bridges, volcanoes, trains and high ground. Though high ground and bridges should be re-usable in other levels.

Requirements for the AI, are optimal pathfinding, aka finding the quickest route from one point to another.

In addition states to check such as, being able to recognise the location and type of units the player is controlling, being able to refer if a unit is at any point actively in combat or not.

And while it is hilarious to have the train kill its own allies by driving over them, enemy units should be intelligent enough to navigate out of the way of the train if they are not actively in combat. The player can engage them in combat to keep them stationary and be killed by the train.

**You know the secret to a great Ambush?**

.....

**Timing! Heh, you could even cause enemies to take each other out.  
Would spare use some ammunition for the next skirmish.**

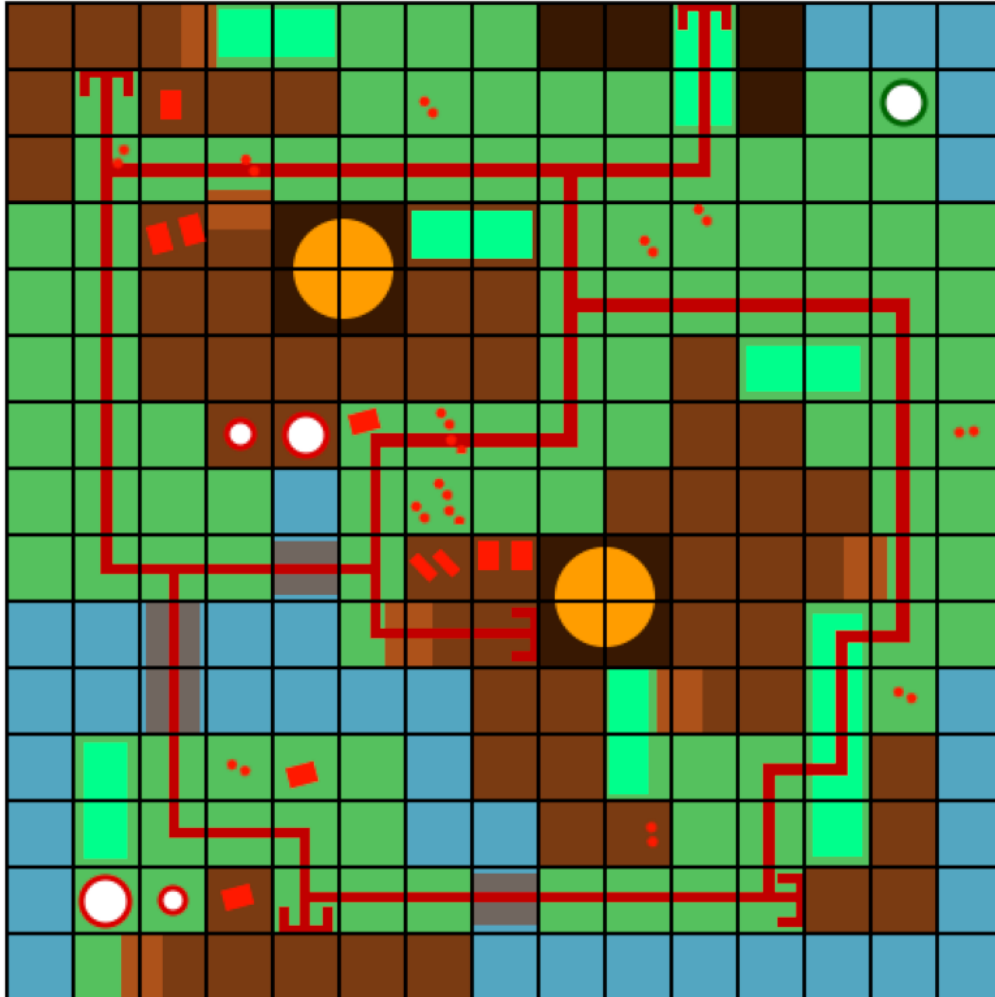


*Tactical Advisor's Opinion*

## AI Behaviour & Strategy

The Ai will notably be inactive for a large part of the initial game to give the player time to get their bearings, however some enemy units will already be present on the map.

These enemies are referred to as **static** enemies.



Static enemies are inclined to be defenders, they will only engage in combat when sighting an enemy, and after combat they will return to their last specified location.

(Their spawn if none other is specified.)

These enemies only receive orders when specified by events throughout the game or AI behaviour.

The AI can NOT dynamically tell any static units to attack the player base for example, unless through a specified exception to this rule.

As the AI turns active it will follow the following behaviour pattern, it also will acquire resources as normal through its resource gatherers, if in any events all gatherers are destroyed, the enemy ai will passively gain .5 resources every second.

Defending enemies on high ground, will refuse to leave it to pursue enemies. If an enemy units is outranged and has no way of fighting back without leaving the high ground it will try to fall back away from the high grounds edge, blocking line of sight.

Every interval the AI will determine an objective for itself

1/3 chance to  
Attack

2/5 chance to

Create an attack squad, spawning it at T3 and sending it towards T1, followed by sending it towards the player's base

IF B2 is destroyed,

Spawn an engineer first to repair the bridge, followed by the original attack squad order.

2/5 chance to

Create an attack squad, spawning it at T3 and sending it towards the players base

1/5 chance to

Create an attack squad, spawning it at T4 and sending it towards T5, followed by sending it towards the players base.

IF B3 is destroyed,

1/2 chance to

Spawn an engineer first to repair the bridge, followed by the original attack squad order.

1/2 chance to

Create an attack squad, spawning it at T4 and sending it towards the players base instead

1/3 chance to  
Defend

2/5 chance to

Select two random defence spot near T1, and send a squad there to be stationed at it, spawning at T3.

IF B2 is destroyed,

Spawn an engineer first to repair the bridge, followed by the original defence squad order.

2/5 chance to

Select two random defence spot near T3, and send a squad there to be stationed at it, spawning at T3.

1/5 chance to

Select two random defence spot near T4 and T5, and send a squad there to be stationed at it, spawning at T4.

IF B3 is destroyed,

1/2 chance to

Spawn an engineer first to repair the bridge, followed by the original defence squad order.

1/2 chance to

Select two random defence spot near T1, and send a squad there to be stationed at it, spawning at T4.

1/3 chance to  
Vanity

The enemy will spawn one tank at T3 and move it to the static group of tanks near the train yard. Despite being dynamically placed this tank counts as a static unit.

If the enemy performed an attack or defend option, at the next interval they will automatically perform the opposing type of action. Defend → Attack, Attack → Defend

So : **Randomly** decides → Attack (Random)  
 Upon completion of attack, **automatically** decides → Defend  
 Upon completion of Defend, **randomly** decides → Vanity (Random)  
 Upon completion of Vanity, **randomly** decides → Defend (Random)  
 Upon completion of Defend, **automatically** decides → Attack  
 Upon completion of Attack, **randomly** decides → Defend (Random)

**Mind that the Ai will need to fulfil the resource costs and build time to spawn units.**

If the Ai does not have the necessary resources to perform an order, it will become inactive for 30 seconds, then try again. If it can still not meet the resource requirements it will cancel the order and move on to the next interval acting as if it had completed it.

Units will only receive the order to move to their destination once all units of a squad are spawned and they will move together.



Spots associated with T1 are red, T3 are pink, T4&5 are purple.

To defend a position, the enemy AI will select two random unoccupied spots associated with the defensive position. To be unoccupied no dynamic units can be within that spot.

A static unit occupying the spot will not make it be considered occupied, only dynamic units are taken into consideration to determine occupation.

The Gathering spot is not considered a defensive position.

Once all spots are filled up and the AI wants to reinforce in that sector, they will instead send a unit to the gathering spot, once that unit arrives there, all **dynamic** units of the same colour send to defensive positions will move towards the player's base in an attempt to overwhelm them.

(Similarly to attack behaviour this order has a 25% chance to have the target of player's base be replaced with a high value player unit to go destroy. More on that on the next page.)

Attack Positions are unrelated to defence positions, when the AI decides to attack through one of the associated coloured locations, it may send a support group to support the attack force by taking nearby high ground. The chance of this occurring is 50%. This action can only be performed if there is an unoccupied attack position available of the specified colour.

Units will only be given the commands to move once both the attack squad and the supporting attack squad have both finished spawning.

To create an attack/defence squad the AI will

During objective: T1 → T2

3/6 chance to  
spawn 6 Rocket Soldier Infantry  
2/6 chance to  
spawn 4 Infantry Men  
1/6 chance to  
spawn 2 Light Scouts

During objective: T4 → T1

3/6 chance to  
spawn 4 Light Scouts  
2/6 chance to  
spawn 4 Chemical Warriors  
1/6 chance to  
spawn 6 Infantry Men

The rest of the mission:

3/6 chance to  
spawn 2 medium Tanks  
2/6 chance to  
spawn 4 Rocket Soldier Infantry  
1/6 chance to  
spawn 2 Commando

Every attack squad has a 50% chance of being accompanied by a second supporting attack squad (which is created in the same way as the normal attack squad.) that will travel towards a random associated high ground position along the position through which the original attack squad intends to travel through. (Reference coloured attack positions for support attack squad.) Both units will only begin travelling once they have finished spawning.

If at any point B1 is destroyed, the enemy will – after its current action is finished – spawn an attack squad at T4 and send it to B1, then spawn an engineer at T4 and have it repair B1, following that the attack squad will receive the order to advance to the players base.

If the enemy Ai performs Vanity 4 times, it will order **all STATIC units** on the map to advance towards the player's base. This is the previously alluded exception to the rule.

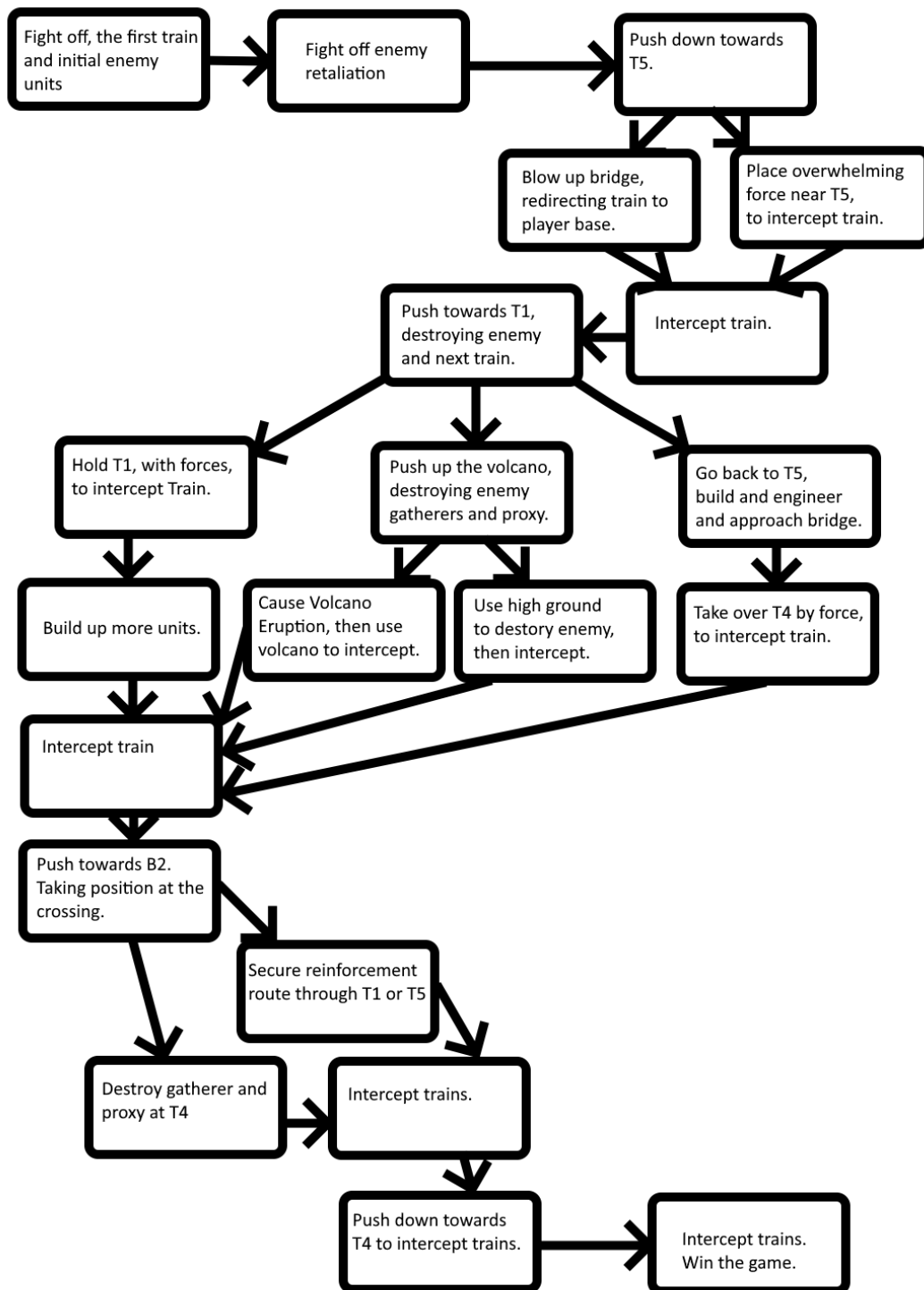
Lastly if the player controls one or more SSM Launcher or Commando Units. The AI will have a 25% chance every time they create an attack squad to replace the order of moving towards the player's base, with an order to move towards a random player SSM or Commando unit. (If that unit is destroyed an order to advance on the player base follows.)

**We are almost done. All that remains are two more trains!  
Keep going and it will all have been worth it.  
... Well, assuming we succeed. But we have come to far to fail now!  
Wait, the enemy is exiting the pass! Brace!**



Tactical Advisors Opinion

## Gameplay Scheme



Thats all, thanks for reading!

**Commander, we received a salute by a unit claiming to be allied to our cause. Their strength will undeniably be of use for the completion of our mission. How should we respond?**



*Tactical Advisors Opinion*