

AURUM

INTEGRATED SOIL INTELLIGENCE

SOIL DIAGNOSTIC ASSESSMENT

Five-Zone Diagnostic across the Hay Field, Horse Pasture, and Ornamental Plantings

PREPARED FOR

[Site Name Redacted]

Central, Texas

Five composite samples | 0 to 7 in | Analyzed August 3, 2026

NM01-HF · NM02-HG-COM · NM03-HG · NM04-SL · NM05-SD

PREPARED BY

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1. Executive Summary

We assessed five composite soil samples from your ranch to answer three practical questions: the condition of your hay field, why a bare spot persists in the horse pasture, and why one run of ornamental sage died while the adjacent planting survived. Aurum integrated standard soil chemistry, Haney soil-health measurements, PLFA microbial profiling, field observations, and Aurum Nanopore metagenomic sequencing. The results support clear priorities for each zone, with field confirmation recommended where physical conditions are part of the diagnosis.

RANCH-WIDE PICTURE

RESULTS. The tested zones range from pH 5.4 to 6.2. Biological ratings are average to above average, and AMF-associated signals occur throughout. The main limitations are zone specific: very low potassium and low nutrient-holding capacity in the hay field; an acidic, biologically weaker horse-pasture bare spot; and a likely drainage limitation beneath the failed sage.

WHAT IT MEANS. The ranch does not need one blanket treatment. Hay and pasture require zone-specific fertility and acidity management. The bare spot also requires physical confirmation and traffic control. The sage site should be evaluated for drainage before replanting.

NEXT STEP. Complete the outstanding field checks, then set zone-specific rates, timing, and actions with Aurum.

The Three Questions, in Brief

Question	Short answer
Hay field status	Sound biology, but fertility is being drawn down. Potassium is only 18 ppm, with the lowest organic matter and CEC on the ranch.
Horse-pasture bare spot	The bare composite is the most acidic zone, has the highest H3Aextractable aluminum, and has the weakest biological profile. Traffic and compaction are the leading physical contributors and need field confirmation.
Sage die-off	The dead-sage soil does not show a general fertility shortage. Poor drainage and periodic root-zone saturation are the leading diagnosis, supported by the soil profile and site observations. Bed history remains an alternative explanation for some chemistry differences. Fusarium DNA is highest here but remains low abundance and does not establish disease as the cause.

2. Site and Sampling Context

- **Client:** [Redacted]
- **Site:** Your ranch, in the humid east of Texas. The regional soils are acidic and noncalcareous, which frames the entire assessment.
- **Objective:** Diagnose three specific conditions on your property rather than establish a general baseline.
- **Samples:** Five composite samples, including two directional comparisons: bare versus vegetated horse pasture and dead versus living sage. Each composite represents its sampled zone; the comparisons do not measure within-zone variability.

The Five Zones

Sample	Zone	What it represents
NM01-HF	Hay field	Large hay field under conventional management.
NM02-HG-COM	Horse pasture, bare spot	Composite of a vegetation-free patch surrounded by growth.
NM03-HG	Horse pasture, vegetated	Same field, the vegetated ground around the bare spot. The control for the comparison.
NM04-SL	Ornamental sage, healthy	Decorative sage in rows, thriving.
NM05-SD	Ornamental sage, dead	Sage planted the same way in rows, dead after one to two years.

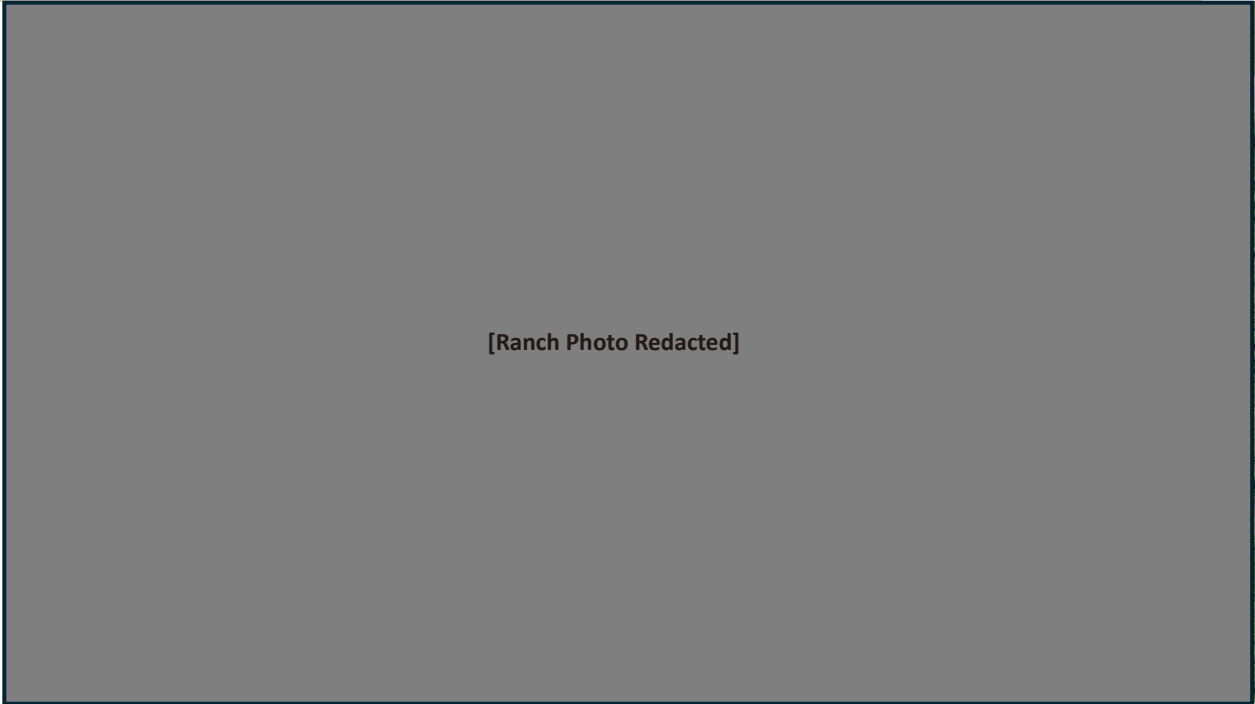


Figure 1. Aerial overview showing the ornamental sage along the road, the horse pasture and waterer, and the hay field behind the fence line. The image provides field context for the two directional comparisons used in this assessment.

3. Diagnostic Findings

The results below combine independent laboratory measurements, Aurum Nanopore sequencing, field observations, and Aurum's interpretation. Aurum reviewed and normalized the analytical results and remains the point of contact for the data, methods, and management decisions summarized here. Complete measurements are retained in the client portal.

3.1 Chemistry and Acidity

Zone	pH	Buffer	OM %	CEC	Mehlich-3 P	K ppm	H3A Al
Hay field	6.0	6.7	1.7	5.9	9	18	156
Horse, bare	5.4	6.4	3.0	12.1	9	140	344
Horse, vegetated	5.6	6.6	2.5	8.2	32	116	130
Sage, healthy	5.9	6.6	2.7	9.4	16	155	159
Sage, dead	6.2	6.8	4.1	10.3	10	177	136

CEC is cation exchange capacity in meq/100g. Exchangeable aluminum is the Haney H3A extractable value in ppm. Potassium and Mehlich-3 phosphorus are from the standard chemistry panel.

WHAT THE CHEMISTRY SHOWS

- Acid conditions are present across the tested zones. Soil pH ranges from 5.4 to 6.2, with buffer pH from 6.4 to 6.8. Hay and pasture lime requirements should be calculated by zone using the laboratory buffer method, target forage, and lime quality. The sage area is treated separately.
- Extractable aluminum is highest in the bare spot. The bare composite has the lowest pH (5.4) and the highest H3A-extractable aluminum (344 ppm), more than twice the adjacent vegetated composite. This may restrict root establishment and phosphorus use. Confirm with an exchangeable-aluminum test before treating aluminum as the sole cause.
- Your hay field is drawing down fertility. It has the lowest organic matter (1.7 percent), lowest CEC (5.9), and only 18 ppm potassium, far below every other tested zone. Continued hay removal without adequate replacement will reduce yield stability and nutrient-holding capacity.
- The dead-sage zone is chemically distinct from the living row. It has higher calcium (1,097 versus 546 ppm), sulfur (21.6 versus 7.7 ppm), potassium (177 versus 155 ppm), nitrate-N (16.4 ppm), organic matter (4.1 versus 2.7 percent), and base saturation (76 versus 45 percent). Its soluble-salt reading is twice the living row but remains low in absolute terms (0.18 versus 0.09 mmhos/cm). Extractable iron is the lowest of the five zones (53 ppm), while orange iron features and mottling were visible in the cores. These findings do not indicate a general fertility shortage. The differences could reflect bed amendment history, site hydrology, or both; the soil profile, clay layer, and site grade make periodic root-zone saturation the leading field diagnosis to confirm.
- Iron and manganese are not priority deficiencies in the tested zones. Do not add either without a crop-specific reason or tissue evidence.

3.2 Biology and Soil Health

Zone	Respiration	MAC index	Biomass	AMF	F : B	Overall
Hay field	37.3	47.8	1,749	42.9	0.32	Good–V.Good
Horse, bare	35.2	40.8	1,509	21.9	0.14	Average
Horse, vegetated	44.3	51.5	1,649	44.8	0.37	Good–V.Good
Sage, healthy	51.2	54.9	2,872	53.1	0.23	Above Avg
Sage, dead	121.5	143.7	2,970	120.1	0.37	Good–V.Good

Respiration is one-day CO₂-C in ppm. MAC is the laboratory's respiration-to-water-extractable-organic carbon index and may exceed 100. Biomass and AMF are PLFA ng/g; F:B is the fungi-to-bacteria ratio.

WHAT THE BIOLOGY SHOWS

- Laboratory biological ratings range from average to above average, and AMF-associated signals are present in every zone. Biology is an asset to protect, not the primary limitation identified in the hay or pasture.
- The bare spot has the weakest biological profile: the lowest total biomass, about half the AMF signal of the adjacent vegetated soil, and the lowest respiration. This is consistent with persistent loss of plant cover.
- The dead-sage composite has the highest respiration and AMF-associated PLFA signal, while total microbial biomass is only slightly higher than the living-sage composite. Sequencing shows a similar overall community in the two rows, with cellulose-degrading decomposers providing the clearest difference. This pattern supports decomposition of dead plant material as one explanation for the elevated biological activity; it does not identify the cause of death or prove wet-site stress by itself.

3.3 Community Profile by Zone

Aurum shotgun sequencing identified microbial DNA and selected functional genes in each zone. These results show biological presence and functional potential; they do not by themselves prove activity or plant response. The panels below highlight the findings that matter to management.

Hay Field NM01-HF

Sound biological condition with a clear potassium and nutrient-holding limitation.

Streptomyces spp.

ACTINOMYCETES

The dominant bacterial group detected; these taxa are commonly associated with nutrient cycling and competition with soil pathogens. → A biological asset to protect.

Bradyrhizobium spp.

NITROGEN-FIXING POTENTIAL

Abundant rhizobia and nitrogen-fixation genes were detected.

→ The capacity is present; the amount of nitrogen supplied to the crop was not measured.

Arbuscular mycorrhizal fungi

ROOT-SYMBIONT SIGNAL

PLFA and targeted sequencing detected AMF-associated signals. → Presence is supported; crop response was not measured.

NEXT STEPS

Now: Set potassium and any phosphorus replacement from forage species, yield target, and the full soil test; calculate lime from the buffer method.

Monitor: Track yield, soil-test potassium, pH, and organic matter at the same mapped locations.

Confidence: High

Horse Pasture — Bare Spot NM02-HG-COM

Weakest biological profile; acidity and physical stress both require attention.

Streptomyces spp.

ACTINOMYCETES

Still abundant, although the bare spot has the weakest overall biological profile. → Biology should improve as stable plant cover returns.

Fusarium DNA WATCH

Low-abundance FOSC DNA was detected, second highest after the dead-sage zone.

→ Monitor only; soil DNA does not establish active disease.

NEXT STEPS

Now: Measure compaction and infiltration, redirect or exclude traffic, and calculate any lime need by zone.

Then: Correct the confirmed physical restriction, reseed, protect establishment, and track cover at 30, 60, and 90 days.

Confidence: Moderate until physical conditions are measured

Horse Pasture — Vegetated NM03-HG

Well-covered comparison zone with a sound biological profile.

Streptomyces spp.

ACTINOMYCETES

Abundant taxa associated with nutrient cycling and microbial competition. → A biological asset to protect through continued cover.

Bradyrhizobium spp.

NITROGEN-FIXING POTENTIAL

Rhizobia and nitrogen-fixation genes were detected.

→ Functional potential is present; field contribution was not quantified.

NEXT STEPS

Now: Maintain cover and rotate grazing to prevent new congregation points and bare patches.

Monitor: Include this zone in pH monitoring; lime only if the zone-specific calculation supports it.

Confidence: High

Ornamental Sage — Living Row NM04-SL

Biologically sound; monitor drainage and repeatable plant symptoms.

Arbuscular mycorrhizal fungi

ROOT-SYMBIONT SIGNAL

Rhizophagus, Gigaspora, Funneliformis, and Diversispora were detected in the living-row composite.

→ AMF-associated organisms are present; colonization and plant response were not measured.

Fusarium DNA

WATCH

Low-abundance FSSC DNA was detected in the living-row composite.

→ Watch for repeatable symptoms; use plant tissue, not soil DNA alone, if disease testing is needed.

NEXT STEPS

Now: Check grade, irrigation, and drainage; do not enrich or over-water the bed.

If decline continues: Document symptoms and submit affected root or crown tissue for targeted testing before treatment.

Confidence: Moderate

Ornamental Sage — Dead Row NM05-SD

Highest respiration and decomposer activity on the ranch, plus the strongest low-abundance Fusarium signal.

Trichoderma, Purpureocillium, Clonostachys

BIOCONTROL-ASSOCIATED FUNGI

These organisms were detected most strongly in NM05-SD.

→ They are consistent with an active fungal community; suppressive performance was not directly tested.

Cellulomonas and Nocardioideae

DECOMPOSERS

Cellulose-degrading bacteria. Cellulomonas is more than three times higher in this composite than in the living row, with a smaller rise in Nocardioideae.

→ Supports decomposition of dead plant material as one explanation for the elevated biological activity; it does not identify the cause of decline.

Fusarium DNA (FOSC + FSSC)

WATCH

NM05-SD has the highest Fusarium read count in the five-sample comparison.

→ This supports targeted follow-up if roots or crowns show disease, but does not establish Fusarium as the cause of decline.

NEXT STEPS

Now: Check grade, irrigation, and the soil profile; confirm whether the bed was amended at planting.

Before replanting: Improve drainage, raise or move the planting, or select a better-matched species. Use symptomatic tissue if disease remains a concern.

Confidence: Moderate

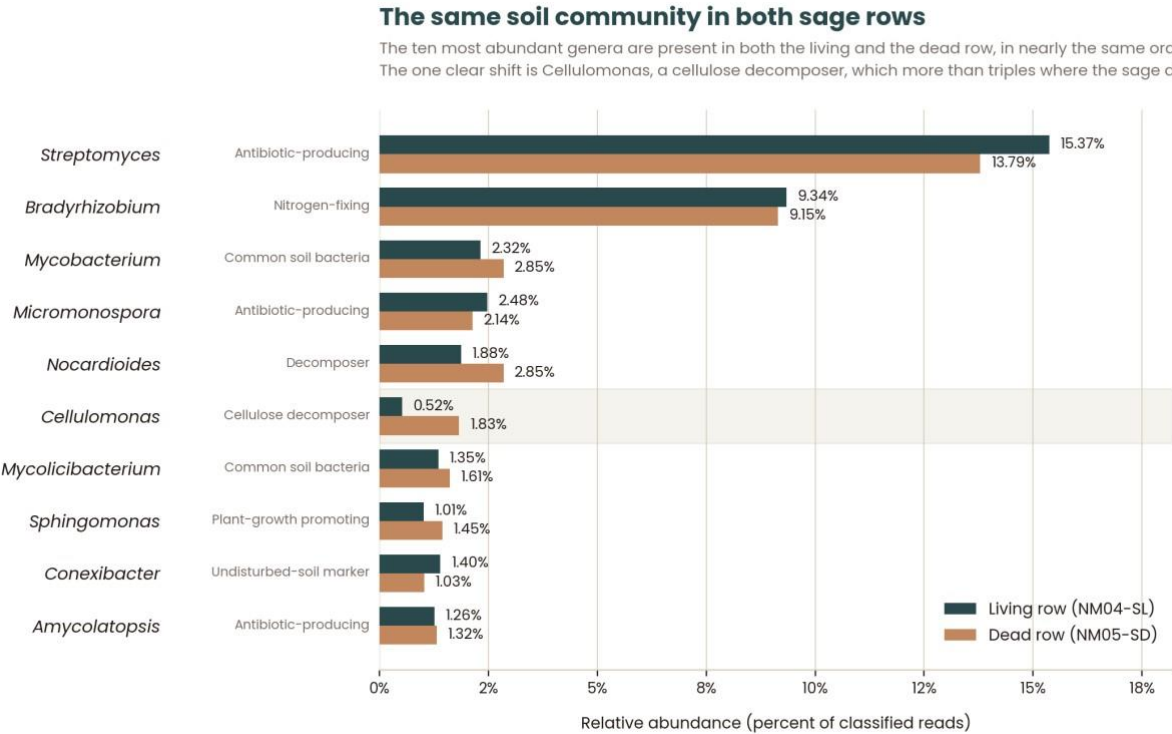


Figure 2. The ten most abundant genera in the living and dead sage rows, with the general soil role of each. The dominant communities are similar and in nearly the same order, as expected for two locations in one planting. *Cellulomonas*, a cellulose-degrading decomposer, is more than three times higher in the dead row, with a smaller rise in *Nocardioides*. *Mycobacterium* and *Mycolicibacterium* shown here are common environmental soil bacteria; this genus-level chart does not identify human or animal pathogens. Trace organisms, including *Fusarium* and the beneficial-associated fungi discussed in the zone panels, fall below the smallest bar shown and were evaluated separately against reference sequences. Percentages are shares of classified reads from one composite per row, so they show direction rather than a tested difference.

3.4 Findings at a Glance

The findings below separate current priorities from biological assets and items that need confirmation.

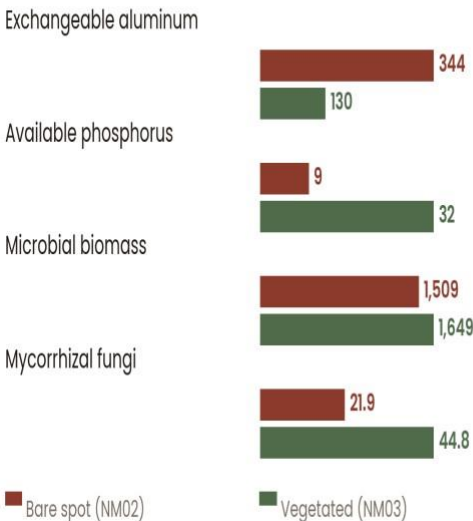
ADDRESSABLE	Hay and pasture acidity. Set any lime rate by zone from the buffer method, forage target, and lime quality. Keep the sage outside this program until drainage is resolved.
PRIORITY	Bare-spot aluminum signal. H3A-extractable aluminum is highest here. It may restrict establishment; confirm before treating it as the sole cause.
CONFIRM	Traffic and compaction. The location and lost cover make this the leading physical diagnosis. Measure compaction and infiltration before rehabilitation.
PRIORITY	Sage drainage. The clay layer, mottling and iron features, and observed site grade support periodic saturation as the leading field diagnosis. Measure drainage behavior and document bed history before replanting.

ADDRESSABLE	Hay and pasture acidity. Set any lime rate by zone from the buffer method, forage target, and lime quality. Keep the sage outside this program until drainage is resolved.
DEFICIENT	Hay-field potassium. At 18 ppm, potassium is far below every other tested zone and requires a yield-based replacement plan.
ASSET	Beneficial-associated community. Actinomycetes, rhizobia, AMF, and biocontrol-associated taxa are present. Protect the community through cover and sound management.
ASSET	AMF signals. PLFA and sequencing support AMF presence in all five zones; maintain living roots and avoid unnecessary disturbance.
HOLD	Iron and manganese. These are not priority deficiencies in the tested zones. Do not add them without crop or tissue evidence.
WATCH	Fusarium DNA. Low-abundance DNA is highest in the dead-sage zone. Test symptomatic tissue if disease remains a concern.

4. The Three Questions

The chart shows the measured direction of difference within each pair. Bar lengths are scaled separately for each measure and should not be compared across rows.

Horse field: bare spot vs vegetated



Decorative sage: dead rows vs healthy

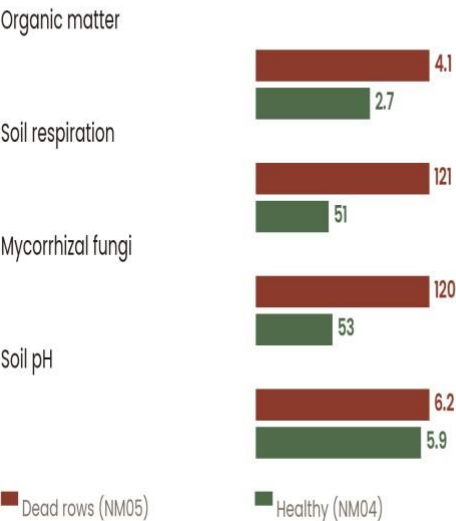


Figure 3. Directional comparisons for the horse pasture and sage plantings. Each pair shares a field setting, but one composite per condition does not quantify within-zone variability.

4.1 Hay Field: Sound Biology, Declining Fertility



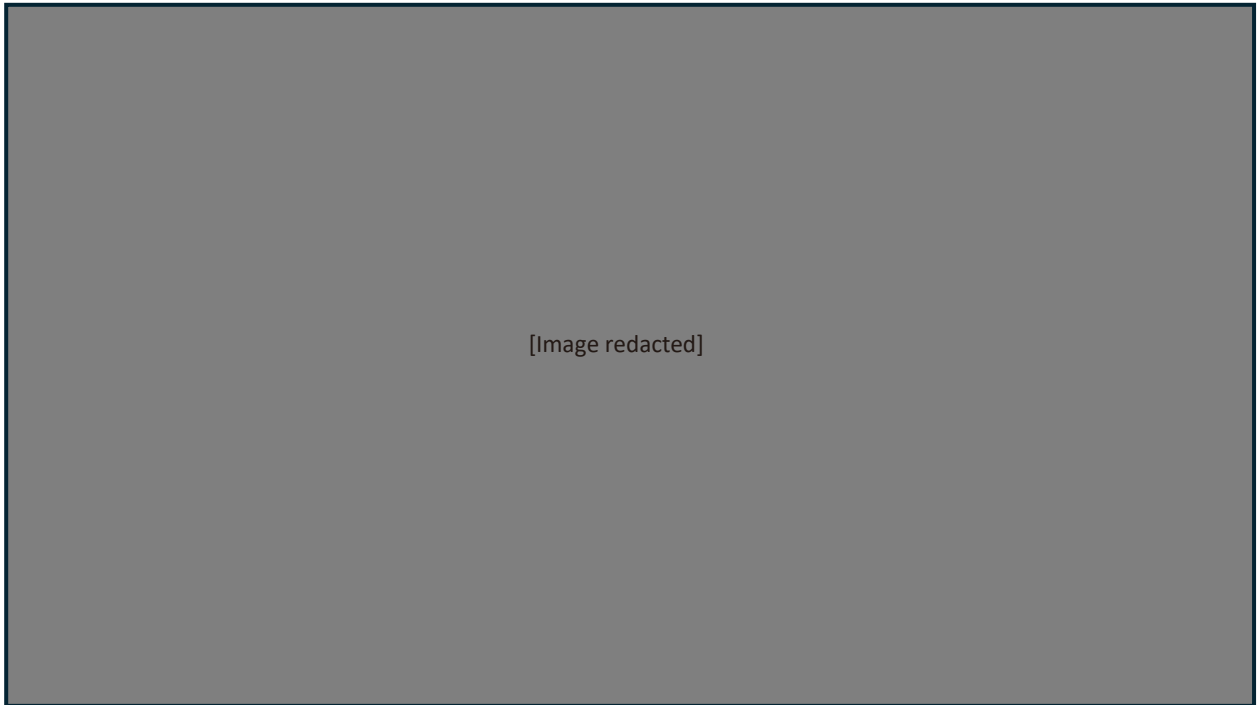


Figure 4. Hay field overview. The stand is dense and productive, while the soil results show the ranch's lowest organic matter (1.7 percent), lowest CEC (5.9), and lowest potassium (18 ppm). These results are consistent with nutrient removal outpacing replacement.

The hay field's immediate concern is fertility replacement, not microbial condition. Its potassium, organic matter, and CEC are the lowest measured on the ranch. Because harvested hay removes nutrients from the field, continued production without adequate replacement will reduce yield stability and nutrientholding capacity.

- **Replace what the hay removes**, potassium in particular, guided by your target yield and the exchange capacity, rather than a blanket rate.
- Build nutrient-holding capacity with practices that fit the hay system and its nutrient budget, such as returned residue, managed manure, or an appropriate cover strategy. Evaluate biochar only as a defined, replicated field trial with a known product, rate, and untreated comparison.
- Apply lime only at the calculated hay-zone rate, using the buffer result, forage target, and effective neutralizing value of the selected material.

4.2 Horse-Pasture Bare Spot: Acidity, Aluminum, and Traffic

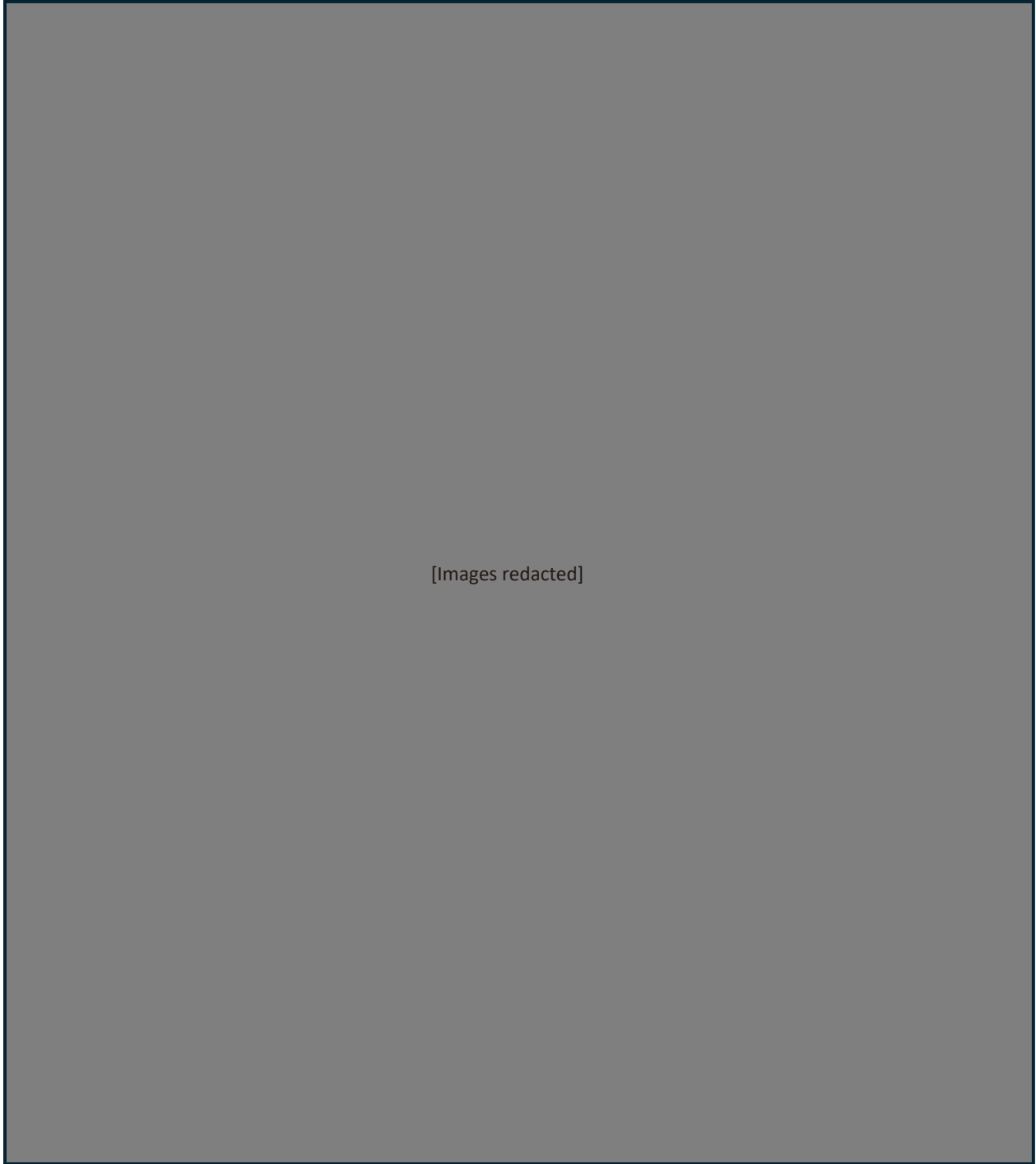


Figure 5. Horse-pasture overview and close-up. Patchy cover surrounds the waterer and provides the field basis for checking concentrated traffic and compaction. NM02-HG-COM has the lowest pH, highest H3Aextractable aluminum, and weakest biological profile of the five composites.

HORSE-PASTURE BARE SPOT

RESULTS. Compared with adjacent vegetation, the bare composite has lower pH (5.4 versus 5.6), higher H3A-extractable aluminum (344 versus 130 ppm), lower phosphorus (9 versus 32 ppm), and weaker biological indicators. Base cations are higher and soluble salts are low. **DIAGNOSIS.** This is not a general nutrient or salt shortage. Acidity may be limiting establishment, while traffic and compaction are the leading physical contributors.

WHAT IT MEANS. Chemistry alone will not hold the repair if horses continue to concentrate on the same ground.

NEXT STEPS. Measure compaction and infiltration; redirect or exclude traffic; calculate any lime need by zone; correct the confirmed physical restriction; then reseed and track cover at 30, 60, and 90 days.

4.3 Sage Die-Off: Drainage Is the Leading Diagnosis

The dead-sage composite does not show a general fertility shortage. It has the strongest base-cation status and several of the highest fertility measurements: calcium 1,097 ppm, magnesium 214 ppm, potassium 177 ppm, nitrate-N 16.4 ppm, sulfur 21.6 ppm, organic matter 4.1 percent, pH 6.2, and base saturation 76 percent. The soluble-salt reading is twice the living row but remains low in absolute terms. Field cores encountered a clay layer, mottling, and orange iron features, and the observed site grade may direct water toward the planting. Together, those physical observations make poor drainage and periodic root-zone saturation the leading diagnosis. The chemistry is compatible with prior bed amendment, altered water movement, or both; it does not distinguish among them. Confirm grade, irrigation, infiltration or drainage behavior, and bed history before replanting.



Figure 6. NM05-SD soil cores showing orange iron accumulations and mottled features near the base of the sampling depth. Together with the clay layer and observed site grade, these features support periodic wetness as the leading diagnosis; a field drainage check should confirm it.

SAGE DECLINE

RESULTS. The dead-sage composite does not show a general fertility shortage. It has the strongest base-cation status and several of the highest fertility measurements: calcium 1,097 ppm, magnesium 214 ppm, potassium 177 ppm, nitrate-N 16.4 ppm, sulfur 21.6 ppm, organic matter 4.1 percent, pH 6.2, and base saturation 76 percent. Soluble salts are twice the living row but remain low in absolute terms (0.18 versus 0.09 mmhos/cm). Field cores encountered clay, mottling, and orange iron features. Fusarium DNA is highest here but remains low abundance.

DIAGNOSIS. Poor drainage and periodic root-zone saturation are the leading explanation, supported by the soil profile and observed site grade. Some chemistry differences could also reflect prior bed amendment or reduced plant uptake after decline. Soil chemistry alone cannot separate these possibilities. Fusarium remains a secondary question; soil DNA does not establish active infection or causation.

WHAT IT MEANS. Adding fertility is unlikely to solve the problem. The next decision is whether the site can be made suitable for the identified sage species.

NEXT STEPS. Identify the sage species. Check grade, irrigation delivery, and drainage behavior; expose the soil profile to confirm the depth and continuity of the clay layer; and document the bed's planting and amendment history. Improve drainage, raise or relocate the planting, or select a better-matched plant before replanting. Submit symptomatic root or crown tissue for targeted testing only if disease symptoms remain a concern.

5. Recommended Direction

5.1 The Sequence

Four moves, in order. This diagnostic report establishes direction; the companion Aurum recommendation plan sets products, rates, timing, and trial details after the field checks are complete.

1	Set hay and pasture lime needs by zone. Use the buffer method, forage target, and lime quality. Do not apply one blanket rate, and keep the sage outside this program while the site diagnosis is confirmed.
2	Rebuild the hay field. Develop a yield-based potassium replacement plan, confirm phosphorus need, and select residue, manure, or cover practices that fit the production system and nutrient budget.
3	Rehabilitate the bare spot after confirmation. Measure compaction and infiltration, change the traffic pattern, correct the confirmed restriction, then reseed and protect establishment.
4	Resolve the sage site before replanting. Confirm species, grade, irrigation, drainage behavior, soil profile, and bed history; then improve the site, relocate the planting, or choose a better-matched plant.
KEEP THE SAGE OUT OF THE HAY-AND-PASTURE PROGRAM Do not lime or enrich the sage bed while drainage, irrigation, plant identity, and bed history remain unresolved. The immediate decision is plant-versus-place, not fertility.	

5.2 By Zone

Zone	Priority actions
Hay field	Set a yield-based potassium plan; confirm phosphorus need; calculate lime from the buffer method; rebuild organic matter and nutrient-holding capacity with practices that fit the hay system.
Horse bare spot	Measure compaction and infiltration; redirect traffic; calculate any lime need; correct the physical restriction; reseed and protect establishment.
Horse pasture (general)	Maintain cover and rotate grazing. Prevent new congregation points and monitor pH through the zone program.
Sage plantings	Confirm sage species, drainage, irrigation, soil profile, and bed history. Improve the site, relocate the planting, or change the plant before replanting.

5.3 Decision Boundaries

DO NOT USE	USE, TARGETED
- Do not enrich the sage bed before resolving plant identity, drainage, irrigation, and bed history. - Do not apply one blanket lime rate across the ranch. - Do not add iron or manganese without crop-specific or tissue evidence. - Do not treat low-abundance soil Fusarium DNA as proof of disease.	- Lime hay and pasture only at calculated zone rates. - Set hay-field potassium from forage species, yield target, and the full soil test. - Select hay organic-matter practices that fit the production system and nutrient budget. - Control traffic and protect establishment at the bare spot. - Evaluate biochar, if desired, only through a defined replicated trial with a known product, rate, and untreated comparison.

5.4 Observed On Site, Outside This Scope

JOHNSON GRASS — HORSE SAFETY

Johnson grass was observed during the site visit. Under drought, frost, heavy regrowth, or other stress, it can present livestock hazards. Keep horses away from suspect or stressed stands and coordinate identification and control with your veterinarian or pasture-management advisor. This is a field safety observation, not a result of the soil analysis.

FERTILIZER MIXING

You reported persistent precipitate and salt clumping in the fertilizer mixing tank before spreading. This is outside the soil assessment and is more consistent with fertilizer-product or mixing-water compatibility than with a soil problem. Test the mixing water and run jar compatibility checks on the actual products and sequence before the next application. Aurum can evaluate this as a separate focused diagnostic.

6. Limitations and Next Steps

6.1 What This Assessment Cannot Yet Establish

- Within-zone variability. Each condition is represented by one composite, so the results show direction rather than statistical certainty.
- Sage bed history. The higher calcium, sulfur, potassium, nitrate, and organic matter in the dead-sage composite could reflect prior amendment, differences in water movement, reduced plant uptake after decline, or a combination. Planting and amendment records are needed to separate these explanations.
- Cause versus consequence in the sage soil. Several measured differences may be consequences of plant loss rather than causes. One composite per row and soil testing alone cannot establish causation.
- **Physical drainage and compaction.** The two most likely physical drivers, poor drainage under your sage and compaction at your bare spot, were not measured and need field confirmation.
- Fusarium significance. Aurum sequencing detected low-abundance Fusarium DNA, highest in NM05SD. DNA presence does not establish viable infection or causation; use symptomatic root or crown tissue for targeted plant-pathology follow-up if disease remains a concern.

6.2 Recommended Next Steps

	Action	Purpose
1	Confirm sage species, drainage, irrigation, and bed history	Determines whether the site can support the intended plant and separates hydrology from planting-history effects.
2	Measure bare-spot compaction and infiltration	Confirms or rejects the leading physical explanation before rehabilitation.
	Action	Purpose
3	Set hay and pasture lime rates	Converts buffer results into zone-specific quantities using forage target and lime quality.
4	Build the hay nutrient budget	Sets potassium and any phosphorus replacement from forage species and target yield.
5	Use symptomatic tissue only if sage disease remains a concern	Tests whether Fusarium is active and relevant to the affected plant.
6	Review the companion recommendation plan with Aurum	Finalizes products, rates, timing, field trials, replanting, and monitoring.

Your Baseline Starts Here

This report establishes the first quantitative baseline for each zone. After the confirmation work and corrections, resample the same mapped locations with the same methods under comparable seasonal and soil-moisture conditions. Track soil pH, potassium, vegetative cover, compaction or infiltration, and sage survival against this baseline. Interpret organic matter and biological indicators over multiple seasons, and use the Aurum client portal as the continuing record for results, maps, and follow-up decisions.

Your ranch has a generally sound biological base with three different management needs. The hay field is drawing down potassium and nutrient-holding capacity. The horse-pasture bare spot combines an acidity signal with a likely traffic and compaction problem. The sage soil does not show a general fertility shortage; poor drainage and periodic root-zone saturation are the leading diagnosis, while bed history remains an alternative explanation for some chemistry differences. The low-abundance Fusarium result is a secondary item to investigate only if plant symptoms support it. Complete the field checks first, then use the companion Aurum recommendation plan to set zone-specific rates, timing, rehabilitation, and replanting decisions.

PREPARED AND AUTHORIZED BY

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Signature: _____

Date: _____

End of Diagnostic Report