

GAINES SOIL CONSULTING

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SOIL EVALUATION REPORT

Client: Mike Mohr
109 Iron Lake Court
St. Charles, Missouri 63304

Report: July 15, 2024
Site: Mohr Residence
104 Cheatham Road
County: Lincoln
Date: July 11, 2024
Job N^o: G241257

Sample Locations: see site sketch

Detailed Soil Description¹ / Interpretations - Pit 1

Depth (in)	Matrix Color ²	Texture	Mottles ²	Structure	Consistence	Coatings ²	Notes	Permeability & Loading Rate ³ in (G/D/Ft. ²)
0 - 10	10YR 4/2	Silt Loam ~15 - 25% Clay	--	Moderate Very Fine Subangular Blocky	Friable	--	--	0.5 Group 3
10 - 15	10YR 5/2	Silt Loam ~15 - 25% Clay	Common Very Fine Prominent 7.5YR 4/6	Moderate Fine Subangular Blocky	Friable	--	Common Medium Fe & Mn Accumulations	
15 - 23	10YR 4/2	Silty Clay / Clay >40% Clay	Many Fine Prominent 7.5YR 4/6	Moderate Medium Subangular Blocky	Extremely Firm	Very Few Distinct 10YR 4/2	--	Not Suitable Group 4b
23 - 30	10YR 4/2	Silty Clay / Clay >40% Clay	Many Fine Distinct 10YR 4/4	Moderate Medium Subangular Blocky	Extremely Firm	Very Few Distinct 10YR 4/2	Common Medium Fe & Mn Accumulations	
30 - 37	7.5YR 4/2	Silty Clay Loam ~35 - 40% Clay	Common Coarse Distinct 7.5YR 4/4	Moderate Medium Subangular Blocky	Very Firm	Very Few Faint 10YR 4/2	Common Medium Fe & Mn Accumulations	0.2 Group 3
37 - 48	7.5YR 5/2	Silt Loam ~25 - 27% Clay	Many Coarse Distinct 7.5YR 4/4	Moderate Medium Subangular Blocky	Friable	--	Common Medium Fe & Mn Accumulations	0.5 Group 3
Depth ⁴ (S)	--	Texture ⁴ (U)	Drainage ⁴ (U)	Structure ⁴ (PS)	--	--	Restrictions ⁴ (U)	Group ⁴ (U)

Soil profile was a poorly drained soil. Low chroma (2 or less) or iron/manganese accumulations signifying seasonal high groundwater (seasonal saturation) was 10 inches. General landscape was of rolling topography. Soil pit site was a convex slope of 0-1% (S)⁴ with runoff entering from the north. Bedrock greater than 48 inches.

Detailed Soil Description¹ / Interpretations - Pit 2

Depth (in)	Matrix Color ²	Texture	Mottles ²	Structure	Consistence	Coatings ²	Notes	Permeability & Loading Rate ³ in (G/D/Ft. ²)
0 - 7	10YR 3/2	Silt Loam ~15 - 25% Clay	--	Strong Medium Granular	Friable	--	--	0.45 Group 3
7 - 21	7.5YR 4/4	Silty Clay / Clay >40% Clay	--	Strong Medium Angular Blocky	Extremely Firm	Few Faint 10YR 4/2	--	Not Suitable Group 4b
21 - 31	7.5YR 4/4	Silty Clay / Clay >40% Clay	Common Coarse Distinct 7.5YR 5/2 Common Medium Distinct 7.5YR 4/6	Strong Medium Angular Blocky	Extremely Firm	Few Faint 10YR 4/2	Common Medium Fe & Mn Accumulations	
31 - 42	2.5Y 5/4	Silt Loam ~25 - 27% Clay	Common Coarse Distinct 2.5Y 6/1	Moderate Medium Angular Blocky	Very Slightly Brittle	--	Common Medium Fe & Mn Accumulations	0.4 Group 3
42 - 48	2.5Y 5/4	Silty Clay Loam ~30 - 35% Clay	Common Fine 2.5Y 6/1 Common Medium Distinct 2.5Y 5/6	Moderate Medium Angular Blocky	Firm	--	Common Medium Fe & Mn Accumulations	
Depth ⁴ (S)	--	Texture ⁴ (U)	Drainage ⁴ (U)	Structure ⁴ (PS)	--	--	Restrictions ⁴ (U)	Group ⁴ (U)

Soil profile was a moderately well drained soil. Low chroma (2 or less) or iron/manganese accumulations signifying seasonal high groundwater (seasonal saturation) was 21 inches. General landscape was of rolling topography. Soil pit site was a convex slope of 2% (S)⁴ with runoff entering from the east. Bedrock greater than 48 inches.

Detailed Soil Description¹ / Interpretations - Pit 3

Depth (in)	Matrix Color ²	Texture	Mottles ²	Structure	Consistence	Coatings ²	Notes	Permeability & Loading Rate ³ in (G/D/Ft. ²)
0 - 11	10YR 4/2	Silt Loam ~25 - 27% Clay	Common Very Fine Prominent 7.5YR 3/4	Moderate Very Fine Subangular Blocky	Friable	--	Common Medium Fe & Mn Accumulations	0.5 Group 3
11 - 19	10YR 5/2	Silty Clay / Clay >40% Clay	Common Very Coarse Prominent 7.5YR 4/6	Strong Medium Angular Blocky	Extremely Firm	Few Faint 10YR 4/2	Common Medium Fe & Mn Accumulations	Not Suitable Group 4b
19 - 30	10YR 5/2	Silty Clay / Clay >40% Clay	Many Medium Prominent 7.5YR 5/4	Moderate Coarse Subangular Blocky	Extremely Firm	--	Common Medium Fe & Mn Accumulations	
30 - 39	7.5YR 5/2	Silty Clay Loam ~30 - 35% Clay	Common Coarse Distinct 7.5YR 4/4	Strong Coarse Angular Blocky	Very Slightly Brittle	--	Common Medium Fe & Mn Accumulations	0.3 Group 3
39 - 48	7.5YR 5/2	Silt Loam ~25 - 27% Clay	Common Coarse Distinct 7.5YR 4/4	Strong Coarse Angular Blocky	Friable	--	Common Medium Fe & Mn Accumulations	0.45 Group 3
Depth ⁴ (S/PS/U)	--	Texture ⁴ (S/PS/U)	Drainage ⁴ (S/PS/U)	Structure ⁴ (S/PS/U)	--	--	Restrictions ⁴ (S/PS/U)	Group ⁴ (S/PS/U)

Soil profile was a poorly drained soil. Low chroma (2 or less) or iron/manganese accumulations signifying seasonal high groundwater (seasonal saturation) was 0 inches. General landscape was of rolling topography. Soil pit site was a concave slope of 0-1% (S)⁴ with runoff entering from the north. Bedrock greater than 48 inches.


Remarks:

New construction for on-site septic system for a three-bedroom home.

NOTE: For best results Do Not disturb, pasture, or drive heavy machinery on lateral field area at any time. The suitability of the soils will be affected and the inspector may not approve area if it has been disturbed prior to construction. Proposed drain field area should be fenced off to help prevent any disturbance.

GAINES SOIL CONSULTING does not represent nor warrant the operation or proper functioning of installed system for any period of time.

cc: Lincoln County Office of Environmental Sanitation


Douglas B. Gaines, CPSS/SC
Principal

¹ USDA Soil Survey Manual, Ag Handbook N° 18, (1993)

² Soil color designations, Munsell Soil Color Charts, (2009).

³ Missouri Laws accompanied by Department of Health Rules Governing On-Site Sewage Systems (October 1995). Table 13 – Conventional; Table 14 – Alternative (use half of above listed loading rate)

⁴ Missouri Laws accompanied by Department of Health Rules Governing On-Site Sewage Systems (October 1995). Section 7 (C) - S = Suitable; PS = Provisionally Suitable; U = Unsuitable

⁵ Loading Rate Estimated due to no listing in the Missouri Laws



PIT 1	N39.04186	W090.97283
PIT 2	N39.04179	W090.97339
PIT 3	N39.04225	W090.97347

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Lincoln County, Missouri

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