SoilSidekick Pro

Professional Soil Analysis System

UPC-A

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SAMPLE REPORT

DUMMY DATA

FOR DISPLAY ONLY

Property Soil Report

Sample Generated 1/4/2026 SAMPLE DATA

SAMPLE PROPERTY ADDRESS

DUMMY DATA

123 Sample Street, Anytown, TX 00000

Sample Preparer Information:

Sample Professional Name

Sample Company LLC

Foundation Assessment

LOW

Risk Level

Septic System

GOOD

Feasibility

Landscaping Quality

GOOD

Potential

AI Summary

Plain English

This property at 1234 Oak Valley Drive features Bergstrom clay loam soil, which is among the more favorable soil types for residential development in the Austin area.

Foundation Assessment: The soil has good bearing capacity with low shrink-swell potential. Standard slab-on-grade or pier-and-beam foundations are suitable without special engineering requirements. The clay content (30%) is moderate and well-balanced with sand (28%) and silt (42%).

Septic System Viability: With a saturated hydraulic conductivity of 4.2 micrometers/sec and well-drained classification, this soil is suitable for conventional septic systems. A standard drain field should function effectively, though a percolation test is still recommended before installation.

Landscaping Potential: The pH of 6.8 is nearly ideal for most plants, and organic matter content of 2.8% indicates reasonably fertile soil. Native Texas plants and most common landscaping species should thrive with minimal amendments.

Key Recommendations: Consider adding 2-3 inches of organic compost before planting to boost microbial activity. The satellite data shows stable conditions with healthy vegetation (NDVI 0.72), suggesting the soil currently supports good plant growth.

AI Landscaping Recommendations

Personalized

Landscaping Potential: **Good**

Soil Strengths

- Good water retention
- Nutrient-rich
- Stable for structures
- Supports native plants well

Recommended Plants

Texas Red Oak (Tree)

Native species well-adapted to clay loam, provides excellent shade

Mexican Plum (Tree)

Drought-tolerant once established, beautiful spring blooms

Flame Acanthus (Shrub)

Thrives in clay soil, attracts hummingbirds, heat-tolerant

Purple Coneflower (Flower)

Deep roots handle clay well, low maintenance perennial

Buffalograss (Grass)

Native grass requiring minimal water, ideal for clay soils

Black-eyed Susan (Flower)

Tolerates clay, provides fall color, self-seeding

Recommended Soil Amendments

Expanded Shale

Improves drainage in clay soil without affecting pH

How to apply: Mix 3 inches into top 6 inches of soil before planting

Composted Organic Matter

Increases microbial activity and improves soil structure

How to apply: Add 2-3 inch layer annually as mulch or till in before planting

Gypsum

Loosens clay particles without changing pH

How to apply: Apply 40 lbs per 1,000 sq ft, water in thoroughly

Potential Challenges

- Clay soil may become waterlogged during heavy rains - ensure proper grading
- Soil may crack during drought - maintain consistent moisture or use mulch
- Heavy clay can be difficult to work when too wet or too dry

Pro Tips

- Best planting time is fall when soil is workable and roots can establish before summer heat
- Use raised beds for vegetables to improve drainage and root development
- Group plants by water needs (hydrozoning) to maximize irrigation efficiency
- Apply 3-4 inches of hardwood mulch to moderate soil temperature and retain moisture

AI Risk Analysis

Comprehensive

Executive Summary

This property presents low overall risk for development and landscaping. The Bergstrom clay loam soil is well-suited for residential construction with standard foundation practices. No significant environmental concerns were identified from satellite analysis.

25

Overall Risk Score

Low Risk

Satellite Insights

Vegetation Health

Healthy vegetation indicated by NDVI of 0.72

Recent Changes

No significant land disturbance detected in the past 12 months

Moisture Patterns

Normal moisture patterns observed, no drainage issues apparent

Risk Categories

Foundation Risk

Low

- Low shrink-swell potential
- Good bearing capacity
- Minimal settlement risk

Flood Risk

Low

- Property not in FEMA flood zone
- Good natural drainage
- Adequate elevation

Erosion Risk

Low

- Flat to gentle slope (0-1%)
- Established vegetation cover
- Clay content provides cohesion

Environmental

Low

- No contamination indicators
- Healthy soil biology indicated
- Native ecosystem stable

⚠ Key Risks

- Minor: Clay soil may require amended planting beds for non-native species
- Minor: Potential for surface ponding during extreme rain events

Mitigation Priorities

- Ensure proper grading away from structures
- Install French drain if ponding occurs
- Maintain consistent soil moisture to prevent cracking

Satellite Enhancement Data

10m Resolution

High-resolution satellite imagery analysis provides hyper-local insights that complement traditional soil survey data.

Land Change Detection

Sample - No significant changes detected

Vegetation Index (NDVI)

72.0%

Last Satellite Pass

Recent

Lower Foundation Risk

Soil properties indicate favorable conditions for standard foundation construction.

Key Considerations:

- Good soil bearing capacity indicated
- Standard construction practices suitable
- Lower risk of settlement issues

Slight limitation: Low
Building foundations

Well-suited: Low
Shallow excavations

Favorable conditions: Low
Dwellings without basements

Good Septic Feasibility

Soil characteristics suggest favorable conditions for conventional septic system installation.

Important Factors:

- Adequate percolation expected
- Good biological treatment capacity
- Standard drain field likely suitable

Key Soil Factors

Drainage: Well drained

Permeability (Ksat): 4.2 micrometers/sec

Texture: Clay loam

Good Landscaping Potential

Soil quality is adequate for most landscaping with modest improvements.

Landscaping Benefits:

- Suitable for lawns and common plantings
- Moderate amendment costs expected
- Standard property value impact

Property Value Impact:

Neutral to slight positive value impact

Soil Chemistry Details

Technical soil properties from USDA NRCS survey

pH Level:
6.8

Organic Matter:
2.8%

Nitrogen (N):
low

Phosphorus (P):
low

Detailed Soil Information

Map Unit Information

Name: Sample Clay Loam, 0 to 1 percent slopes
Map Unit Key: SAMPLE
Coordinates: 00.0000, -00.0000

Soil Horizons

Depth: 0 - 25 cm
Texture: Clay loam
pH: 6.8

Sand: 28%
Silt: 42%
Clay: 30%