



SOIL

ROCK CYCLE

elements, processes, and agents



RED HILLS

AUSTRALIA > MORNINGTON > RED HILLS > RED HILL
SOUTH > KAYES VINEYARD

By Nic Bouchard

THE SOIL

Kayes* Vineyard is planted on red volcanic ferrosols**, some of the most distinctive soils of the Mornington Peninsula. Formed from ancient volcanic activity, these iron-rich, free-draining soils encourage deep root penetration and naturally moderate vine vigour. Combined with the elevation and rolling hills of Red Hill South, they promote a long, even growing season that preserves freshness while allowing flavours to develop gradually.

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THE WINE

The combination of volcanic soils and the cool maritime climate produces wines of remarkable precision and energy. Kerri Greens' Messire Pinot Noir from Kayes Vineyard are noted for their vibrant natural acidity, lifted aromatics and refined structure. Rather than power, these wines express purity, elegance and a clear sense of place.



UPPER YARRA

AUSTRALIA > VICTORIA > YARRA VALLEY > UPPER
YARRA VALLEY > GEMBROOK HILL VINEYARD

By Nic Bouchard

THE SOIL

The vineyards of Gembrook* Hill are planted on red volcanic loam in the Upper Yarra Valley. These ancient volcanic soils are relatively fertile yet exceptionally well drained, meaning vines must still work hard to access moisture throughout the growing season. The combination of volcanic soils and the cool Upper Yarra climate encourages slow, balanced ripening.

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THE WINE

These conditions consistently produce wines with purity, tension and aromatic lift. 2025 JKM Pinot Noir offers bright natural acidity alongside finely detailed fruit, creating a wine that is tightly structured in youth yet capable of evolving beautifully with bottle age. The style is defined by elegance, perfume and pristine rather than richness.



SERRA GAÚCHA

BRAZIL > RIO GRANDE DO SUL > SERRA GAÚCHA > VALE
DOS VINHEDOS DO > SANTA LÚCIA VINEYARD

By Alcides P. Neto

THE SOIL

Santa Lúcia Vineyard is planted on basaltic-origin soils in Brazil's Vale dos Vinhedos*. Formed from ancient volcanic basalt, these clay-loam soils are scattered with pebbles that promote excellent drainage while retaining sufficient moisture to sustain the vines throughout the growing season. This combination naturally moderates vine vigour, encourages deep rooting, and supports consistent ripening in the region's humid climate.

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THE WINE

The interaction between basaltic soils and clay-loam contributes to wines of concentration, balance and longevity. Pizzato Vinhas e Vinhos*' DNA99 Merlot from Santa Lúcia vineyard develops ripe, expressive fruit supported by vibrant freshness, refined tannins and a subtle mineral character. Naturally low yields further enhance depth and complexity, resulting in an elegant Merlot with structure and excellent ageing potential.

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ALTO ELQUI

CHILE > COQUIMBO > ELQUI VALLEY > ALTO ELQUI >
WAQAR VINEYARDS

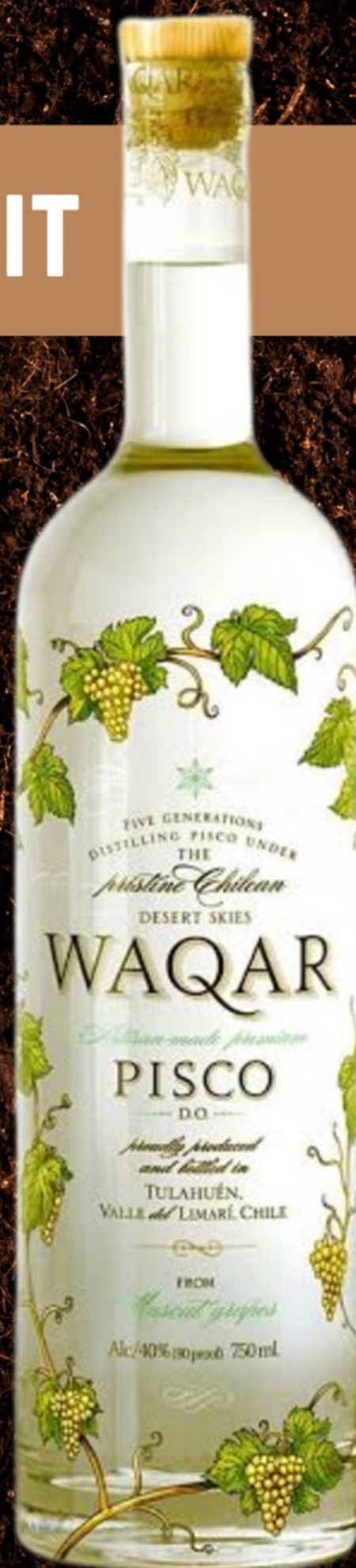
By Bruno Arias

THE SOIL

The vineyards supplying Waqar Pisco are planted on rocky alluvial soils in Alto Elqui, composed of stones, sand and extremely low levels of organic matter. These poor, free-draining soils naturally restrict vine vigour, encouraging deep root systems in search of moisture. Combined with the region's intense desert conditions and dramatic diurnal temperature variation, they create an ideal environment for producing highly concentrated Muscat fruit.

THE SPIRIT

The Moscatel Rosada grown on these rocky alluvial soils produces a Pisco of remarkable aromatic purity and precision. Low vine vigour concentrates floral and citrus aromas while preserving freshness, resulting in a spirit that is intensely perfumed yet refined. Waqar is recognised for its elegance, expressive floral character and exceptional balance, showcasing the unique terroir of Alto Elqui.



SOMOS DE CHOAPA

CHILE > COQUIMBO > CHOAPA VALLEY > SOMOS DE CHOAPA > LEGADO VINEYARDS

By Bruno Arias

THE SOIL

Legado originates from vineyards in Somos de Choapa, where rocky alluvial and colluvial soils provide excellent drainage and naturally moderate vine vigour. Combined with the region's semi-arid climate and the cooling influences of both the Pacific Ocean and the Andes, these conditions promote slow, even ripening while preserving freshness, aromatic intensity, and balance.

THE SPIRIT

The rocky alluvial and colluvial soils of Somos de Choapa contribute to a distinctive style of Pisco, lending structure, tension, and remarkable finesse to the Moscatel Rosada. Rather than emphasising richness alone, Bou Barroeta Legado displays freshness, precision, and a dry, gastronomic profile, with vibrant floral aromatics supported by exceptional purity and lively natural acidity.



ACONCAGUA VALLEY

CHILE > ACONCAGUA REGION > ACONCAGUA VALLEY >
OCHOA > SEÑA VINEYARD

By Bruno Arias

THE SOIL

Seña* comes from Chile's Aconcagua Valley, where the vineyard sits on a complex matrix of colluvial, granitic and alluvial soils. This combination brings together fractured rock, transported slope material and river-influenced deposits, creating variation in drainage, depth and vine vigour across the site. The result is a layered soil profile that supports both concentration and refinement.

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THE WINE

Seña is a Bordeaux-inspired blend shaped by the warmth of inland Aconcagua and the cooling influence of the Andes. Its complex soils contribute aromatic lift, freshness and layered structure, helping the wine balance ripe dark fruit with elegance, fine tannins and long ageing potential. It is one of Chile's most celebrated fine wines, known for combining power with precision.



YINCHUAN

CHINA > NINGXIA > HELAN MOUNTAIN EAST FOOTHILLS >
YINCHUAN* > FAMILY ESTATE VINEYARD

By Chong Pan

THE SOIL

The Family Estate Vineyard lies in the Helan Mountain East Foothills, where aeolian sandy gravel soils dominate the landscape. Sandy loam mixed with gravel and pebbles provides exceptional drainage, while the soils are naturally low in organic matter and rich in calcium carbonate. Deep alluvial deposits washed from the Helan Mountains create a well-drained yet complex rooting environment, encouraging vines to establish deep root systems in search of water and nutrients.

THE WINE

These free-draining calcareous soils naturally restrict vine vigour, resulting in lower yields and concentrated fruit. Gravel stores warmth during the day before releasing it as temperatures fall, promoting even ripening in Ningxia**'s continental climate. The Summit Cabernet Blend by Silver Heights is known for its intense black fruit, refined tannins, vibrant freshness and a subtle mineral tension that reflects the distinctive terroir of the Helan Mountain East Foothills.

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UPPER MEKONG VALLEY

CHINA > YUNNAN > SHANGRI-LA > UPPER MEKONG
VALLEY > AO YUN 敖云 VINEYARDS

By Chong Pan

THE SOIL

Ao Yun*'s vineyards are perched high in the Upper Mekong Valley between 2,200 and 2,600 metres above sea level, where mountain colluvial soils are interwoven with schist, granite, sandstone and fragments of limestone. These shallow, rocky soils offer exceptional drainage and naturally limit vine vigour, encouraging roots to penetrate deep into fractured bedrock in search of moisture and nutrients.

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THE WINE

The combination of high elevation, thin mountain soils and exceptional drainage creates one of the world's most distinctive expressions of Cabernet-based wine. Warm days and cool nights preserve natural acidity while allowing complete phenolic ripeness, producing wines of remarkable freshness, aromatic precision and finely structured tannins. Ao Yun combines power with elegance, delivering complexity, longevity and a profound sense of place.



CROUCH VALLEY

ENGLAND > ESSEX > CROUCH VALLEY > NEW HALL WINE ESTATE > CROUCH VALLEY VINEYARD

By Elinor C. T. Birch

THE SOIL

Crouch Valley Vineyard is planted predominantly on Eocene London Clay, formed during the Tertiary period, with chalk lying beneath the clay deposits. In places, the soils are complemented by loam and river terrace sediments, adding further complexity to the site. The clay-rich soils retain water and nutrients exceptionally well, helping to regulate vine growth and providing a reliable water supply throughout the growing season, while the underlying chalk contributes drainage and mineral balance.

THE WINE

These clay-dominated soils, combined with the warm, dry climate of the Crouch Valley, provide ideal conditions for producing expressive Bacchus. New Hall Wine Estate's Bacchus Fumé displays concentrated citrus and orchard fruit flavours alongside classic elderflower and fresh herbal aromatics. Careful oak maturation adds subtle smoky and savoury complexity, creating a wine that balances freshness, texture and remarkable depth while expressing one of England's most exciting wine regions.



GEVREY-CHAMBERTIN

FRANCE > BURGUNDY > CÔTE DE NUITS > GEVREY-CHAMBERTIN > CHAMBERTIN-CLOS DE BÈZE

By Patrick Payumo

THE SOIL

Chambertin-Clos de Bèze*, is a historic Grand Cru site in Gevrey-Chambertin which alongside its sister-vineyard, Chambertin, is often considered the finest vineyards in the village. The vineyard is characterized by shallow soils with three distinct zones, with the upper slopes of the vineyard sitting on hard pinkish rock called Premeaux limestone, formed during the Bathonian age in the Jurassic period. Just below this layer of Prémieux limestone lies calcaire argilleux or argilaceous Limestone, a limestone that contains a significant amount of clay, often visualized as a hardened marl.

Marnes à Ostrea Acuminata**, an ancient fossilized oyster bed atop clay minerals, characterizes the middle of the slope in Clos de Bèze. Its clay fraction containing smectite minerals with a high cation exchange capacity, enhancing its capability to retain nutrients.

Much of the lower slope of the vineyard is made up of calcaire à entroques*** or crinoidal limestone, best described as limestone made up predominantly of the remains of crinoids or sea lilies. Due to its impurities combined with geological faults in the area, this bedrock is easily weathered and friable.

Atop this kaleidoscope of bedrock, the top soil consists of both colluvium and marl and often described as luminous with pockets of oolitic limestone scattered in the vineyard surface with Clos de Bèze's upstairs neighbour, the Premier Cru Bel Air, contributing much of it through slope wash.

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THE WINE

Despite being situated in Marsannay-la-Côte, Bruno Clair holds 0.98 hectares of Clos de Bèze acquired by the domaine's founder Joseph Clair.

Bruno Clair's Clos de Bèze combines power and poise, initially showcasing its array of aromatics of crushed strawberries and raspberries, underpinned by subtle whole bunch spice notes of oolong tea and cinnamon, before gradually building intensity and revealing its immense depth of concentration and structure.



CHAMPAGNE

FRANCE > CHAMPAGNE > MASSIF DE SAINT-THIERRY >
HERMONVILLE > CLOS DE MARZILLY

By Elinor C. T. Birch

THE SOIL

Clos de Marzilly is a historic enclosed vineyard (clos) situated near Hermonville in the Saint-Thierry Massif.

The site is characterised by sandy-clay (argilo-sableux)* soils over the chalk substrata that underpin much of Champagne.

The clay component provides water retention and supports Meunier ripening, while the sandy element promotes drainage and contributes to aromatic expression and finesse.

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THE WINE

Michel Fagot Le Clos de Marzilly* is a single-vineyard Champagne produced exclusively from Clos de Marzilly and made from 100% Pinot Meunier. The wine combines the generosity and roundness typical of Pinot Meunier with the freshness and mineral energy of the Saint-Thierry terroir. Aromas commonly show orchard fruits, floral and herbal nuances, mint, pastry and brioche notes from lees ageing, alongside a distinctive mineral vibrancy. The palate is supple yet structured, with depth, elegance and a persistent chalk-influenced finish.

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WEHLEN

GERMANY > MOSEL > WEHLEN > WEHLENER SONNENUHR > IM LAYCHEN

By Katharina Ziehe

THE SOIL

Wehlener Sonnenuhr is one of the Mosel's great steep-slope vineyards, with vines rooted in blue Devonian slate. In the Im Laychen parcel, there is very little topsoil or humus, forcing the old vines to grow directly into moderately deep, weathered slate. This stony, heat-retentive soil absorbs and reflects warmth, helping grapes ripen in the Mosel's cool climate while supporting freshness, precision and mineral tension.

THE WINE

Dr. Loosen's Wehlener Sonnenuhr "Im Laychen" Riesling Dry GG Réserve Old Vines expresses the clarity and energy of blue slate Riesling. The wine combines bright acidity with notes of white peach, green apple and delicate white flowers, while the old vines bring concentration and depth. Although charming in youth, its structure, purity and mineral drive give it significant ageing potential.



MITTELHAARDT

GERMANY > PFALZ > MITTELHAARDT > FORST > KIRCHENSTÜCK

By Katharina Ziehe

THE SOIL

Kirchenstück is one of the Pfalz's most celebrated vineyards, defined by a complex mix of sandy clay, clay marl, loam, limestone rubble and basalt. The site is gently sloped and enclosed by a narrow stone wall, which helps shape airflow and protect the vineyard from cold, damp air. Its varied geology includes warmth-retaining basalt and sandstone, a clay-rich middle section that stores moisture and minerals, and a deeper limestone plate that supports balance during the growing season.

THE WINE

Dr. Bürklin-Wolf's Forster Kirchenstück G.C. Riesling Großes Gewächs is known for intensity, complexity and exceptional longevity. The vineyard's diverse soils contribute both richness and mineral poise, producing Riesling with delicate fruit, aromatic depth, length and structural precision. It is a wine built less on simple fruit expression and more on layering, tension and long ageing potential.



OFFALY

IRELAND > COUNTY OFFALY > BALLYCLERY > IRISH WINE ESTATES

By Kiki O'Rourke

THE SOIL

Although much of Ireland is dominated by peat soils that are generally unsuitable for viticulture, Irish Wine Estates has been established on the rolling hills of Ballyclery, County Offaly, where the vineyard is planted on limestone till, alluvial deposits and marl. These well-drained calcareous soils, combined with a gentle south-facing slope and natural shelter, provide one of the country's most promising sites for grape growing. While the humus-rich topsoil encourages vigorous vine growth, careful canopy management and drainage are essential to achieving balance in Ireland's cool maritime climate.

THE WINE

Irish Wine Estates is pioneering a new chapter in Irish viticulture, with a long-term focus on producing premium sparkling wine that expresses the country's emerging terroir. Recognising that Irish wine is still in its infancy, the estate is trialling almost 30 grape varieties to identify those best suited to its soils and climate before releasing its first still wines, followed by sparkling wines in the years ahead. Rather than pursuing tradition alone, the project combines careful site selection, scientific research and experimentation to explore the future potential of Irish wine.



WAIKARI

NEW ZEALAND > NORTH CANTERBURY > WAIKARI > BELL
HILL VINEYARD > SHELF BLOCK

By Samira Kakh

THE SOIL

Shelf Block is planted on shallow Waikari soils, characterised by a clay loam topsoil of variable depth over fractured limestone bedrock. The limited soil depth naturally restricts vine vigour, while the fractured limestone provides excellent drainage and encourages deep root penetration. This combination of clay, limestone and low-vigour conditions creates an ideal environment for producing fruit of concentration, balance and remarkable site expression.

THE WINE

Bell Hill's Pinot Noir Single Vineyard Shelf Block is a striking expression of this distinctive limestone terroir. Rather than emphasising primary fruit, the wine develops a complex spectrum of savoury aromas, earthy nuances and dried herb characters. Fine tannins, vibrant acidity and exceptional mineral tension provide structure and longevity, resulting in a Pinot Noir of precision, elegance and profound sense of place.



HEMEL-EN-AARDE VALLEY

SOUTH AFRICA > WESTERN CAPE > HEMEL-EN-AARDE VALLEY > HAMILTON RUSSELL VINEYARDS > ESTATE VINEYARD

By Joamari Van der Walt

THE SOIL

Hamilton Russell Vineyards is planted on clay-rich Bokkeveld shale soils in the Hemel-en-Aarde Valley. These ancient shale-derived soils are renowned for their ability to retain moisture while providing excellent structure for deep root development. Their high clay content naturally moderates vine growth and supports slow, even ripening, making them particularly well suited to cool-climate Pinot Noir and Chardonnay.

THE WINE

The moisture-retentive Bokkeveld shale, combined with the cool maritime influence of the nearby Atlantic Ocean, produces Pinot Noir of remarkable restraint and complexity. Slow ripening allows flavours to develop gradually while preserving freshness and natural acidity, resulting in wines with refined tannins, savoury depth, bright red fruit and exceptional elegance. Hamilton Russell's Pinot Noir is celebrated for its Burgundian-inspired style and its distinctive expression of the Hemel-en-Aarde terroir.



SWARTLAND

SOUTH AFRICA > WESTERN CAPE > SWARTLAND >
VARIOUS OLD-VINE SITES > SADIE FAMILY WINES

By Joamari Van der Walt

THE SOIL

Sadie Family Wines sources fruit for Columella from a collection of old vineyards across Swartland, each planted on a mosaic of granite, shale and iron-rich soils. These diverse soil types contribute contrasting characteristics: granite promotes excellent drainage and vine balance, shale retains moisture and builds structure, while iron-rich soils add further complexity and depth. By blending vineyards from multiple geological origins, the wine captures the full diversity of the Swartland landscape.

THE WINE

The interplay of these contrasting soils gives Columella its remarkable complexity and sense of place. Granite contributes elegance, freshness and aromatic lift, while shale provides structure, texture and longevity. The resulting Syrah-led blend is layered, refined and deeply expressive, combining concentrated dark fruit with savoury spice, mineral tension and exceptional ageing potential. Widely regarded as one of South Africa's greatest wines, Columella is a benchmark expression of Swartland terroir.



MACHARNUDO

SPAIN > ANDALUCÍA > JEREZ > MACHARNUDO (A
LEGENDARY PAGOS (SINGLE VINEYARD AREA)) > SAN
CAYETANO VINEYARD (PLANTED IN 1988)

By Finn McCabe

THE SOIL

San Cayetano Vineyard is planted in Albariza de Barajuelas, one of the six recognised types of Albariza found in Jerez. This bright white chalky marl contains 60–70% limestone and is exceptionally rich in fossilised diatoms—microscopic marine organisms that bear witness to the region's ancient seabed origins. Distinctive laminated layers of white chalk create a dense structure that restricts root penetration, naturally reducing vine vigour and yields while producing smaller, thicker-skinned grapes. Like all Albariza soils, it acts as a natural sponge, absorbing winter rainfall before forming a protective surface crust during the hot, dry summers. This remarkable ability to capture and conserve water provides the vines with a vital source of moisture throughout the growing season.

THE WINE

The naturally low yields produced by Albariza de Barajuelas result in Palomino Fino of remarkable concentration and structure. Antonio de la Riva's San Cayetano expresses the power and precision for which Macharnudo is renowned, combining savoury depth with chalky minerality, vibrant freshness and impressive texture. Although bottled as an unfortified Vino de la Tierra de Cádiz, it offers a compelling expression of one of Jerez's most celebrated vineyard sites and its distinctive limestone-rich terroir.

