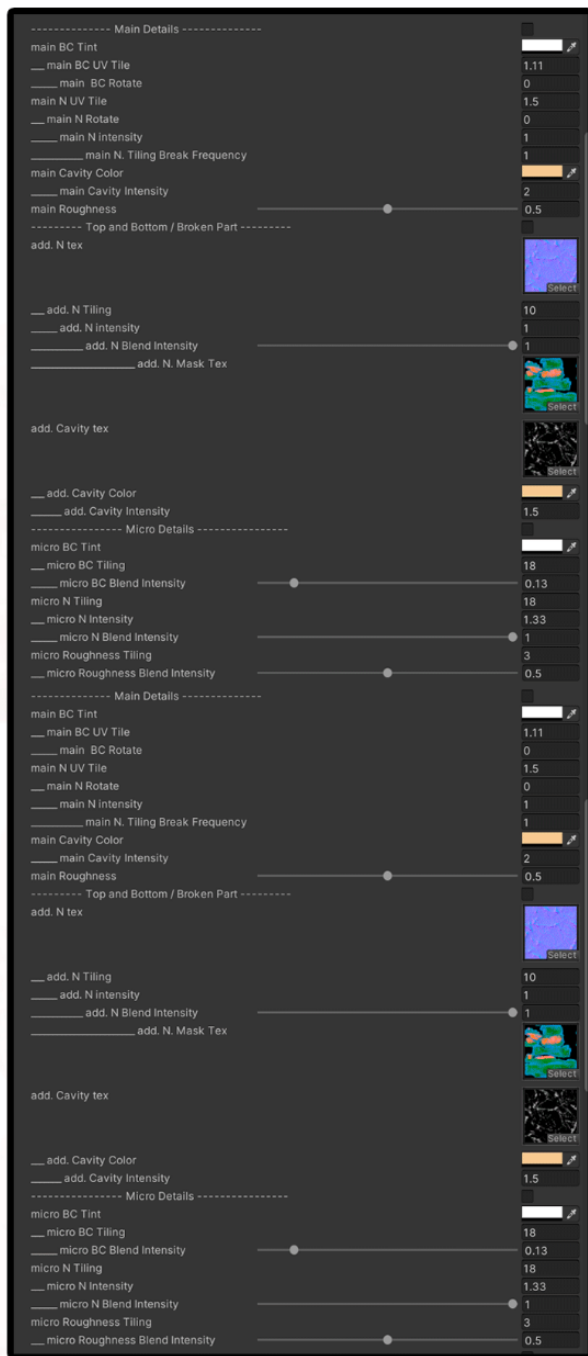


A QUICK ROCK SHADER BREAKDOWN AND SOME TIPS FOR OPTIMIZATION

In the project you're going to find 2 shader versions

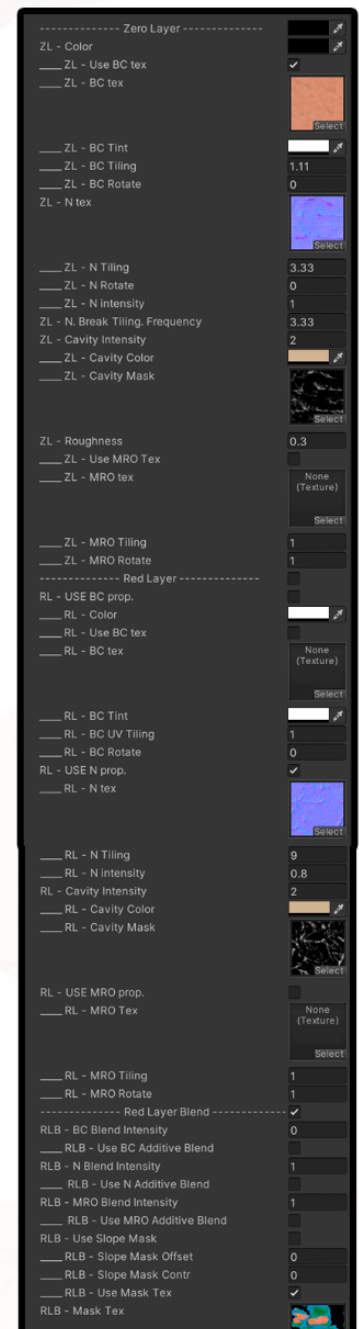
SIMPLIFIED



Since the simplified
shader / material is
pretty
straight-forward,
I'll be talking about
the guy on its right



COMPLEX



... and it goes further down below

Use this one if you're overall happy with the look
of a rock and you are not going to change much.
Additionally, it's more optimized and the
properties have descriptive names.

Use this one if you are keen on full
freedom of tweaking and adjustments to
your liking.

Zero Layer

This layer is typically used for large details on the rock, that will be visible from a far distance.

----- Zero Layer -----

ZL - Color

☒ ZL - Use BC tex

☐ ZL - BC tex

☐ ZL - BC Tint

☐ ZL - BC Tiling 1.11

☐ ZL - BC Rotate 0

ZL - N tex

☐ ZL - N Tiling 3.33

☐ ZL - N Rotate 0

☐ ZL - N intensity 1

☐ ZL - N Break Tiling Frequency 3.33

ZL - Cavity Intensity 2

☐ ZL - Cavity Color

☐ ZL - Cavity Mask

ZL - Roughness 0.3

☐ ZL - Use MRO Tex

☐ ZL - MRO tex

☐ ZL - MRO Tiling 1

☐ ZL - MRO Rotate 1

When Use BC tex is off you are only able to change the color.

Breaks an obvious tiling of the N map using a noise map.

ZL - N Break Tiling Frequency

M - Mask - Red Channel

R - Roughness - Green Channel

O - Ambient Occlusion - Blue Channel

Red Layer

Layer for the top of the cliffs or their broken parts.

----- Red Layer -----

☒ RL - USE BC prop.

☐ RL - Color

☐ RL - Use BC tex

☐ RL - BC tex

☐ RL - BC Tint

☐ RL - BC UV Tiling 1

☐ RL - BC Rotate 0

☒ RL - USE N prop.

☐ RL - N tex

☐ RL - N Tiling 9

☐ RL - N intensity 0.8

RL - Cavity Intensity 2

☐ RL - Cavity Color

☐ RL - Cavity Mask

RL - USE MRO prop.

☐ RL - MRO Tex

☐ RL - MRO Tiling 1

☐ RL - MRO Rotate 1

This property is for turning on/off a part of a current layer, Base Color in this case.

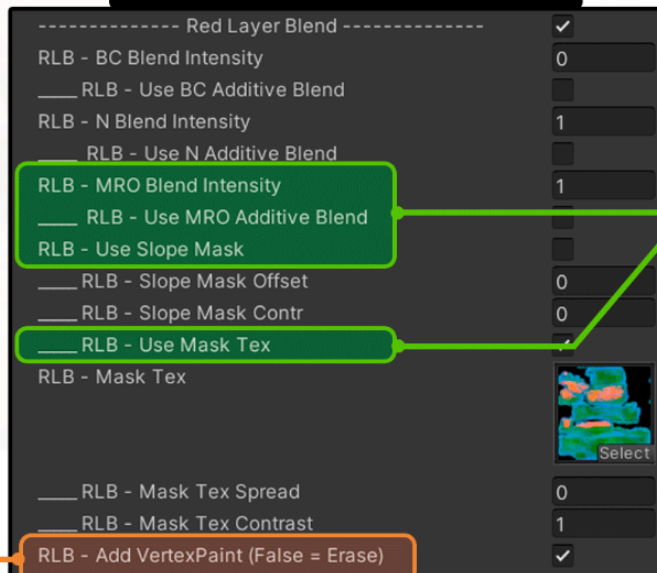
Let's imagine a situation: You worked so hard to pick the right values for BC tiling or tint. And now you want to check how the rock will look like with and without this additional Base Color.

In order not to memorize all those values before setting them back to zero, you can simply turn this BC layer off completely.

Turn on again and your written values will remain.

This property is more about comfort and practicality, rather than optimisation (better to say it has nothing to do with optimisation at all. It doesn't make the shader lighter)

Red Layer Blend



This property is better represented in the Blue Layer (a.k.a. Sand Layer).

Use any tool you like to paint the Vertex Paint color.

By default you'll be erasing/masking out the current layer.

Don't forget to enable this property to start adding.

A name of a channel you must use for Vertex Paint is already in the title of the used layer.
red layer = red channel

Layer can be added in several ways:

1. Repalace (by default) Completely overlaps the previous layer.
2. Additive. Data from the previous layer combines with the current one.
3. Slope mask. The layer appers only on the top of the rock, no matter how you rotate it.
4. Mask, which is derived from the Red channel of a plugged texture.
5. You can even combine the blend methods and do Slope+ Additive, for instance.

The rest of the layers resemble each other, therefore I won't go into too much detail.

Green Layer

- I commony used this layer for fine, micro details.

Blue Layer

- a.k.a. sand layer.

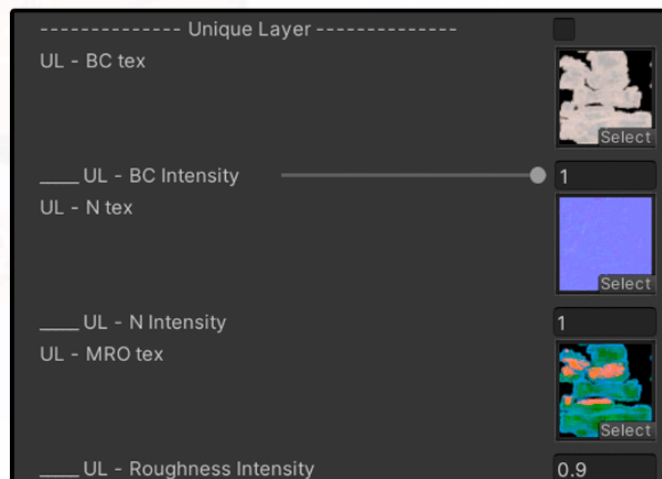
Use a Blue Channel in the Mesh Paint tab and a ##_Vertex Paint by Add parameter to add or erase the sand.

Unique Layer

- there's not many things for you to change.

Increase or decrease the intensity of the textures for different rock look.

Optionally you can enable AO (derived from the blue channel of the MRO tex)



Final Touches

- tweak some properties for final touch after all the changes to the layers you did before it.

Desaturate the whole rock with BC Saturation or add AO to the base color for some artistic purposes.



Last section

- Scroll down, to the very bottom of the material to reach some useful optimisation ticks.

If you don't use a certain layer completely (not if you don't use BC, but N is in use), disable it entirely with these options.
It's going to be a great boost to the performance.



OPTIMIZATION. QUICK TIPS

- As mentioned in the previous chapters, it's a good practice to turn off the layers completely if they are in no use.



- Since I used 4096x4096 textures almost everywhere (however, in the project they are already downsampled to 2048x2048), you can downsize them even more to win some extra fps for your scene.

The one texture I'd be aware of is T_clouds_noise, used to break the tiling. Because reducing the size of this map can create the following waves.

"That's all Folks!"