



NARAMATA BENCH WINES

Soil



FORMED BY GLACIERS

The Okanagan Valley soils were mainly created by glacial tilling and sedimentation. During ages of ice, glaciers moved slowly down the valley, grinding, carrying and depositing varied minerals along the way. Some of the oldest glacial soils are found on the upper slopes of the Naramata Bench. As the glaciers melted, lakes formed, then drained, exposing the deposits. Soils created by glacier meltwater lakes are called glaciolacustrine, and those by glacial rivers, glacialfluvial. These soils previously under water are commonly farmed on the mid and lower slopes. Pockets of sandy eolian surface soils, deposited by the wind, are scattered across the benchlands, and are also farmed for grapes. Younger alluvial fans, deposits formed by moving water, are typically found around creeks and right beside the lake, below most Naramata Bench vineyards.

In general, the surface soils of the Naramata Bench range from sandy to silt loam, which encourages deep rooting and discourages plant vigour, leading to wines of greater concentration. The subsoils range from loamy sand to silty clay,

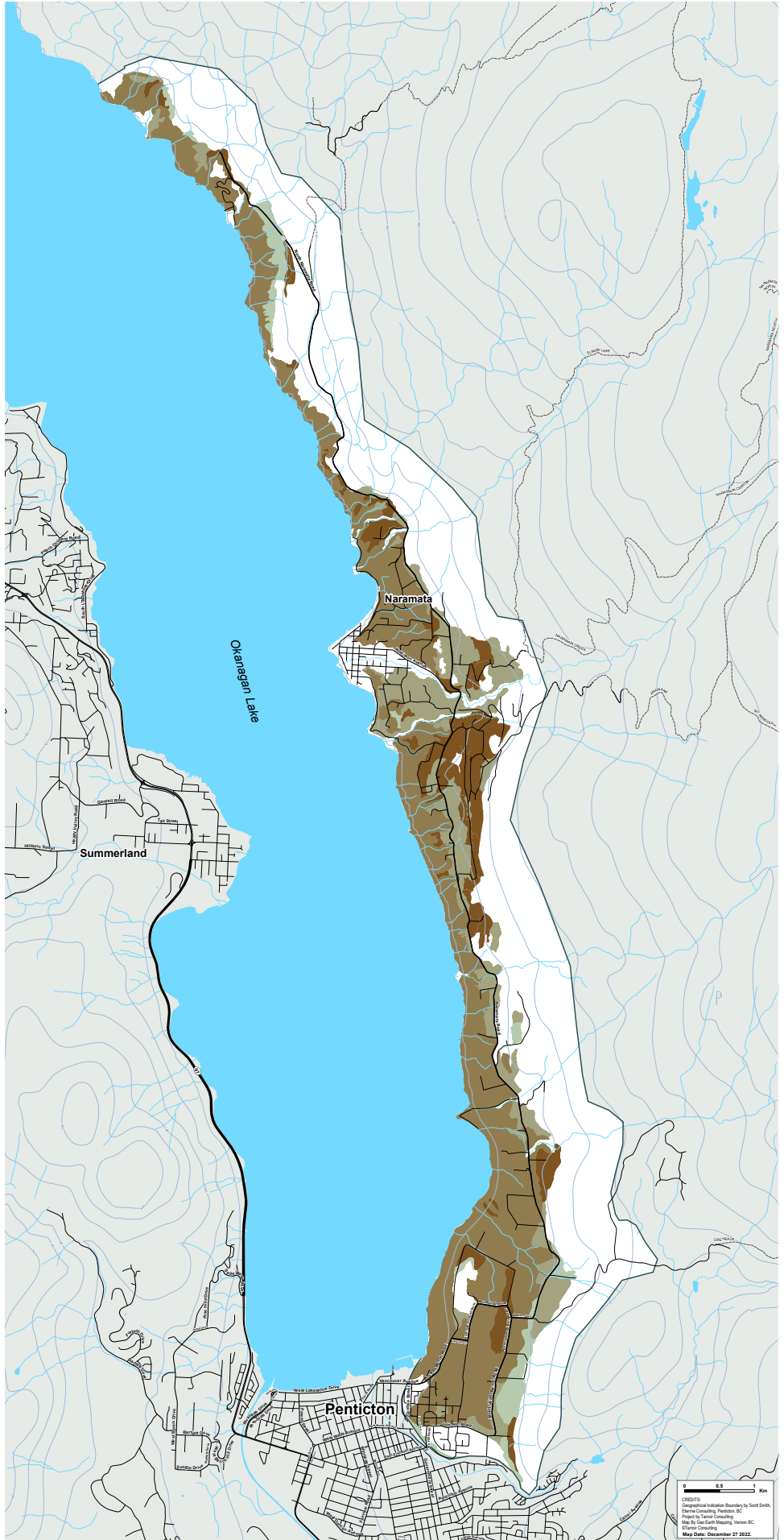
which means that there are varied levels of water retention, requiring some properties to irrigate while others may dry-farm, relying on retained subsoil water. Calcareous subsoils are common, requiring more calcium-tolerant rootstocks; this calcium content may impart a lightness and fitness to the wines. Degrees and types of salinity can impact perceived mineralogy in wine. The soils are often alkaline, potentially contributing to the high acid profile of the wines. As some of the looser soils are less stable, cover crops are often used to minimize erosion and add organic content to the soils.

Along the sides of the valley, layers of soil carry the story of the age in which they were deposited. Each of the ten Naramata Bench soil profiles has a traditional name, with different characteristics. These names do not necessarily relate to the communities they are named after. For example, Maynard, Munson and Penticton soils are commonly found on the Naramata Bench; Naramata soils are relatively uncommon as vineyard sites.

LEGEND

Dominant Soil Origin

- Fluvial
- Glacialfluvial
- Glaciolacustrine
- Eolian



The map illustrates the boundary configuration of the Naramata Bench, a subdivision of the Okanagan Valley Geographical Indication in accordance with the BC Agricultural Products Classification Act, Wines of Marked Quality regulation.

The highlighted vineyard areas are according to the 2016 agricultural land use inventory of the Okanagan Valley conducted by the BC Ministry of Agriculture, Innovation and Adaptation Branch and are displayed for general interest purposes only.

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 CREDITS
 Geographical Indication Boundary by Scott Smith,
 Okanagan Consulting, Vernon, BC
 2016 Agricultural Land Use Inventory by
 Map BC Geomatics, Vernon BC
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 Map Date: December 27 2022.

SOIL TYPES

BURNELL LAKE

Found on the south and north ends of the Naramata Bench, these fluvial soils were formed by rivers and now form gently sloping fluvial fans. Surface soils are gravelly sandy loam and subsoils are gravelly sand, which make them very fast draining and unable to retain water. Vineyards and orchards on these soils must be irrigated and are prone to nutrient run-off. The surface soil is typically acid 5.7-7.2 pH, but the subsoil can be 7.3-8.4 pH. The subsoil for vine roots is non-calcareous, and non-saline.

CHAPMAN

Found frequently on very strong to steep, often eroded slopes, these glaciolacustrine soils are sandy-loam on the surface, which makes them well-drained, and silty clay loam in the sub-soil, which enables good water-retention. These soils are unstable and rarely suited for vineyards. The alkaline soil ranges from 7.5-8.6 pH. The subsoil for vine roots is strongly calcareous, and weakly saline.

GIANTS HEAD

Found in the higher vineyards on the east side, halfway down Naramata Road, the texture of these glaciolacustrine soils is silt-loam on the surface, which makes them well-drained, and silty clay loam in the sub-soil, which enables good water-retention. These soils are well suited for vineyards and tree fruits. The surface soil is close to neutral, but the subsoil can be 8-8.4 pH. The compact subsoil for vine roots is moderately calcareous, and weakly or moderately saline.

MAYNARD SOILS

Found commonly on gentle to extreme slopes close to the lake, the texture of these fine glaciolacustrine soils is silt-loam or sandy-loam on the surface, which enables moderate drainage,

but the subsoil has slow permeability. These soils are unstable and very susceptible to erosion and run-off; any agriculture is recommended to have cover crops. The soil is alkaline, with 8-8.4 pH. The subsoil for vine roots is strongly calcareous, and moderately saline.

MUNSON SOILS

Found on typically moderate slopes all along the Naramata Bench, the texture of these glaciolacustrine soils is silt-loam/sandy-loam on the surface, which makes them well-drained, and loamy sand and silty clay in the sub-soil, which enables good water-retention. These soils are well suited for vineyards and tree fruits. The surface soil is typically 7.8-8 pH, but the subsoil can be 7.9-8.4 pH. The subsoil for vine roots is strongly calcareous, and moderately saline.

NARAMATA

Found sparsely on some of the highest vineyard sites, on very gentle to strong slopes, these surface soils have a sandy loam fluvial veneer caused by old rivers, with sandy loam glaciolacustrine soils underneath. The surface is well-drained, and clay deposits in the sub-soil enable good water-retention. These soils are often suited for vineyards and tree fruits. The surface soil is acidic with 6.1-6.8pH, whereas the subsoil is alkaline 8.3-8.5 pH. The compact subsoil for vine roots is strong calcareous, and weakly saline.

OLHAUSEN SOILS

Found on very gentle to extreme slopes. These sandy loam or loamy sand soils have excellent drainage but low water-holding capacity. The surface veneer of eolian, wind-blown surface soils have glaciolacustrine sediments in the subsoil below. These soils are well suited for vineyards and tree fruits. The soil is consistently alkaline, with 8-8.4 pH. The subsurface soil for vine roots is moderately calcareous, and weakly saline; the subsoil can be very hard.

PENTICTON SOILS

Found frequently on very gentle to strong slopes all along the Naramata Bench, the texture of these glaciolacustrine soils is silt loam on the surface, which makes them well-drained, and silty clay loam in the sub-soil, which enables good water retention. These soils are well suited for vineyards and tree fruits. The surface soil is close to neutral, but the subsoil can be 8-8.4 pH. The compact subsoil for vine roots is moderately calcareous, and weakly or moderately saline.

SKAHA

Found on the middle slopes along the Naramata Bench, the soils have a distinct layering of fine sandy loam soils on the surface and very gravelly loamy sand fluvialglacial soils underneath, deposited by rivers running under glaciers. The soils are free-draining and have low water retention. These soils are well suited for vineyards and tree fruits. The surface soil ranges from 7.3-8.3 pH; the subsoil can be strongly alkaline 8.5-8.8 pH. The loose subsoil for vine roots is strongly calcareous, and non-saline.

VALLEY CREEK

Found on the south end of the Naramata Bench, the fluvialglacial surface soils are gravelly sandy loam, and the subsoil is glaciolacustrine silty clay loam. The surface soils are quick draining, although the subsoil has moderate water retention. These soils are suited for irrigated vineyards and orchards. The surface soil is slightly alkaline 7.3-7.8, but the subsoil can be strongly alkaline at 8-8.4 pH. The subsoil for vine roots is moderately calcareous and weakly saline.

REFERENCES

Maps: Soils Information Finder Tool (SIFT)
Soils: Soils of the Okanagan and Similkameen Valleys

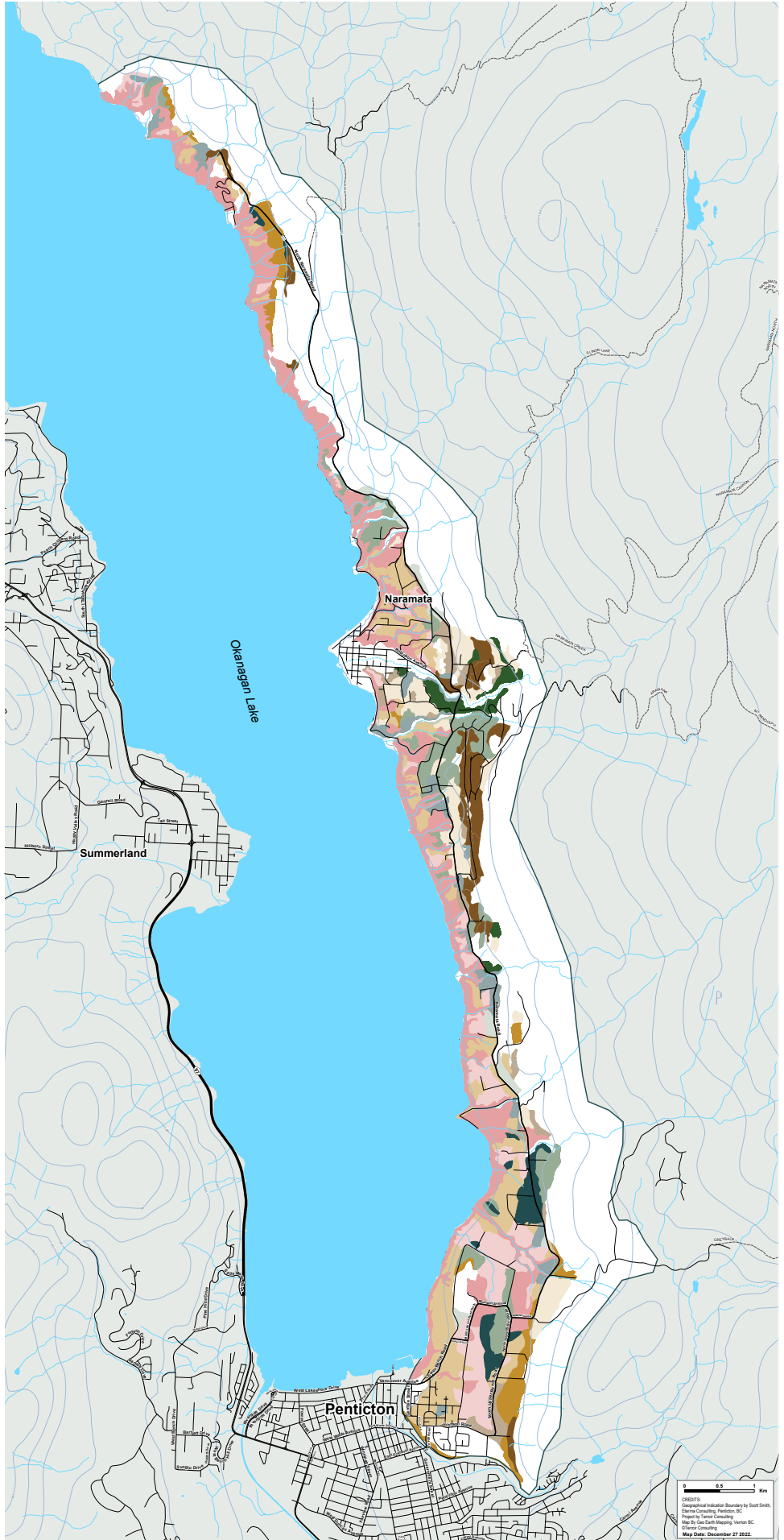


LEGEND

- Naramata Bench Geographical Indication
- Naramata Road and Connecting Roads
- Forest Service Roads
- Elevation Contours (100m a.s.l.)

Dominant Soil Types

- Burnell Lake
- Chapman
- Debeck
- Giants Head
- Maynard
- Munson
- Naramata
- Olhausen
- Osoyoos
- Penticton
- Skaha
- Valley Creek



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LEGEND

Dominant Soil Texture

- Silty Loam
- Loam
- Sandy Loam



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